PURPOSE OF THE CATALOG

The Undergraduate Catalog is the official source of the university’s undergraduate academic programs, courses, policies, and procedures. The catalog should be used as a guide in planning a course of study and in meeting requirements for graduation. See the Table of Contents and Index for an overview of the information provided.

The course offerings and requirements of the University of Tennessee, Knoxville, are continually under examination and revision. This catalog is not intended to state contractual terms and should not be regarded as a contract between the student and the institution.

Each semester a Timetable of Classes is available on the Web at http://cpo.utk.edu. The Timetable lists those courses that will be offered during the semester, as well as times and locations. Not all courses listed in this catalog are offered every semester.

Current information about the university, its programs and policies can be found at

- The University of Tennessee Homepage: http://www.utk.edu
- Office of the Chancellor: http://chancellor.tennessee.edu
- Office of the University Registrar: http://registrar.tennessee.edu
- Undergraduate Admissions: http://admissions.utk.edu/undergraduate
- Office of the Bursar: http://web.utk.edu/~bursar
- Office of Financial Aid and Scholarships: http://web.utk.edu/~finaid
- Office of the Dean of Students: http://web.utk.edu/~homepage

EEO/TITLE IX/AA/SECTION 504 STATEMENT

The University of Tennessee does not discriminate on the basis of race, sex, color, religion, national origin, age, disability, or veteran status in provision of education programs and services or employment opportunities and benefits. This policy extends to both employment by and admission to the university.

The university does not discriminate on the basis of race, sex, or disability in the education programs and activities pursuant to the requirements of Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act (ADA) of 1990.

Inquiries and charges of violation concerning Title VI, Title IX, Section 504, ADA, the Age Discrimination in Employment Act (ADEA), or any of the other above referenced policies should be directed to the Office of Equity and Diversity (OED), 1840 Melrose Avenue, Knoxville, Tennessee 37996-3560, telephone (865) 974-2498 (V/TTY available) or 974-2440. Requests for accommodation of a disability should be directed to the ADA Coordinator at the UT Knoxville Office of Human Resources, 600 Henley Street, Knoxville, Tennessee 37996-4125.

The University of Tennessee, Knoxville, in its efforts to ensure a welcoming environment for all persons, does not discriminate on the basis of sexual orientation in its campus-based programs, services, and activities. Inquiries and complaints should be directed to the Office of Equity and Diversity.

In accordance with the Tennessee College and University Security Information Act of 1989 and the Student Right-to-Know and Campus Security Act, the University of Tennessee has prepared a report containing campus security policies and procedures, data on campus crimes, and other related information. A free copy of this report may be obtained by any student, employee, or applicant for admission or employment from the Office of the Dean of Students; The University of Tennessee; 413 Student Services Building; Knoxville, Tennessee 37996-0248.

A project of the Office of the University Registrar, 209 Student Services Building, Knoxville, Tennessee 37996-0200.
Publication Authorization Number E17-0405-002-003-06.
# ACADEMIC CALENDAR FOR 2006-2007

## Fall Semester 2006
- **Classes Begin**: Wednesday, August 23
- **Labor Day (no classes)**: Monday, September 4
- **First Session Ends**: Wednesday, October 11
- **Fall Break (no classes)**: Thursday-Friday, October 12-13
- **Second Session Begins**: Monday, October 16
- **Thanksgiving Break**: Thursday-Friday, November 23-24
- **Classes End**: Tuesday, December 5
- **Study Period**: Wednesday-Thursday, December 6-7
- **Final Exams**: Friday, Monday-Thursday, December 8, 11-14
- **Graduate Hooding Ceremony**: Friday, December 15
- **Commencement**: Sunday, December 17

## Spring Semester 2007
- **Classes Begin**: Wednesday, January 10
- **MLK Holiday (no classes)**: Monday, January 15
- **First Session Ends**: Wednesday, February 28
- **Second Session Begins**: Thursday, March 1
- **Spring Break**: Monday-Friday, March 12-16
- **Spring Recess (no classes)**: Friday, April 6
- **Classes End**: Friday, April 27
- **Study Period**: Monday-Tuesday, April 30-May 1
- **Final Exams**: Wednesday-Tuesday, May 2-4, 7-8
- **Graduate Hooding Ceremony**: Thursday, May 10
- **Commencement**: Friday, May 11

## Summer Term 2007
- **Mini Session Begins**: Wednesday, May 9
- **Memorial Holiday**: Monday, May 28
- **Mini Session Ends**: Wednesday, May 30
- **Full and First Sessions Begin**: Monday, June 4
- **Independence Day Holiday (no classes)**: Wednesday, July 4
- **First Session Ends**: Friday, July 6
- **Second Session Begins**: Monday, July 9
- **Full and Second Sessions End**: Friday, August 10
- **Summer Graduation Date**: Friday, August 17

*There is no commencement ceremony in the summer. This date is the official graduation date that will appear on the transcript of graduating students.

The Academic Calendar is available on the Web site of the Office of the University Registrar
http://registrar.utk.edu/academic_calendar.shtml
# THE UNIVERSITY OF TENNESSEE

## BOARD OF TRUSTEES

<table>
<thead>
<tr>
<th>Ex-Officio Members</th>
<th>From Congressional Districts</th>
<th>District</th>
<th>Service Begins</th>
<th>Term Ends</th>
</tr>
</thead>
<tbody>
<tr>
<td>President, The University of Tennessee</td>
<td>Don C. Stansberry, Jr., Huntsville</td>
<td>Fourth</td>
<td>2002</td>
<td>May 31, 2008</td>
</tr>
<tr>
<td>Executive Director, Tennessee Higher Education Commission</td>
<td>James L. Murphy III, Nashville</td>
<td>Fifth</td>
<td>2003</td>
<td>May 31, 2009</td>
</tr>
<tr>
<td>Andrea J. Loughry, Murfreesboro</td>
<td>Sixth</td>
<td>1999</td>
<td>2005</td>
<td></td>
</tr>
<tr>
<td>Waymon L. Hickman, Columbia</td>
<td>Seventh</td>
<td>2000</td>
<td>May 31, 2006</td>
<td></td>
</tr>
<tr>
<td>Jerry L. Jackson, Dyersburg</td>
<td>Eighth</td>
<td>1996</td>
<td>May 31, 2008</td>
<td></td>
</tr>
</tbody>
</table>

## Officers of the Board

- **Governor Phil Bredesen, Chairman**
- **Dan C. Stansberry, Jr., Vice Chairman**

## UNIVERSITY OF TENNESSEE ADMINISTRATION

<table>
<thead>
<tr>
<th>Officers</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>John D. Petersen, BS, PhD, President</td>
<td>President</td>
</tr>
<tr>
<td>Lofton Stuart, BS, Executive Assistant to the President</td>
<td>Executive Assistant to the President</td>
</tr>
<tr>
<td>Jack H. Britt, BS, MS, PhD, Executive Vice President</td>
<td>Executive Vice President</td>
</tr>
<tr>
<td>Brice Bible, BS, MBA, Interim Chief Information Officer</td>
<td>Interim Chief Information Officer</td>
</tr>
<tr>
<td>Loren W. Crabtree, BA, MA, PhD, Chancellor, Knoxville</td>
<td>Chancellor, Knoxville</td>
</tr>
<tr>
<td>Sylvia S. Davis, BS, MS, CPA, Vice President for Administration and Finance</td>
<td>Vice President for Administration and Finance</td>
</tr>
<tr>
<td>Joseph DiPietro, BS, MS, DVM, Vice President of Agriculture</td>
<td>Vice President of Agriculture</td>
</tr>
<tr>
<td>Hank Dye, BS, Vice President, Public and Governmental Relations</td>
<td>Vice President, Public and Governmental Relations</td>
</tr>
<tr>
<td>Robert Levy, BA, MA, PhD, Vice President for Academic Affairs</td>
<td>Vice President for Academic Affairs</td>
</tr>
<tr>
<td>David Milhorn, BS, PhD, Vice President for Research</td>
<td>Vice President for Research</td>
</tr>
<tr>
<td>Catherine S. Mizell, BA, JD, Vice President, General Counsel, and Secretary</td>
<td>Vice President, General Counsel, and Secretary</td>
</tr>
<tr>
<td>Henry Nemcik, BS, MPA, Vice President for Development and Alumni Affairs</td>
<td>Vice President for Development and Alumni Affairs</td>
</tr>
<tr>
<td>William F. Owen, Jr., BS, MD, Vice President for Health Affairs and Chancellor, Health Science Center</td>
<td>Vice President for Health Affairs and Chancellor, Health Science Center</td>
</tr>
<tr>
<td>Charles M. Peccolo, Jr., BS, MAcc, CPA, CCM, Vice President and Treasurer</td>
<td>Vice President and Treasurer</td>
</tr>
<tr>
<td>Theotis Robinson, Vice President for Equity and Diversity</td>
<td>Vice President for Equity and Diversity</td>
</tr>
<tr>
<td>Gary W. Rogers, BS, PhD, Chief Financial Officer</td>
<td>Chief Financial Officer</td>
</tr>
</tbody>
</table>

## KNOXVILLE CAMPUS ADMINISTRATION

<table>
<thead>
<tr>
<th>Officers</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loren W. Crabtree, BA, MA, PhD, Chancellor, Knoxville</td>
<td>Chancellor, Knoxville</td>
</tr>
<tr>
<td>Denise Barlow, BS, CPA, MBA, Vice Chancellor for Finance and Administration</td>
<td>Vice Chancellor for Finance and Administration</td>
</tr>
<tr>
<td>Linda Davidson, BA, Vice Chancellor for Development (and Associate Vice President for Development)</td>
<td>Vice Chancellor for Development (and Associate Vice President for Development)</td>
</tr>
<tr>
<td>Anne Mayhew, BA, PhD, Vice Chancellor for Academic Affairs and Dean of Graduate Studies</td>
<td>Vice Chancellor for Academic Affairs and Dean of Graduate Studies</td>
</tr>
<tr>
<td>Tom Milligan, BA, Vice Chancellor for Communications</td>
<td>Vice Chancellor for Communications</td>
</tr>
<tr>
<td>W. Timothy Rogers, BA, MA, JD, Vice Chancellor for Student Affairs</td>
<td>Vice Chancellor for Student Affairs</td>
</tr>
<tr>
<td>Clifton Woods, III, BS, MS, PhD, Vice Chancellor for Research</td>
<td>Vice Chancellor for Research</td>
</tr>
</tbody>
</table>

## DEANS

<table>
<thead>
<tr>
<th>Deans</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thomas Klindt, BS, MS, PhD, Interim Dean, College of Agricultural Sciences and Natural Resources and the Tennessee Agricultural Experiment Station</td>
<td>Dean, College of Agricultural Sciences and Natural Resources and the Tennessee Agricultural Experiment Station</td>
</tr>
<tr>
<td>John M. McRae, BArch, MArch, Dean, College of Architecture and Design</td>
<td>Dean, College of Architecture and Design</td>
</tr>
<tr>
<td>Bruce E. Bursten, SB, PhD, Dean, College of Arts and Sciences</td>
<td>Dean, College of Arts and Sciences</td>
</tr>
<tr>
<td>Jan R. Williams, BS, MBA, PhD, Dean, College of Business Administration</td>
<td>Dean, College of Business Administration</td>
</tr>
<tr>
<td>Gregory D. Reed, BS, MS, PhD, Interim Dean, College of Communication and Information</td>
<td>Dean, College of Communication and Information</td>
</tr>
<tr>
<td>Robert Rider, BS, MAT, PhD, Dean, College of Education, Health, and Human Sciences</td>
<td>Dean, College of Education, Health, and Human Sciences</td>
</tr>
<tr>
<td>Way Kuo, BS, MS, PhD, Dean, College of Engineering</td>
<td>Dean, College of Engineering</td>
</tr>
<tr>
<td>Thomas C. Galligan, Jr., AB, JD, LLM, Dean, College of Law</td>
<td>Dean, College of Law</td>
</tr>
<tr>
<td>Joan Creasia, BSN, MSN, PhD, RN, Dean, College of Nursing</td>
<td>Dean, College of Nursing</td>
</tr>
<tr>
<td>Karen Sowers, BA, MSW, PhD, Dean, College of Social Work</td>
<td>Dean, College of Social Work</td>
</tr>
<tr>
<td>Michael J. Blackwell, BS, MPH, DVM, Dean, College of Veterinary Medicine</td>
<td>Dean, College of Veterinary Medicine</td>
</tr>
<tr>
<td>Charles Goan, BS, MS, PhD, Interim Dean, UT Extension and University Outreach and Continuing Education</td>
<td>Dean, UT Extension and University Outreach and Continuing Education</td>
</tr>
<tr>
<td>Richard L. Bayer, BA, MA, Dean of Enrollment Services</td>
<td>Dean of Enrollment Services</td>
</tr>
<tr>
<td>Barbara I. Dewey, BA, MA, Dean of University Libraries</td>
<td>Dean of University Libraries</td>
</tr>
<tr>
<td>Anne Mayhew, BA, PhD, Dean of Graduate Studies and Vice Chancellor for Academic Affairs</td>
<td>Dean of Graduate Studies and Vice Chancellor for Academic Affairs</td>
</tr>
<tr>
<td>Maxine Thompson, BA, MS, EdD, Dean of Students</td>
<td>Dean of Students</td>
</tr>
</tbody>
</table>

## INDEPENDENT DEPARTMENTS

<table>
<thead>
<tr>
<th>Officers</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colonel Owen Ragland, MS, U.S. Air Force, Professor of Aerospace Studies, Air Force Reserve Officers Training Corps</td>
<td>Professor of Aerospace Studies, Air Force Reserve Officers Training Corps</td>
</tr>
<tr>
<td>Lieutenant Colonel Marshall N. Ramsey, BS, MPA, U.S. Army, Professor of Military Science and Leadership, Army Reserve Officers Training Corps</td>
<td>Professor of Military Science and Leadership, Army Reserve Officers Training Corps</td>
</tr>
</tbody>
</table>

---

*Note: The document text is a natural reading representation of the content.*
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose of the Catalog</td>
<td>2</td>
</tr>
<tr>
<td>Academic Calendar for 2006-2007</td>
<td>3</td>
</tr>
<tr>
<td>University Administration</td>
<td>4</td>
</tr>
<tr>
<td>Undergraduate Majors, Minors, Concentrations, and Degrees</td>
<td>5</td>
</tr>
<tr>
<td>Undergraduate Degrees Listed Alphabetically</td>
<td>6</td>
</tr>
<tr>
<td>Glossary</td>
<td>15</td>
</tr>
<tr>
<td>The University General Education Requirement</td>
<td>17</td>
</tr>
<tr>
<td>The University</td>
<td>23</td>
</tr>
<tr>
<td>Historical Background</td>
<td>23</td>
</tr>
<tr>
<td>Accreditation</td>
<td>24</td>
</tr>
<tr>
<td>Administrative Policies</td>
<td>24</td>
</tr>
<tr>
<td>Inclement Weather Policy</td>
<td>24</td>
</tr>
<tr>
<td>EEO/Title IX/Section 504 Statement</td>
<td>24</td>
</tr>
<tr>
<td>Policy on a Drug-Free Campus and Workplace</td>
<td>24</td>
</tr>
<tr>
<td>Security Information</td>
<td>24</td>
</tr>
<tr>
<td>Admission to the University of Tennessee</td>
<td>25</td>
</tr>
<tr>
<td>Undergraduate Admission</td>
<td>25</td>
</tr>
<tr>
<td>Freshman Admission</td>
<td>25</td>
</tr>
<tr>
<td>Dual Enrollment Students</td>
<td>25</td>
</tr>
<tr>
<td>Transfer Admission</td>
<td>25</td>
</tr>
<tr>
<td>Advanced Placement – International Baccalaureate</td>
<td>25</td>
</tr>
<tr>
<td>– CLEP – Dual Enrollment Credits</td>
<td>25</td>
</tr>
<tr>
<td>Articulation Agreements</td>
<td>26</td>
</tr>
<tr>
<td>Residency Classification for the Purpose of Paying University Fees</td>
<td>26</td>
</tr>
<tr>
<td>and for Admission Purposes</td>
<td>26</td>
</tr>
<tr>
<td>Academic Common Market</td>
<td>26</td>
</tr>
<tr>
<td>Re-Entry Student Applicants</td>
<td>26</td>
</tr>
<tr>
<td>Readmission</td>
<td>26</td>
</tr>
<tr>
<td>Visiting Student Applicants</td>
<td>26</td>
</tr>
<tr>
<td>Senior and Disabled Applicants</td>
<td>26</td>
</tr>
<tr>
<td>International Student Applicants</td>
<td>26</td>
</tr>
<tr>
<td>Fees for Sponsored International Students</td>
<td>27</td>
</tr>
<tr>
<td>University Fees</td>
<td>27</td>
</tr>
<tr>
<td>VOLXpress</td>
<td>27</td>
</tr>
<tr>
<td>University Program and Services Fee</td>
<td>27</td>
</tr>
<tr>
<td>Technology Fee</td>
<td>27</td>
</tr>
<tr>
<td>Special Course Fee</td>
<td>28</td>
</tr>
<tr>
<td>Facilities Fee</td>
<td>28</td>
</tr>
<tr>
<td>Transportation Fee</td>
<td>28</td>
</tr>
<tr>
<td>Fees for Courses Not Taken for Credit</td>
<td>28</td>
</tr>
<tr>
<td>Late Registration Fee</td>
<td>28</td>
</tr>
<tr>
<td>Late Fee</td>
<td>28</td>
</tr>
<tr>
<td>Returned Check Service Fee</td>
<td>28</td>
</tr>
<tr>
<td>Deferred Payment Plan</td>
<td>28</td>
</tr>
<tr>
<td>Refunds</td>
<td>28</td>
</tr>
<tr>
<td>Refund/Charge of Fees for Withdrawal</td>
<td>28</td>
</tr>
<tr>
<td>Financial Aid Withdrawals</td>
<td>28</td>
</tr>
<tr>
<td>Refund/Charge of Fees for Dropped Courses</td>
<td>28</td>
</tr>
<tr>
<td>Waiver of Fees</td>
<td>29</td>
</tr>
<tr>
<td>VolCard</td>
<td>29</td>
</tr>
<tr>
<td>Student Financial Aid</td>
<td>29</td>
</tr>
<tr>
<td>Scholarships and Grants</td>
<td>29</td>
</tr>
<tr>
<td>Student Loans</td>
<td>29</td>
</tr>
<tr>
<td>Student Employment</td>
<td>30</td>
</tr>
<tr>
<td>Student Affairs and Academic Services</td>
<td>30</td>
</tr>
<tr>
<td>Adult Student Services Center</td>
<td>30</td>
</tr>
<tr>
<td>The Black Cultural Center and Minority Student Affairs</td>
<td>30</td>
</tr>
<tr>
<td>Career Services</td>
<td>31</td>
</tr>
<tr>
<td>Center for International Education</td>
<td>31</td>
</tr>
<tr>
<td>Counseling Center</td>
<td>31</td>
</tr>
<tr>
<td>Disability Services</td>
<td>32</td>
</tr>
<tr>
<td>Educational Advancement Program</td>
<td>32</td>
</tr>
<tr>
<td>Hearing and Speech Center</td>
<td>32</td>
</tr>
<tr>
<td>Office of Information Technology</td>
<td>32</td>
</tr>
<tr>
<td>Student Health Service</td>
<td>33</td>
</tr>
<tr>
<td>Student Judicial Affairs</td>
<td>33</td>
</tr>
<tr>
<td>Office of Student Orientation and Leadership Development</td>
<td>33</td>
</tr>
<tr>
<td>Student Success Center</td>
<td>34</td>
</tr>
<tr>
<td>First Year Studies</td>
<td>34</td>
</tr>
<tr>
<td>National Student Exchange</td>
<td>34</td>
</tr>
<tr>
<td>Learning Communities</td>
<td>34</td>
</tr>
<tr>
<td>Academic Appeals</td>
<td>34</td>
</tr>
<tr>
<td>African-American Achievers Scholarship Program</td>
<td>34</td>
</tr>
<tr>
<td>African-American Incentive Grant Program</td>
<td>34</td>
</tr>
<tr>
<td>Thornton Athletics Student Life Center</td>
<td>34</td>
</tr>
<tr>
<td>Veteran’s Education Benefits</td>
<td>34</td>
</tr>
<tr>
<td>Women’s Center</td>
<td>35</td>
</tr>
<tr>
<td>Writing Center</td>
<td>35</td>
</tr>
<tr>
<td>Academic Policies and Procedures</td>
<td>37</td>
</tr>
<tr>
<td>Student Rights and Responsibilities</td>
<td>37</td>
</tr>
<tr>
<td>Academic Advising at the University of Tennessee, Knoxville</td>
<td>37</td>
</tr>
<tr>
<td>Degree Audit Report System (DARS)</td>
<td>38</td>
</tr>
<tr>
<td>Class Attendance and Eligibility</td>
<td>38</td>
</tr>
<tr>
<td>First Class Meeting</td>
<td>38</td>
</tr>
<tr>
<td>Minimum Class Size</td>
<td>38</td>
</tr>
<tr>
<td>Honor Statement</td>
<td>38</td>
</tr>
<tr>
<td>Grade Appeal Procedure</td>
<td>38</td>
</tr>
<tr>
<td>Special State and Federal Laws for Educational Purposes</td>
<td>39</td>
</tr>
<tr>
<td>American History</td>
<td>39</td>
</tr>
<tr>
<td>Family Education Rights and Privacy Act (FERPA)</td>
<td>39</td>
</tr>
<tr>
<td>Social Security Number Use</td>
<td>39</td>
</tr>
<tr>
<td>Other Requirements</td>
<td>40</td>
</tr>
<tr>
<td>Program Assessment and Improvement through</td>
<td>40</td>
</tr>
<tr>
<td>Student Evaluation</td>
<td>40</td>
</tr>
<tr>
<td>Senior General Education Test</td>
<td>40</td>
</tr>
<tr>
<td>Senior Major Field Assessment Test</td>
<td>40</td>
</tr>
<tr>
<td>Special Requirements for Student Athletes</td>
<td>40</td>
</tr>
<tr>
<td>Teacher Licensure</td>
<td>40</td>
</tr>
<tr>
<td>Opportunities for High-Achieving Students</td>
<td>40</td>
</tr>
<tr>
<td>Advanced Placement Examinations</td>
<td>40</td>
</tr>
<tr>
<td>International Baccalaureate Examinations</td>
<td>40</td>
</tr>
<tr>
<td>Proficiency and Other Examinations</td>
<td>40</td>
</tr>
<tr>
<td>Honors Programs at the University of Tennessee</td>
<td>40</td>
</tr>
<tr>
<td>Dean’s List</td>
<td>41</td>
</tr>
<tr>
<td>Seniors Eligible for Graduate Credit</td>
<td>41</td>
</tr>
<tr>
<td>General Regulations</td>
<td>41</td>
</tr>
<tr>
<td>Classification</td>
<td>41</td>
</tr>
<tr>
<td>Course Numbers and Levels</td>
<td>41</td>
</tr>
<tr>
<td>Correspondence Work</td>
<td>41</td>
</tr>
<tr>
<td>High School Deficiencies</td>
<td>42</td>
</tr>
<tr>
<td>Petitioning Process</td>
<td>42</td>
</tr>
<tr>
<td>University Students</td>
<td>42</td>
</tr>
<tr>
<td>Writing Competence</td>
<td>42</td>
</tr>
<tr>
<td>Grades, Credit Hours, and Grade Point Average</td>
<td>42</td>
</tr>
<tr>
<td>Undergraduate Grades</td>
<td>42</td>
</tr>
<tr>
<td>Freshman English</td>
<td>43</td>
</tr>
<tr>
<td>Grade of Incomplete</td>
<td>43</td>
</tr>
<tr>
<td>Grades that do not Influence Grade Point Average</td>
<td>43</td>
</tr>
<tr>
<td>Satisfactory/No Credit Grading System</td>
<td>43</td>
</tr>
<tr>
<td>Repeating Courses</td>
<td>43</td>
</tr>
<tr>
<td>Enrollment</td>
<td>43</td>
</tr>
<tr>
<td>Maximum Hours per Term</td>
<td>43</td>
</tr>
<tr>
<td>Maximum Hours for Mini Session</td>
<td>43</td>
</tr>
<tr>
<td>Maximum Hours for Summer Term</td>
<td>43</td>
</tr>
<tr>
<td>Auditing Courses</td>
<td>43</td>
</tr>
<tr>
<td>Prerequisite and Corequisite Courses</td>
<td>44</td>
</tr>
<tr>
<td>Changes in Registration</td>
<td>44</td>
</tr>
<tr>
<td>Withdrawing from the University</td>
<td>44</td>
</tr>
<tr>
<td>Extracurricular Participation</td>
<td>44</td>
</tr>
<tr>
<td>Undergraduate Retention Standards</td>
<td>44</td>
</tr>
<tr>
<td>Academic Review</td>
<td>44</td>
</tr>
<tr>
<td>Academic Second Opportunity</td>
<td>44</td>
</tr>
<tr>
<td>Exams</td>
<td>45</td>
</tr>
<tr>
<td>Proficiency Examination</td>
<td>45</td>
</tr>
<tr>
<td>Final Exams</td>
<td>45</td>
</tr>
</tbody>
</table>
General Requirements for a Bachelor’s Degree .................................................45
Multiple Concentrations .............................................................................46
Senior Majors and Minors ..........................................................................46
Second Bachelor’s Degree .............................................................................46
Graduating Senior Privilege .........................................................................46
Honors Categories for Graduation .................................................................46
College of Agricultural Sciences and Natural Resources ..............................47
Department of Agricultural Economics .........................................................49
Agriculture and Natural Resources .................................................................51
Department of Animal Science ....................................................................52
Department of Biosystems Engineering and Soil Science ...............................54
Department of Entomology and Plant Pathology ............................................58
Department of Food Science and Technology ...............................................58
Department of Forestry, Wildlife and Fisheries .............................................60
Department of Plant Sciences .......................................................................63
College of Architecture and Design .................................................................67
School of Architecture .................................................................................68
Interior Design Program .................................................................................70
College of Arts and Sciences .........................................................................71
College Scholars Program .............................................................................75
Individualized Program ................................................................................75
Medical Technology Major ...........................................................................76
Pre-Professional Programs Major ..................................................................76
Nuclear Medicine Technology Concentration ................................................76
Pre-Dental Concentration .............................................................................77
Pre-Medical Concentration ..........................................................................77
Pre-Pharmacy Concentration .......................................................................78
Pre-Veterinary Medicine Concentration ........................................................78
Department of Anthropology ........................................................................79
School of Art ....................................................................................................80
Department of Audiology and Speech Pathology ............................................84
Department of Biochemistry and Cellular and Molecular Biology ................85
Division of Biology ........................................................................................85
Department of Chemistry .............................................................................86
Department of Classics .................................................................................88
College Scholars Program .............................................................................89
Department of Computer Science .................................................................89
Department of Earth and Planetary Sciences ...............................................90
Department of Ecology and Evolutionary Biology ........................................90
Economics Major (Arts and Sciences) ............................................................91
Department of English ..................................................................................91
Department of Geography ............................................................................92
Department of History .................................................................................93
Interdisciplinary Programs ............................................................................93
African Studies ...............................................................................................94
American Studies ..........................................................................................94
Asian Studies ................................................................................................94
Comparative Literature ..................................................................................94
Environmental Studies ..................................................................................95
Global Studies ...............................................................................................95
Judaic Studies ...............................................................................................95
Language and World Business (Chinese, Japanese, or Portuguese) ...............95
Latin American Studies ...............................................................................96
Legal Studies ................................................................................................96
Linguistics .....................................................................................................96
Medieval Studies ............................................................................................97
Women’s Studies ..........................................................................................97
Department of Mathematics .........................................................................97
Department of Microbiology ........................................................................99
Department of Modern Foreign Languages and Literatures ..........................100
School of Music ...........................................................................................102
Department of Philosophy .............................................................................111
Department of Physics and Astronomy .........................................................112
Department of Political Science ....................................................................113
Department of Psychology ...........................................................................113
Department of Religious Studies ...................................................................114
Department of Sociology ..............................................................................114
Statistics Major (Arts and Sciences) ...............................................................115
Department of Theatre ..................................................................................115
College of Business Administration .............................................................117
Department of Accounting and Information Management ........................120
Department of Economics .............................................................................121
Department of Finance ..................................................................................122
Department of Management .........................................................................123
Department of Marketing and Logistics .........................................................124
Public Administration Major (Intercolligate) ...................................................128
Department of Statistics, Operations and Management Science ...................128
College of Communication and Information .................................................131
School of Advertising and Public Relations ................................................132
School of Communication Studies ..............................................................133
School of Information Sciences .................................................................134
School of Journalism and Electronic Media ..................................................134
College of Education, Health, and Human Sciences ....................................137
Department of Child and Family Studies ......................................................139
Department of Educational Psychology and Counseling ............................142
Department of Exercise, Sport, and Leisure Studies ......................................142
Department of Instructional Technology, Health, and Educational Studies ....144
Department of Nutrition ..............................................................................145
Department of Retail, Hospitality, and Tourism Management .......................146
Department of Theory and Practice in Teacher Education .........................148
College of Engineering ................................................................................151
Engineering Fundamentals Division .............................................................154
Department of Chemical Engineering ...........................................................155
Department of Civil and Environmental Engineering ....................................156
Department of Electrical and Computer Engineering ...................................157
Engineering Physics Program ........................................................................159
Department of Industrial and Information Engineering ................................159
Department of Materials Science and Engineering .......................................161
Department of Mechanical, Aerospace, and Biomedical Engineering ........162
Department of Nuclear Engineering .............................................................165
College of Nursing .......................................................................................167
College of Social Work ................................................................................171
Chancellor’s Honors Program ........................................................................173
University Libraries .......................................................................................175
University Studies Program ..........................................................................177
Reserve Officers Training Corps (ROTC) .......................................................179
Department of Military Science and Leadership ..........................................179
Department of Air Force ..............................................................................181
Advanced Studies .......................................................................................185
College of Law .............................................................................................185
College of Veterinary Medicine ....................................................................185
Office of Graduate Studies ...........................................................................185
University Outreach and Continuing Education .........................................187
Department of Conferences .........................................................................187
University Conference Center ......................................................................187
English Language Institute ...........................................................................188
Department of Professional and Personal Development ..............................188
Department of Distance Education and Independent Study ........................188
Courses of Instruction ..................................................................................189
Accounting (009) .........................................................................................189
Advertising (012) .........................................................................................189
Aerospace Engineering (018) ......................................................................190
African Studies (023) ...................................................................................190
Agricultural and Extension Education (042) .................................................191
Agricultural Economics (047) ..................................................................191
Agriculture and Natural Resources (088) ......................................................192
Air Force Aerospace Studies (094) ..............................................................193
American Studies (099) ..............................................................................193
Animal Science (113) ..................................................................................194
Anthropology (122) .....................................................................................195
Arabic (127) ...............................................................................................196
Architecture (133) .......................................................................................196
Art (140) .....................................................................................................198
Art Ceramics (135) ........................................ 199
Art Design/Graphic (136) ........................... 199
Art Design (137) ........................................ 199
Art Education (141) ................................ 200
Art History (139) ....................................... 200
Art Media Arts (134) ................................. 201
Art Painting (138) ..................................... 202
Art Printmaking (132) ............................... 202
Art Sculpture (143) ................................... 203
Asian Languages (144) .............................. 203
Asian Studies (145) .................................. 204
Astronomy (150) ....................................... 204
Audiology and Speech Pathology (160) ....... 204
Biochemistry and Cellular and Molecular Biology (188) .... 205
Biochemistry (190) ................................... 205
Biomedical Engineering (192) ................. 207
Biosystems Engineering (196) ................... 207
Biological Engineering Technology (194) .... 208
Business Administration (205) ................. 209
Business Law (216) ................................... 209
Chemical Engineering (226) ...................... 209
Chemistry (235) ....................................... 210
Child and Family Studies (245) ................. 212
Chinese (249) .......................................... 213
Civil Engineering (254) ............................ 213
Classics (257) .......................................... 214
College Scholars Honors (509) ................. 215
Communication and Information (248) ....... 215
Communication Studies (250) .................. 215
Comparative and Experimental Medicine – Graduate School of Medicine (262) .......... 216
Comparative Literature (260) .................... 216
Computer Science (266) .......................... 217
Counselor Education (255) ...................... 217
Cultural Studies in Education (271) ......... 218
Dance (274) ........................................... 218
Ecology and Evolutionary Biology (278) .... 218
Economics (283) ...................................... 219
Education (289) ....................................... 220
Education of the Deaf and Hard of Hearing (285) .... 220
Educational Interpreting (287) .................. 221
Educational Psychology (310) .................. 221
Electrical and Computer Engineering (319) ... 221
Elementary Education (322) ................... 223
Engineering Fundamentals (323) .............. 223
English (339) .......................................... 223
English Education (340) .......................... 226
Entomology and Plant Pathology (341) .... 227
Environmental and Soil Sciences (345) ...... 227
Exercise Science (347) ............................ 227
Finance (349) ......................................... 228
First Year Studies (355) ........................... 228
Food Science and Technology (390) ......... 229
Foreign Language/ESL Education (394) ... 229
Forestry (396) ......................................... 229
Forestry, Wildlife and Fisheries (398) ....... 230
French (405) .......................................... 230
Geography (415) ..................................... 232
Geology (424) ......................................... 233
German (433) ......................................... 234
Global Studies (440) ............................... 235
Health (449) .......................................... 236
Hebrew (458) .......................................... 236
Higher Education Administration (461) .... 236
History (462) ......................................... 236
Hotel, Restaurant, and Tourism (514) ....... 239
Human Resource Management (530) ...... 240
Industrial Engineering (556) .................. 240
Information Management (558) ............. 241
Information Sciences (560) ..................... 241
Instructional Technology (569) ............... 242
Instructional Technology and Educational Studies (570) .... 242
Interdisciplinary Programs (581) .......... 242
Interdisciplinary Design (582) ......... 243
Italian (584) .......................................... 243
Japanese (589) ....................................... 243
Journalism and Electronic Media (592) .... 243
Judaic Studies (595) ............................... 245
Latin American Studies (600) ............. 245
Legal Studies (617) ................................. 245
Linguistics (623) .................................... 246
Logistics (626) ....................................... 246
Management (625) ................................... 246
Marketing (632) ...................................... 247
Materials Science and Engineering (638) ... 247
Mathematics (641) ................................ 248
Mathematics Education (642) .............. 250
Mechanical Engineering (650) .............. 250
Medical Technology (669) ..................... 251
Medieval Studies (674) ........................... 252
Microbiology (684) ................................. 252
Military Science and Leadership (689) .... 253
Modern Foreign Languages and Literatures (686) .... 253
Music Education (707) ........................... 253
Music Ensemble (708) ......................... 254
Music General (698) ............................... 255
Music Instrumental (710) ....................... 255
Music Jazz (711) ...................................... 255
Music Keyboard (712) ......................... 256
Music Performance (713) ....................... 256
Music Technology (717) ......................... 256
Music Theory (714) ................................. 265
Music Voice (715) ................................... 266
Musicology (706) ..................................... 266
Nuclear Engineering (716) ...................... 267
Nuclear Medicine Technology (718) ....... 267
Nursing (720) ......................................... 268
Nutrition (726) ........................................ 269
Operations and Management Science (738) .... 270
Persian (744) .......................................... 270
Philosophy (745) ..................................... 270
Physical Education (764) ...................... 271
Physics (773) ........................................... 271
Plant Sciences (791) ............................... 273
Political Science (801) ........................... 275
Portuguese (811) ..................................... 276
Psychology (830) ..................................... 276
Public Health (839) ............................... 277
Public Relations (841) ............................ 278
Reading Education (847) ..................... 278
Recreation and Leisure Studies (853) ..... 278
Religious Studies (863) ........................... 279
Retail and Consumer Sciences (865) ...... 280
Rural Sociology (880) ............................. 281
Russian (886) ......................................... 281
Safety (890) .......................................... 281
Science Education (899) ........................ 281
Social Science Education (900) .......... 281
Social Work (905) ................................... 281
Sociology (915) ...................................... 282
Spanish (924) ......................................... 283
Special Education (932) ....................... 285
Sport Management (957) ..................... 285
Sport Studies (959) ............................... 286
Statistics (962) ...................................... 286
Television (976) ...................................... 287
Theory and Practice in Teacher Education (978) .... 287
University Honors (983) ....................... 288
University Studies (984) ...................... 288
Wildlife and Fisheries Science (993) .... 289
Women’s Studies (994) ......................... 289

Index .................................................. 291
### College of Agricultural Sciences and Natural Resources

<table>
<thead>
<tr>
<th>Department (Unit)</th>
<th>Major</th>
<th>Minor</th>
<th>Concentration/Department (Unit)</th>
<th>Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture and Natural Resources</td>
<td>Agricultural Science</td>
<td></td>
<td>*Agricultural Education</td>
<td>BS in Agriculture</td>
</tr>
<tr>
<td>(Interdepartmental)</td>
<td></td>
<td></td>
<td>*Agricultural Extension Education</td>
<td>BS in Agriculture</td>
</tr>
<tr>
<td>Agricultural Economics</td>
<td>Agricultural Economics and Business</td>
<td>YES</td>
<td>*Agricultural Equipment Systems Management</td>
<td>BS in Agriculture</td>
</tr>
<tr>
<td>Animal Science</td>
<td>Animal Science</td>
<td>YES</td>
<td>MAJORS MUST CHOOSE A CONCENTRATION</td>
<td>BS in Animal Science</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>*Pre-Veterinary Medicine (3+1)</td>
<td>BS in Agriculture</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>*Production/Business/Communication</td>
<td>BS in Agriculture</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>*Science/Technology</td>
<td>BS in Agriculture</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>*Science Technology – Pre-Veterinary Medicine</td>
<td>BS in Agriculture</td>
</tr>
<tr>
<td>Biosystems Engineering and Soil Science</td>
<td>Biosystems Engineering</td>
<td>YES</td>
<td>MAJORS MUST CHOOSE A CONCENTRATION</td>
<td>BS in Biosystems Engineering</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>*Pre-Professional</td>
<td>BS in Biosystems Engineering</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>*Environmental and Soil Sciences</td>
<td>BS in Environmental and Soil Sciences</td>
</tr>
<tr>
<td>Entomology and Plant Pathology</td>
<td></td>
<td></td>
<td>MAJORS MUST CHOOSE A CONCENTRATION</td>
<td>BS in Environmental and Soil Sciences</td>
</tr>
<tr>
<td>Food Science and Technology</td>
<td>Food Science and Technology</td>
<td>YES</td>
<td>MAJORS MUST CHOOSE A CONCENTRATION</td>
<td>BS in Agriculture</td>
</tr>
<tr>
<td>Forestry, Wildlife and Fisheries</td>
<td>Forestry</td>
<td>YES</td>
<td>MAJORS MUST CHOOSE A CONCENTRATION</td>
<td>BS in Forestry</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>*Forest Resources Management</td>
<td>BS in Forestry</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>*Wildland Recreation</td>
<td>BS in Forestry</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>*Wildlife and Fisheries Science</td>
<td>BS in Wildlife and Fisheries Science</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MAJORS MUST CHOOSE A CONCENTRATION</td>
<td>BS in Wildlife and Fisheries Science</td>
</tr>
<tr>
<td>Plant Sciences</td>
<td>Plant Sciences</td>
<td>YES</td>
<td>MAJORS MUST CHOOSE A CONCENTRATION</td>
<td>BS in Plant Sciences</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>*Landscape Design and Construction</td>
<td>BS in Plant Sciences</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>*Plant Science, Biotechnology and Horticulture</td>
<td>BS in Plant Sciences</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>*Public Horticulture</td>
<td>BS in Plant Sciences</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>*Turfgrass Science and Management</td>
<td>BS in Plant Sciences</td>
</tr>
</tbody>
</table>

### College of Architecture and Design

<table>
<thead>
<tr>
<th>Program</th>
<th>Major</th>
<th>Minor</th>
<th>Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>School of Architecture</td>
<td>Architecture</td>
<td></td>
<td>Bachelor of Architecture</td>
</tr>
<tr>
<td>Interior Design (Program)</td>
<td>Interior Design</td>
<td></td>
<td>BS in Interior Design</td>
</tr>
</tbody>
</table>

### College of Arts and Sciences

<table>
<thead>
<tr>
<th>Program</th>
<th>Major</th>
<th>Minor</th>
<th>Concentration/Department</th>
<th>Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthropology</td>
<td>Anthropology</td>
<td>YES</td>
<td>*Honors Anthropology</td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td>Art, School of</td>
<td>Art History</td>
<td>YES</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Graphic Design</td>
<td></td>
<td>Bachelor of Fine Arts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Studio Art</td>
<td>YES</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MAJORS MUST CHOOSE A CONCENTRATION</td>
<td>Bachelor of Fine Arts</td>
</tr>
</tbody>
</table>

**ABBREVIATIONS:**
- BA- Bachelor of Arts
- BS- Bachelor of Science
<table>
<thead>
<tr>
<th>DEPARTMENT (UNIT)</th>
<th>MAJOR</th>
<th>MINOR</th>
<th>° CONCENTRATION</th>
<th>† MINOR ONLY</th>
<th>DEGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audiology and Speech Pathology</td>
<td>• Audiology</td>
<td></td>
<td></td>
<td></td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td></td>
<td>• Speech Pathology</td>
<td></td>
<td></td>
<td></td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td>Division of Biology</td>
<td>• Biological Sciences</td>
<td>YES</td>
<td>° Biochemistry and Cellular and Molecular Biology</td>
<td></td>
<td>Bachelor of Science</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Honors Biochemistry and Cellular and Molecular Biology</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>°Ecology and Evolutionary Biology</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Honors Ecology and Evolutionary Biology</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Microbiology</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Honors Microbiology</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Plant Biology</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Honors Plant Biology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemistry</td>
<td>• Chemistry</td>
<td>YES</td>
<td>° Honors Chemistry</td>
<td></td>
<td>Bachelor of Science</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Bachelor of Science in Chemistry Track</td>
<td></td>
<td>BS in Chemistry</td>
</tr>
<tr>
<td>Classics</td>
<td>• Classics</td>
<td>YES</td>
<td>° Classical Civilization</td>
<td></td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Honors Classical Civilization</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Greek</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Honors Greek</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Latin</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Honors Latin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College Scholars Program</td>
<td>• College Scholars</td>
<td></td>
<td></td>
<td></td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td>Computer Science</td>
<td>• Computer Science</td>
<td>YES</td>
<td></td>
<td></td>
<td>Bachelor of Science</td>
</tr>
<tr>
<td>Earth and Planetary Sciences</td>
<td>• Geology</td>
<td>YES</td>
<td>° Honors Geology</td>
<td></td>
<td>Bachelor of Science</td>
</tr>
<tr>
<td>Economics (Intercollegiate)</td>
<td>• Economics</td>
<td>YES</td>
<td>° Honors Economics</td>
<td></td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td>English</td>
<td>• English</td>
<td>YES</td>
<td>° Creative Writing</td>
<td></td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Honors Creative Writing</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Individualized Program</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Honors Individualized Program</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Literature</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Honors Literature</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Rhetoric and Writing</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Honors Rhetoric and Writing</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Technical Communication</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Honors Technical Communication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geography</td>
<td>• Geography</td>
<td>YES</td>
<td>° Honors Geography</td>
<td></td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td>History</td>
<td>• History</td>
<td>YES</td>
<td>° Honors History</td>
<td></td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td>Individualized Program</td>
<td>• Individualized Program</td>
<td></td>
<td></td>
<td></td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td>Interdisciplinary Programs</td>
<td>• Interdisciplinary Programs</td>
<td>YES</td>
<td>° Africana Studies</td>
<td></td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° American Studies</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Asian Studies</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Comparative Literature</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Environmental Studies</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Global Studies</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>– Global Society and Culture</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>– Global Politics and Economy</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Judaic Studies</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Language and World Business</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>– Chinese</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>– Japanese</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>– Portuguese</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Latin American Studies</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>– Brazilian Studies Track</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>– General Studies Track</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Legal Studies</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Linguistics</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Medieval Studies</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Women’s Studies</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>° Cinema Studies</td>
<td></td>
<td>† minor only</td>
</tr>
<tr>
<td>DEPARTMENT (UNIT)</td>
<td>MAJOR</td>
<td>MINOR</td>
<td>CONCENTRATION</td>
<td>DEGREE</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>----------------------</td>
<td>-------</td>
<td>---------------</td>
<td>-----------------------------</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>Mathematics</td>
<td>YES</td>
<td>*Honors Math</td>
<td>Bachelor of Science</td>
<td></td>
</tr>
<tr>
<td>Modern Foreign Languages and Literatures</td>
<td>French</td>
<td>YES</td>
<td>*Language and World Business</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>German</td>
<td>YES</td>
<td>MAJORS MUST CHOOSE A CONCENTRATION</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>German Studies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Honors German</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Language and Literature</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Language and World Business</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Italian</td>
<td>YES</td>
<td>*Language and World Business</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Russian</td>
<td>YES</td>
<td>MAJORS MUST CHOOSE AN OPTION OR CONCENTRATION</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Area Studies Option</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Literary Emphasis Option</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Language and World Business</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spanish</td>
<td>YES</td>
<td>MAJORS MUST CHOOSE A CONCENTRATION</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hispanic Studies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Language and World Business</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Literature</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>YES † Chinese</td>
<td></td>
<td>minority only</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>YES † Japanese</td>
<td></td>
<td>minority only</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>YES † Portuguese</td>
<td></td>
<td>minority only</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music, School of</td>
<td>Music</td>
<td></td>
<td>*Music and Culture</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>YES</td>
<td>Minor available in Applied Music or Musicology</td>
<td>Bachelor of Arts</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>*Music Education</td>
<td></td>
<td>Bachelor of Music</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>− String Emphasis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>− Vocal-General/Keyboard Emphasis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>− Vocal-General/Vocal Emphasis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>− Wind/Percussion Emphasis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>− Organ</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>− Piano</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>− Piano Pedagogy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>− Sacred Music</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>− Organ Track</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>− Piano Track</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>− Voice Track</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>− Strings</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>− Studio Music and Jazz</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>− Theory / Composition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>− Voice</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>− Woodwind, Brass, and Percussion Instruments</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>YES † Astronomy</td>
<td></td>
<td>minority only</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philosophy</td>
<td>Philosophy</td>
<td>YES</td>
<td>MAJORS MUST CHOOSE A CONCENTRATION</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td>Physics and Astronomy</td>
<td>Physics</td>
<td>YES</td>
<td>*Academic</td>
<td>Bachelor of Science</td>
<td></td>
</tr>
<tr>
<td></td>
<td>*Honors Academic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>*Applied</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>*Honors Applied</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>*General</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>YES † Astronomy</td>
<td></td>
<td>minority only</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political Science</td>
<td>Political Science</td>
<td>YES</td>
<td>*Honors Political Science</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>*Public Administration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DEPARTMENT (UNIT)</td>
<td>MAJOR</td>
<td>MINOR</td>
<td>*CONCENTRATION MINOR ONLY</td>
<td>DEGREE</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>-------</td>
<td>-------</td>
<td>---------------------------</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>Pre-Professional Programs</td>
<td>•Pre-Professional Programs</td>
<td>*Nuclear Medicine Technology</td>
<td>Bachelor of Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>*Pre-Dental</td>
<td>Bachelor of Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>*Pre-Medical</td>
<td>Bachelor of Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>*Pre-Pharmacy</td>
<td>Bachelor of Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>*Pre-Veterinary Medicine</td>
<td>Bachelor of Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>•Medical Technology</td>
<td></td>
<td>Bachelor of Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychology</td>
<td>•Psychology</td>
<td>YES</td>
<td>*Honors Psychology</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td>Religious Studies</td>
<td>•Religious Studies</td>
<td>YES</td>
<td></td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td>Sociology</td>
<td>•Sociology</td>
<td>YES</td>
<td>*Criminal Justice, *Environmental Issues and Globalization</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td>Statistics (Intercollegiate with the College of Business Administration)</td>
<td>•Statistics</td>
<td>YES</td>
<td></td>
<td>Bachelor of Science</td>
<td></td>
</tr>
<tr>
<td>Theatre</td>
<td>•Theatre</td>
<td>YES</td>
<td></td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
</tbody>
</table>

**College of Business Administration**

<table>
<thead>
<tr>
<th>MAJOR</th>
<th>MINOR</th>
<th>*CONCENTRATION MINOR ONLY</th>
<th>DEGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting and Information Management</td>
<td>•Accounting</td>
<td>*Collateral Option</td>
<td>BS in Business Administration</td>
</tr>
<tr>
<td>Economics</td>
<td>•Economics</td>
<td>MAJORS MUST CHOOSE AN OPTION</td>
<td>BS in Business Administration</td>
</tr>
<tr>
<td>Finance</td>
<td>•Finance</td>
<td>MAJORS MUST CHOOSE THE COLLATERAL OPTION OR DUAL CONCENTRATION</td>
<td>BS in Business Administration</td>
</tr>
<tr>
<td>Intercollegiate Management</td>
<td>•Public Administration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marketing and Logistics</td>
<td>•Logistics</td>
<td>MAJORS MUST CHOOSE THE COLLATERAL OPTION OR A DUAL CONCENTRATION</td>
<td>BS in Business Administration</td>
</tr>
<tr>
<td></td>
<td>•Marketing</td>
<td>MAJORS MUST CHOOSE THE COLLATERAL OPTION OR A DUAL CONCENTRATION</td>
<td>BS in Business Administration</td>
</tr>
<tr>
<td>Statistics, Operations and Management Science</td>
<td>•Statistics</td>
<td>MAJORS MUST CHOOSE THE COLLATERAL OPTION OR A DUAL CONCENTRATION</td>
<td>BS in Business Administration</td>
</tr>
</tbody>
</table>

**College of Communication and Information**

<table>
<thead>
<tr>
<th>MAJOR</th>
<th>MINOR</th>
<th>*CONCENTRATION MINOR ONLY</th>
<th>DEGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>School of Advertising and Public Relations</td>
<td>•Advertising</td>
<td></td>
<td>BS in Communication</td>
</tr>
<tr>
<td></td>
<td>•Public Relations</td>
<td></td>
<td>BS in Communication</td>
</tr>
<tr>
<td>DEPARTMENT (UNIT)</td>
<td>MAJOR</td>
<td>MINOR</td>
<td>&quot;CONCENTRATION† MINOR ONLY</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------</td>
<td>-------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>School of Communication Studies</td>
<td>Communication Studies</td>
<td>YES</td>
<td>&quot;Honors Communication Studies</td>
</tr>
<tr>
<td>School of Information Sciences</td>
<td></td>
<td>YES</td>
<td>Information Studies and Technology</td>
</tr>
<tr>
<td>School of Journalism and Electronic Media</td>
<td>Journalism and Electronic Media</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>College of Education, Health, and Human Sciences</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child and Family Studies</td>
<td>Child and Family Studies</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>Educational Psychology and Counseling</td>
<td></td>
<td>YES</td>
<td>&quot;Engineering Communication and Performance</td>
</tr>
<tr>
<td>Exercise, Sport, and Leisure Studies</td>
<td></td>
<td>YES</td>
<td>&quot;Dance – Option 1 – Performance – Option 2 – Pedagogy</td>
</tr>
<tr>
<td>• Exercise Science</td>
<td>YES</td>
<td></td>
<td>BS in Education</td>
</tr>
<tr>
<td>• Recreation and Leisure Studies</td>
<td>MAJORS MUST CHOOSE A CONCENTRATION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructional Technology, Health, and Educational Studies</td>
<td></td>
<td>YES</td>
<td>&quot;Recreation and Leisure Administration</td>
</tr>
<tr>
<td>• Sport Management</td>
<td>YES</td>
<td></td>
<td>BS in Education</td>
</tr>
<tr>
<td>Nutrition</td>
<td>Nutrition</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>Retail, Hospitality, and Tourism Management</td>
<td>Hotel, Restaurant, and Tourism</td>
<td>MAJORS MUST CHOOSE A CONCENTRATION</td>
<td></td>
</tr>
<tr>
<td>• Retail and Consumer Sciences</td>
<td>YES</td>
<td>&quot;Hotel and Tourism Management</td>
<td>BS in Service Management</td>
</tr>
<tr>
<td>Theory and Practice in Teacher Education</td>
<td>Art Education – for licensure, students should pursue the BFA or BA in Studio Art (School of Art) and complete a major in Art Education</td>
<td>YES</td>
<td>&quot;Elementary Education</td>
</tr>
<tr>
<td>• Special Education</td>
<td>MAJORS MUST CHOOSE A CONCENTRATION</td>
<td>&quot;Education of the Deaf and Hard of Hearing</td>
<td>BS in Education</td>
</tr>
<tr>
<td>• Special Education</td>
<td>YES</td>
<td>&quot;Educational Interpreting</td>
<td></td>
</tr>
<tr>
<td>College of Engineering</td>
<td></td>
<td>YES</td>
<td>&quot;Modified and Early Childhood Special Education</td>
</tr>
<tr>
<td>Chemical Engineering</td>
<td>Chemical Engineering</td>
<td>YES</td>
<td>&quot;Honors Chemical Engineering</td>
</tr>
<tr>
<td>Civil and Environmental Engineering</td>
<td>Civil Engineering</td>
<td>YES</td>
<td>BS in Civil Engineering</td>
</tr>
<tr>
<td>Electrical and Computer Engineering</td>
<td>Computer Engineering</td>
<td>YES</td>
<td>&quot;Environmental Engineering</td>
</tr>
<tr>
<td>• Electrical Engineering</td>
<td>YES</td>
<td>BS in Electrical Engineering</td>
<td></td>
</tr>
<tr>
<td>Intercollegiate</td>
<td>Engineering Physics</td>
<td>YES</td>
<td>BS in Engineering Physics</td>
</tr>
<tr>
<td>Industrial and Information Engineering</td>
<td>Industrial Engineering</td>
<td>YES</td>
<td>BS in Industrial Engineering</td>
</tr>
<tr>
<td>Materials Science and Engineering</td>
<td>Materials Science and Engineering</td>
<td>YES</td>
<td>BS in Materials Science and Engineering</td>
</tr>
<tr>
<td>Mechanical, Aerospace, and Biomedical Engineering</td>
<td>Aerospace Engineering</td>
<td>YES</td>
<td>BS in Aerospace Engineering</td>
</tr>
<tr>
<td>• Biomedical Engineering</td>
<td>YES</td>
<td>BS in Biomedical Engineering</td>
<td></td>
</tr>
<tr>
<td>• Mechanical Engineering</td>
<td>YES</td>
<td>BS in Mechanical Engineering</td>
<td></td>
</tr>
<tr>
<td>DEPARTMENT (UNIT)</td>
<td>• MAJOR</td>
<td>MINOR</td>
<td>° CONCENTRATION MINOR ONLY</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------------------------</td>
<td>-------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>Nuclear Engineering</td>
<td>• Nuclear Engineering</td>
<td></td>
<td>° Radiological Engineering</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College of Nursing</td>
<td>• Nursing</td>
<td></td>
<td>° RN Track</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College of Social Work</td>
<td>• Social Work</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

UNDERGRADUATE DEGREES LISTED ALPHABETICALLY

Bachelor of Architecture
Bachelor of Arts
Bachelor of Arts in Communication
Bachelor of Fine Arts
Bachelor of Music
Bachelor of Science
Bachelor of Science in Aerospace Engineering
Bachelor of Science in Agriculture
Bachelor of Science in Animal Science
Bachelor of Science in Biomedical Engineering
Bachelor of Science in Biosystems Engineering
Bachelor of Science in Business Administration
Bachelor of Science in Chemical Engineering
Bachelor of Science in Chemistry
Bachelor of Science in Civil Engineering
Bachelor of Science in Communication
Bachelor of Science in Computer Engineering
Bachelor of Science in Education
Bachelor of Science in Electrical Engineering
Bachelor of Science in Engineering Physics
Bachelor of Science in Environmental and Soil Sciences
Bachelor of Science in Forestry
Bachelor of Science in Human Ecology
Bachelor of Science in Industrial Engineering
Bachelor of Science in Interior Design
Bachelor of Science in Materials Science and Engineering
Bachelor of Science in Mechanical Engineering
Bachelor of Science in Nuclear Engineering
Bachelor of Science in Nursing
Bachelor of Science in Plant Sciences
Bachelor of Science in Service Management
Bachelor of Science in Social Work
Bachelor of Science in Wildlife and Fisheries Science
Academic Calendar – An official list of dates found at the beginning of the Undergraduate Catalog and on the University Registrar’s Web site (http://registrar.tennessee.edu) The Academic Calendar specifies the dates for semesters and terms, examination periods, holidays, periods classes are not in session, and commencement.

Academic Discipline – A subject area (e.g., history, political science, psychology).

Academic Review – A status that indicates a student is in academic difficulty. Students are placed on Academic Review when either their cumulative grade point average (GPA) falls below 2.0 for one semester or when their semester GPA falls below 2.00 for two consecutive semesters regardless of their cumulative GPA.

Academic Second Opportunity – A policy designed to assist the student who was not successful in progressing toward a degree during a previous attendance at the University of Tennessee, Knoxville, but who is now performing satisfactory work.

Academic Year – The part of the year that includes the Fall and Spring Semesters.

Advanced Placement (AP) Credit – Freshmen admitted to UT Knoxville may receive AP credit on the basis of performance on one or more of the Advanced Placement Examinations offered by the College Entrance Examination Board. Each participating department decides on the acceptable score for credit.

Advisor – A department or college-based faculty or staff member who meets with students each semester to discuss curricular choices and progress toward achieving educational goals.

Audit – A registration status that allows a student (with the approval of the instructor) to enroll in a course without receiving credit.

Baccalaureate or Bachelor’s Degree – Awarded for completion of an undergraduate curriculum. A bachelor’s degree is comprised of general education courses, a major, elective courses, and, in some cases, a minor. BA is the Bachelor of Arts degree and BS is the Bachelor of Science degree.

Bursar – See Office of the Bursar.

Catalog – A resource of all academic policies and procedures, college and degree requirements, faculty, and course descriptions.

Catalog Year – The year during which the regulations of a specific edition of the Undergraduate Catalog apply.

Classification – Level of progress toward a degree based on the number of semester hours passed.

Collateral Area – Classes in a discipline or subject related to the major or concentration but offered by a different department. For example, in the College of Business Administration, the major in finance offers a collateral option.

College – An academic unit of the university. Each college represents an organization of related departments. (The Colleges of Nursing and Social Work do not have departments.)

Commencement (also known as Graduation) – A formal ceremony in which colleges award degrees to graduating students.

Concentration – A focus within the major. For example, criminal justice is a concentration of the sociology major.

Contact Hours – The number of hours the class meets per week.

Core Courses – Classes that all students in a major program are required to take.

Corequisite – Specific conditions, requirements, or courses that must be completed at the same time as another course.

Correspondence – A type of independent study for individuals who want to study out-of-class at their own pace.

Course – A specific subject studied within a limited period of time. Courses may utilize lecture, discussion, laboratory, seminar, workshop, studio, independent study, internship, or other similar teaching formats to facilitate learning.

Course Load – The total number of credit hours taken in a semester.

Course Number – The three-digit number that identifies a specific course, such as 101 in English 101.

Course Title – The name of a specific course that indicates subject and content. English Composition I is the course title of English 101.

Credit – The number of credits assigned to a course is generally based upon the amount of time the class meets each week. For example, a three-credit lecture class meets for approximately three hours per week.

Credit by Examination – See Proficiency.

Credit Hours – The numerical unit of credit earned for satisfactory completion of a particular course. Each credit hour is roughly equivalent to one hour of class time per week. Most lecture courses are three credit hours. Laboratories do not generally reflect credit hours equivalent to the number of hours they meet.

Curriculum – A program of courses that meets the requirements for a degree in a particular field of study.

Degree – Official recognition for completion of a curriculum.

Degree Audit Report System (DARS) – An automated record of a student’s academic progress toward degree completion in his/her major. The DARS audit contains all requirements and sub-requirements for a specific degree program. Final certification of degree requirements rests with the Office of the University Registrar.

Department – A unit within a college representing a discipline. For example, the Department of English is in the College of Arts and Sciences.

Departmental Exam – A common final exam given to all sections of a course at a designated time. Departmental final exams are usually scheduled in a large room rather than the location where the class met during the term.

Discipline – An area of study representing a branch of knowledge, such as mathematics.

Dismissal – When a student’s academic performance is consistently poor over time and his/her GPA is below 2.0, he/she will no longer be allowed to enroll.

Drop/Add – Changing a student’s course schedule by adding and/or dropping a course or courses.

Electives – Courses selected at a student’s discretion. Electives may be partially restricted (selected from a specified group of courses identified to fulfill a particular requirement) or they may be free electives (selected from any courses for which the student has proper prerequisites).

Final Exams – Tests or exercises given at the end of a term. A schedule for Final Exams is listed in the Timetable each semester.

General Education Requirement – See University General Education Requirement.

Grade Point Average (GPA) – A measure of scholastic performance. The GPA is obtained by dividing the number of grade points by the hours of work attempted, where A = 4 points, B+ = 3.5 points, B = 3 points, C+ = 2.5 points, C = 2 points, D = 1 point, and F = 0 points.

Incomplete – Under extraordinary circumstances and only at the discretion of the instructor, a grade of I (Incomplete) may be assigned to a student whose work is satisfactory but who has not completed a portion of the course.

Independent Study – Academic work completed in consultation with a faculty member outside of the regular course offerings.

Interdisciplinary – Course or program of study involving two or more major areas/departments. For example, the minor in Communication and Information is interdisciplinary.
| **Lab (laboratory)** | In labs, students apply lecture material in small-group situations that include experiments, assignments, and projects. |
| **Lecture** | Teaching method in which the professor presents information to the students who take notes, ask questions, and have dialogue with the professor. |
| **Lower Division (LD)** | Courses on the 100- or 200-level that cover introductory content. |
| **Major** | A student’s principal field of study that commonly consists of approximately 25% of the total credit hours needed to earn a degree. |
| **Matriculation** | The first enrollment following admission as a student. |
| **Minor** | A secondary field of study requiring fewer credits than the major. |
| **Office of the Bursar** | The office where payments of tuition and fees are made. |
| **Office of the University Registrar** | The office that plans and oversees registration, academic record maintenance, transcript preparation, graduation, degree audit report system, curricular records, and university catalogs. |
| **Option** | An approved group of courses creating a specialty within a major field of study. |
| **Plagiarism** | Using the intellectual property of someone else without giving proper credit. The undocumented use of someone else’s words or ideas in any medium of communication (unless such information is recognized as common knowledge) is a serious offense, subject to disciplinary action that may include failure in a course and/or dismissal from the university. |
| **Prerequisite** | Specific conditions, requirements, or classes that must be completed before enrolling in another course. For example, English 101 is a prerequisite for English 102. |
| **Proficiency** | Credit received when a student takes an oral or written examination without enrolling in a course. The university policy is to allow each individual department to determine which of its courses, if any, can be passed by proficiency. |
| **Progression Requirements** | Requirements used by some colleges or degree programs (usually at the end of the sophomore year) to determine if students have successfully completed prerequisite courses before accepting them into a specific major. |
| **Registrar** | See Office of the University Registrar. |
| **Registration** | The act of signing up for classes on the Web (cpo.utk.edu). |
| **Registration Restriction(s)** | Conditions for enrollment enforced by the Registration System. These restrictions may include one or more of the following — minimum GPA, student level, college, major, concentrations, degree, or a qualification such as teacher licensure. |
| **Satisfactory/No Credit Grading (S/NC)** | An alternative to the standard grading system (A, B, C, D, F). |
| **Section** | One of several classes of the same course. In the Timetable, a five-digit code is used to identify each section of each course offered. |
| **Semester or Term** | Semester and term are used to identify the formally designated period during which classes are scheduled. Fall semester begins in August and Spring semester begins in January. |
| **Seminar** | A form of small group instruction, combining independent research and class discussions, under the guidance of a professor. |
| **Sequence** | A series of courses within the same subject area. Generally, these courses are taken in numerical order. An example of a sequence is History 221-222 (History of the United States). |
| **Survey Course** | A course that covers briefly the principal topics of a broad field of knowledge. |
| **Syllabus** | A course outline provided by the instructor that delineates course requirements, grading criteria, course content, faculty expectations, deadlines, examination dates, grading policies, class attendance requirements, and other relevant course information. |
| **Timetable of Classes** | The official schedule of classes produced each semester by the Office of the University Registrar. The most up-to-date information can be found online at cpo.utk.edu. |
| **Track** | A separate route leading to the same degree but with different requirements. |
| **Transcript** | The official record of a student’s coursework maintained by the Office of the University Registrar. |
| **University General Education Requirement** | One of the requirements for a baccalaureate degree (beginning Fall 2004 for students following the 2004-2005 catalog). It is a pattern of courses which students complete, regardless of their major, to ensure that they have a broad educational experience. |
| **Upper Division (UD)** | Courses numbered in the 300- and 400-level which cover more in-depth content. |
| **Withdrawal** | Officially dropping all courses for a given term. |
THE UNIVERSITY OF TENNESSEE, KNOXVILLE
GENERAL EDUCATION REQUIREMENT

Statement of Purpose. General education provides the foundation for successful academic study, for lifelong learning, and for carrying out the duties of local, national, and global citizenship. By building basic skills in communication, analysis, and computation as well as by broadening students’ historical and cultural perspectives, the general education curriculum helps students acquire an understanding of both self and society, and thus contributes to their personal enrichment while enrolled and after graduation.

The University of Tennessee’s general education program has been designed to enable the student to move among colleges within the university or to move to another institution of higher learning. Although it will provide the students with the skills required by college study, those skills are specific neither to UT Knoxville nor to a particular major or career path.

Outcomes. The program is expected to produce the following outcomes for the students.

Building Basic Skills. Because the hallmark of the educated person is the ability to think independently, students must be trained to acquire, evaluate, and use information.

• Students must be able to acquire information by conducting independent research, both in a conventional library setting and through the use of the rapidly developing electronic technologies, including databases and internet resources.

• Students must then learn to evaluate the reliability, accuracy, and logical soundness of that information. The students will be taught to apply evaluative techniques to statistical and rhetorical presentations in arts, humanities, natural sciences, and social sciences.

• Students must be trained to use the information that they have acquired. They must write clearly, speak convincingly, and solve problems using creative approaches.

Developing Broadened Perspectives. General education should help students develop habits of self-examination in the context of the individual’s relationship to family, community, society, and world. To this end, general education should also help foster a commitment to respecting the diversity of personal and cultural values.

• Students should be able to explain their own values and beliefs, as well as to understand the histories and cultures behind those values. Students should also develop a commitment to lifelong learning so that they may continue to examine the relationships between their personal perspectives and the perspectives that arise from other cultures.

• Students should strengthen their sensitivity to cultural diversity by studying the histories and traditions of other cultures, both within and outside the United States; and by understanding the dynamic nature of a multicultural world through interdisciplinary perspectives or by learning other languages.

These are the General Education requirements (See Notes)

A. For Building Basic Skills

I. Communicating through Writing (3 courses including English 101 and 102 plus an approved writing-intensive course).

Good writing skills enable students to create and share ideas, investigate and describe values, and record discoveries—all skills that are necessary not only for professional success but also for personal fulfillment in a world where communication increasingly takes place through electronic media. Students must be able to identify areas for inquiry, locate relevant information, evaluate its usefulness and quality, and incorporate the information logically and ethically. They must be able to write correctly, and they must be aware that different audiences and purposes call for different rhetorical responses.

To satisfy this requirement, students take the first-year composition sequence and, upon completion of English 101 and 102 or their equivalent (see Note 4), take one other course designated as “writing-intensive” (WC) in the undergraduate catalog. The writing-intensive courses can be within the student’s major or an elective. In order to gain a (WC) designation, courses shall require formal and informal writing assignments that total 5,000 words.

APPROVED COMMUNICATING THROUGH WRITING (WC) COURSES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural and Extension Education</td>
<td>440 Communication Techniques in Agriculture</td>
</tr>
<tr>
<td>Animal Science</td>
<td>280 Biotechnology and Management Practices in Animal Production</td>
</tr>
<tr>
<td>Architecture</td>
<td>213 History and Theory of Contemporary Architecture</td>
</tr>
<tr>
<td>Biochemistry and Cellular and Molecular Biology</td>
<td>409 Perspectives in Biochemistry and Cellular and Molecular Biology</td>
</tr>
<tr>
<td>Child and Family Studies</td>
<td>405 Development of Professional Skills</td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>205 Professional Development I</td>
</tr>
<tr>
<td>Electrical and Computer Engineering</td>
<td>400 Senior Design</td>
</tr>
<tr>
<td>English</td>
<td>206 Introduction to Shakespeare</td>
</tr>
<tr>
<td></td>
<td>254 Themes in Literature</td>
</tr>
<tr>
<td></td>
<td>255 Public Writing</td>
</tr>
<tr>
<td></td>
<td>295 Business and Technical Writing</td>
</tr>
<tr>
<td></td>
<td>355 Rhetoric and Writing</td>
</tr>
<tr>
<td></td>
<td>363 Writing Poetry</td>
</tr>
<tr>
<td></td>
<td>364 Writing Fiction</td>
</tr>
<tr>
<td></td>
<td>398 Junior-Senior Honors Seminar</td>
</tr>
<tr>
<td></td>
<td>455 Persuasive Writing</td>
</tr>
<tr>
<td></td>
<td>499 Senior Seminar</td>
</tr>
<tr>
<td>Forestry</td>
<td>321 Wildland Recreation</td>
</tr>
<tr>
<td>Forestry, Wildlife and Fisheries</td>
<td>312 Principles of Silviculture</td>
</tr>
<tr>
<td>Hotel, Restaurant, and Tourism</td>
<td>390 Professional Development (same as Retail and Consumer Sciences 390)</td>
</tr>
<tr>
<td>Industrial Engineering</td>
<td>350 Junior Seminar</td>
</tr>
<tr>
<td>Information Sciences</td>
<td>450 Writing About Science and Medicine (same as Journalism and Electronic Media 450)</td>
</tr>
</tbody>
</table>
II. Communicating Orally (1 course). The ability to communicate one’s ideas orally is as important as the ability to express them well in writing. Students should be able to speak in an informative and/or convincing manner to other individuals and to groups, both small and large. Being able to express one’s thoughts clearly has always been a critical component of good citizenship. Students should be able to locate relevant information, evaluate its usefulness and quality, and incorporate the information logically and ethically in public address. (See Note 5.) This requirement may be completed by
(1) completion of Communication Studies 210 or 240
or
(2) completion of a course with an (OC) designation.

APPROVED COMMUNICATING ORALLY (OC) COURSES

<table>
<thead>
<tr>
<th>Aerospace Engineering</th>
<th>410 Professional Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal Science</td>
<td>360 Horse, Dairy, and Meat Animal Evaluation</td>
</tr>
<tr>
<td>Biology</td>
<td>57 Honors Experimental Biology</td>
</tr>
<tr>
<td>Biomedical Engineering</td>
<td>410 Professional Topics</td>
</tr>
<tr>
<td>Biosystems Engineering</td>
<td>401 Biosystems Engineering Design I</td>
</tr>
<tr>
<td>Chemistry</td>
<td>406 Senior Seminar</td>
</tr>
<tr>
<td>Child and Family Studies</td>
<td>405 Development of Professional Skills</td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>205 Professional Development I</td>
</tr>
<tr>
<td>Electrical and Computer Engineering</td>
<td>400 Senior Design</td>
</tr>
<tr>
<td>Environmental and Soil Sciences</td>
<td>301 Professional Development</td>
</tr>
<tr>
<td>Legal Studies</td>
<td>244 Professional Responsibility (same as Philosophy 244 and Religious Studies 244)</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>410 Professional Development</td>
</tr>
<tr>
<td>Nuclear Engineering</td>
<td>400 Senior Seminar</td>
</tr>
<tr>
<td>Nursing</td>
<td>341 Transcultural Nursing</td>
</tr>
<tr>
<td></td>
<td>454 Professional Leadership Issues</td>
</tr>
<tr>
<td>Philosophy</td>
<td>242 Contemporary Moral Issues</td>
</tr>
<tr>
<td></td>
<td>244 Professional Responsibility (same as Legal Studies 244 and Religious Studies 244)</td>
</tr>
<tr>
<td>Religious Studies</td>
<td>244 Professional Responsibility (same as Legal Studies 244 and Philosophy 244)</td>
</tr>
</tbody>
</table>
III. Quantitative Reasoning (2 courses). In today’s world, arguments and claims often rely for support on scientific studies and statistical evidence. Students should possess the mathematical and quantitative skills to evaluate such evidence. Furthermore, students should possess the skills both to recognize the quantitative dimension of problems and to use mathematical reasoning to formulate and solve the problem. Finally, students need strong quantitative skills because they are indispensable in managing everyday-life situations. This requirement may be completed by either of the following.

(1) Taking two mathematics or statistics courses from the list below. (Preferably, these courses would be taken in one of the following pairings: Mathematics 113 and 115; Mathematics 123 and 125; Mathematics 141 and 142; Mathematics 147 and 148; Mathematics 151 and 152; Mathematics 125, 141 or 147 and Statistics 201 or 207; Mathematics 115 and 123 or 125 or 202.)

Mathematics
113 Mathematical Reasoning
115 Statistical Reasoning
117 Honors Mathematical Reasoning
123 Finite Mathematics
125 Basic Calculus
141–142 Calculus I, II
147–148 Honors: Calculus I, II
151–152 Mathematics for the Life Sciences I, II
202 Probability, Statistics, and Euclidean Geometry

Statistics
201 Introduction to Statistics
207 Honors: Introduction to Statistics

or

(2) taking one mathematics course from the list above and one course designated in the undergraduate catalog as having a quantitative component (QR). The course designated as having a quantitative component may be within the student’s major or an elective.

APPROVED QUANTITATIVE REASONING (QR) COURSES

Architecture
331 Architectural Structures I

Computer Science
100 Introduction to Computers and Computing
102 Introduction to Computer Science

Interior Design
460 Lighting for Interior Design

Music Technology
290 Sound Recording Techniques

University Honors
187 Quantitative Reasoning Honors Seminar

B. For Developing Broadered Perspectives

I. Natural Sciences (2 courses). As science and technology come to play an increasingly important role in contemporary life, it is essential for all educated persons to have a fundamental understanding of science and its methods. All students should be familiar with one or more scientific disciplines and the role of science in contemporary society. Such familiarity may be gained through acquisition of knowledge of a discipline’s basic vocabulary, chief discoveries, and fundamental principles; exposure to a discipline’s experimental techniques; and the ability to analyze issues with scientific dimensions. This requirement is satisfied by taking two courses from the approved list. At least one of the courses must have a laboratory.

APPROVED NATURAL SCIENCES (NS) COURSES
(† NON-LAB COURSES)

Anthropology
110 Human Origins†

Astronomy
151 A Journey through the Solar System†
152 Stars, Galaxies, and Cosmology†
161 A Journey through the Solar System with Laboratory

162 Stars, Galaxies, and Cosmology with Laboratory
217–218 Honors: Introductory Astronomy

Biology
101–102 Humankind in the Biotic World
111–112 General Botany
130 Biodiversity
140 Organization and Function of the Cell
157 Honors Experimental Biology

Chemistry
100 Principles of Chemistry
110 Introduction to Organic and Biochemistry
120–130 General Chemistry I and II
128–138 Honors: General Chemistry I and II

Entomology and Plant Pathology
201 Impact of Insects and Plant Diseases on Human Society†

Forestry, Wildlife and Fisheries
250 Conservation†

Geography
131–132 Geography of the Natural Environment I and II

Geology
101 The Dynamic Earth
102 Earth, Life, and Time
103 The Earth’s Environment
107 Honors: The Dynamic Earth
108 Honors: Earth, Life, and Time
201 Biodiversity: Past, Present, and Future†
202 Earth As An Ecosystem: Modern Problems and Solutions†
203 Geology of National Parks†
205 Age of the Dinosaurs†

Microbiology
210 General Microbiology

Nutrition
100 Introductory Nutrition†

Physics
101–102 How Things Work I and II†
135–136 Introduction to Physics for Physical Science and Mathematics Majors I and II
137–138 Honors: Fundamentals of Physics for Physics Majors I and II
161 Elements of Physics for Architects and Interior Design Students†
221–222 Elements of Physics
231 Fundamentals of Physics: Electricity and Magnetism
232 Fundamentals of Physics: Wave Motion, Optics, and Modern Physics

II. Arts and Humanities (2 courses). To live well in the present, one must have an acquaintance with the past, especially with the cultural achievements that are the distinctive hallmarks of all human societies. An appreciation of art, music, theater, literature, and philosophy will not only enrich the lives of students, but it will also help them understand their own and other’s aspirations, both in a historical and a contemporary context. This requirement is satisfied by taking two courses from the list below.
## APPROVED ARTS AND HUMANITIES (AH) COURSES

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africana Studies</td>
<td>162 Art of Africa, Oceania, and Pre-Columbian America (same as Art History 162)</td>
</tr>
<tr>
<td></td>
<td>233 Major Black Writers (same as English 233)</td>
</tr>
<tr>
<td>Architecture</td>
<td>111 Architecture and the Built Environment</td>
</tr>
<tr>
<td></td>
<td>211 History and Theory of Architecture I</td>
</tr>
<tr>
<td></td>
<td>212 History and Theory of Architecture II</td>
</tr>
<tr>
<td>Art History</td>
<td>162 Art of Africa, Oceania, and Pre-Columbian America (same as Africana Studies 162)</td>
</tr>
<tr>
<td></td>
<td>167 Honors: Art of Africa, Oceania, and Pre-Columbian America</td>
</tr>
<tr>
<td></td>
<td>172 Western Art I</td>
</tr>
<tr>
<td></td>
<td>173 Western Art II</td>
</tr>
<tr>
<td></td>
<td>177 Honors: Western Art I</td>
</tr>
<tr>
<td></td>
<td>178 Honors: Western Art II</td>
</tr>
<tr>
<td></td>
<td>183 Asian Art</td>
</tr>
<tr>
<td></td>
<td>187 Honors: Asian Art</td>
</tr>
<tr>
<td>Classics</td>
<td>221 Early Greek Mythology</td>
</tr>
<tr>
<td></td>
<td>222 Classical Greek and Roman Mythology</td>
</tr>
<tr>
<td></td>
<td>232 Archaeology and Art of Ancient Greece and Rome</td>
</tr>
<tr>
<td></td>
<td>253 Greek and Roman Literature in English Translation</td>
</tr>
<tr>
<td>English</td>
<td>201 British Literature I: Beowulf through Johnson</td>
</tr>
<tr>
<td></td>
<td>202 British Literature II: Wordsworth to the Present</td>
</tr>
<tr>
<td></td>
<td>206 Introduction to Shakespeare</td>
</tr>
<tr>
<td></td>
<td>207 Honors: British Literature I</td>
</tr>
<tr>
<td></td>
<td>208 Honors: British Literature II</td>
</tr>
<tr>
<td></td>
<td>221 Literature of the Western World I: Ancient, Medieval, and Renaissance</td>
</tr>
<tr>
<td></td>
<td>222 Literature of the Western World II: Enlightenment, Romantic, and Modern</td>
</tr>
<tr>
<td></td>
<td>231 American Literature I: Colonial Era to the Civil War</td>
</tr>
<tr>
<td></td>
<td>232 American Literature II: Civil War to Present</td>
</tr>
<tr>
<td></td>
<td>233 Major Black Writers (same as Africana Studies 233)</td>
</tr>
<tr>
<td></td>
<td>237 Honors: American Literature I: Colonial Era to the Civil War</td>
</tr>
<tr>
<td></td>
<td>238 Honors: American Literature I: Civil War to Present</td>
</tr>
<tr>
<td></td>
<td>251 Introduction to Poetry</td>
</tr>
<tr>
<td></td>
<td>252 Introduction to Drama</td>
</tr>
<tr>
<td></td>
<td>253 Introduction to Fiction</td>
</tr>
<tr>
<td></td>
<td>254 Themes in Literature</td>
</tr>
<tr>
<td>Legal Studies</td>
<td>244 Professional Responsibility (same as Philosophy 244 and Religious Studies 244)</td>
</tr>
<tr>
<td>Musicology</td>
<td>110 Introduction to Music in Western Culture</td>
</tr>
<tr>
<td></td>
<td>115 Music in the United States</td>
</tr>
<tr>
<td></td>
<td>120 History of Rock</td>
</tr>
<tr>
<td></td>
<td>125 Jazz in American Culture</td>
</tr>
<tr>
<td></td>
<td>210 History of Western Music, Ancient to the Baroque</td>
</tr>
<tr>
<td></td>
<td>220 History of Western Music, Classical to the Present</td>
</tr>
<tr>
<td></td>
<td>290 Soundsscapes: Exploring Music in a Changing World</td>
</tr>
<tr>
<td>Philosophy</td>
<td>110 The Human Condition: Values and Reality</td>
</tr>
<tr>
<td></td>
<td>111 The Human Condition: Knowledge and Reality</td>
</tr>
<tr>
<td></td>
<td>117 Honors: Introduction to Philosophy</td>
</tr>
<tr>
<td></td>
<td>118 Honors: Introduction to Philosophy</td>
</tr>
<tr>
<td></td>
<td>241 Engineering Ethics</td>
</tr>
<tr>
<td></td>
<td>242 Contemporary Moral Issues</td>
</tr>
<tr>
<td></td>
<td>243 Business Ethics</td>
</tr>
<tr>
<td></td>
<td>244 Professional Responsibility (same as Legal Studies 244 and Religious Studies 244)</td>
</tr>
<tr>
<td></td>
<td>245 Environmental Ethics</td>
</tr>
<tr>
<td></td>
<td>246 Bioethics (same as Religious Studies 246)</td>
</tr>
<tr>
<td></td>
<td>290 Social and Political Philosophy</td>
</tr>
<tr>
<td>Religious Studies</td>
<td>244 Professional Responsibility (same as Legal Studies 244 and Philosophy 244)</td>
</tr>
<tr>
<td></td>
<td>246 Bioethics (same as Philosophy 246)</td>
</tr>
<tr>
<td>Russian</td>
<td>221 Rebels, Dreamers, and Fools: The Outcast in 19th-Century Russian Literature</td>
</tr>
<tr>
<td></td>
<td>222 Heaven or Hell: Utopias and Dystopias in 20th-Century Russian Literature</td>
</tr>
<tr>
<td>Theatre</td>
<td>100 Introduction to Theatre</td>
</tr>
<tr>
<td>University Honors</td>
<td>157 Arts and Humanities Honors Seminar</td>
</tr>
<tr>
<td></td>
<td>257 Special Topics in the Arts and Humanities</td>
</tr>
</tbody>
</table>

### III. Social Sciences (2 courses)

The goal of the social sciences is to help us understand the way that we live, especially the relation between the individual and the group, sometimes from an historical but often from a contemporary perspective. Vital to the continued health and success of society is an understanding of the complex individual, political, and social dynamics that make up the modern world. Students should not only have knowledge of the principal concerns of the social sciences, but they should also understand the methods by which social scientists collect and evaluate knowledge. This requirement is satisfied by taking two courses from the following list.

## APPROVED SOCIAL SCIENCES (SS) COURSES

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africana Studies</td>
<td>201 Introduction to African-American Studies</td>
</tr>
<tr>
<td></td>
<td>202 Introduction to African-American Studies</td>
</tr>
<tr>
<td>Anthropology</td>
<td>130 Cultural Anthropology</td>
</tr>
<tr>
<td>Child and Family Studies</td>
<td>210 Human Development</td>
</tr>
<tr>
<td></td>
<td>220 Marriage and Family: Roles and Relationships (same as Women’s Studies 230)</td>
</tr>
<tr>
<td>Economics</td>
<td>201 Introductory Economics: A Survey Course</td>
</tr>
<tr>
<td></td>
<td>207 Honors: Introductory Economics</td>
</tr>
<tr>
<td>Geography</td>
<td>101-102 World Geography</td>
</tr>
<tr>
<td>Political Science</td>
<td>102 Introduction to Political Science</td>
</tr>
<tr>
<td>Psychology</td>
<td>110 General Psychology</td>
</tr>
<tr>
<td></td>
<td>117 Honors: General Psychology</td>
</tr>
<tr>
<td>Sociology</td>
<td>110 Social Justice and Social Change</td>
</tr>
<tr>
<td></td>
<td>117 Honors: Social Justice and Social Change</td>
</tr>
<tr>
<td></td>
<td>120 General Sociology</td>
</tr>
<tr>
<td></td>
<td>127 Honors: General Sociology</td>
</tr>
<tr>
<td>University Honors</td>
<td>167 Social Science Honors Seminar</td>
</tr>
<tr>
<td></td>
<td>267 Special Topics in the Social Sciences</td>
</tr>
<tr>
<td>Women’s Studies</td>
<td>230 Marriage and Family: Roles and Relationships (same as Child and Family Studies 220)</td>
</tr>
</tbody>
</table>
IV. Cultures and Civilizations (2 courses). Knowledge of foreign languages and cultures and their histories have long been required of educated people. Today technologies of travel and communication create global communities, and so increase the importance of this knowledge. While it is not possible to become expert in all cultures and civilizations, a perspective on which to build knowledge over a lifetime can be gained by study of foreign languages and the study of the cultures and histories of their speakers. This perspective improves the ability of students to function effectively in the global community of the twenty-first century by developing an appreciation of linguistic, historical, and cultural diversity. This requirement is satisfied by either (1) taking two courses from the following list or (2) taking a two-course sequence in a foreign language at the intermediate level.

APPROVED CULTURES AND CIVILIZATIONS (CC) COURSES

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africana Studies</td>
<td>235–236 Introduction to African Studies</td>
</tr>
<tr>
<td>Anthropology</td>
<td>120 Prehistoric Archaeology</td>
</tr>
<tr>
<td>Asian Studies</td>
<td>101–102 Asian Civilization</td>
</tr>
<tr>
<td>Classics</td>
<td>201 Introduction to Classical Civilization</td>
</tr>
<tr>
<td>Environmental and Soil Sciences</td>
<td>120 Soils and Civilizations</td>
</tr>
<tr>
<td></td>
<td>220 Waters and Civilizations</td>
</tr>
<tr>
<td>Global Studies</td>
<td>250 Introduction to Global Studies (same as Sociology 250)</td>
</tr>
<tr>
<td>History</td>
<td>241–242 Development of Western Civilization</td>
</tr>
<tr>
<td></td>
<td>247–248 Honors: Development of Western Civilization</td>
</tr>
<tr>
<td></td>
<td>255–256 Introduction to Latin American Studies (same as Latin American Studies 251–252)</td>
</tr>
<tr>
<td></td>
<td>261–262 A History of World Civilization</td>
</tr>
<tr>
<td>Latin American Studies</td>
<td>251–252 Introduction to Latin American Studies (same as History 255–256)</td>
</tr>
<tr>
<td>Medieval Studies</td>
<td>201–202 Medieval Civilization</td>
</tr>
<tr>
<td>Religious Studies</td>
<td>101 World Religions in History</td>
</tr>
<tr>
<td></td>
<td>102 The Comparison of World Religions</td>
</tr>
<tr>
<td>Sociology</td>
<td>250 Introduction to Global Studies (same as Global Studies 250)</td>
</tr>
<tr>
<td>University Honors</td>
<td>177 Cultures and Civilizations Honors Seminar</td>
</tr>
<tr>
<td></td>
<td>277 Special Topics in Cultures and Civilizations</td>
</tr>
</tbody>
</table>

INTERMEDIATE FOREIGN LANGUAGE SEQUENCES

<table>
<thead>
<tr>
<th>Language</th>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arabic</td>
<td>221–222</td>
<td>Intermediate Modern Standard Arabic I, II (same as Asian Studies 221–222)</td>
</tr>
<tr>
<td>Asian Languages</td>
<td>231–232</td>
<td>Intermediate Chinese I, II (same as Chinese 231–232)</td>
</tr>
<tr>
<td></td>
<td>251–252</td>
<td>Intermediate Japanese I, II (same as Japanese 251–252)</td>
</tr>
<tr>
<td>French</td>
<td>211–212</td>
<td>Intermediate French</td>
</tr>
<tr>
<td></td>
<td>217–218</td>
<td>Honors: Intermediate French</td>
</tr>
<tr>
<td>German</td>
<td>201–202</td>
<td>Intermediate German</td>
</tr>
<tr>
<td>Italian</td>
<td>211–212</td>
<td>Intermediate Italian</td>
</tr>
<tr>
<td>Japanese</td>
<td>251–252</td>
<td>Intermediate Japanese I, II (same as Asian Languages 251–252)</td>
</tr>
<tr>
<td>Persian</td>
<td>261–262</td>
<td>Intermediate Persian I, II (same as Asian Studies 261–262)</td>
</tr>
<tr>
<td>Portuguese</td>
<td>211–212</td>
<td>Intermediate Portuguese</td>
</tr>
<tr>
<td>Russian</td>
<td>201–202</td>
<td>Intermediate Russian</td>
</tr>
<tr>
<td>Spanish</td>
<td>211–212</td>
<td>Intermediate Spanish</td>
</tr>
<tr>
<td></td>
<td>217–218</td>
<td>Honors: Intermediate Spanish</td>
</tr>
</tbody>
</table>

NOTES
(1) Some courses on the various General Education course lists may have prerequisites. Students are responsible for meeting all course prerequisites.
(2) A student's college/program may require specific General Education courses.
(3) General Education courses must be taken for a letter grade (i.e., A-F) rather than Satisfactory/No Credit (unless this is the only way the course is offered).
(4) See College of Arts and Sciences Basic Skills Requirement- Communicating through Writing in the Undergraduate Catalog for information on course equivalencies for English 101 and 102.
(5) The Office of Disability Services (ODS) is committed to providing equal opportunities for students with disabilities at the University of Tennessee. Appropriate accommodations will be made to enable persons with disabilities to satisfy the General Education requirements. Students with documented disabilities should contact the Office of Disability Services for assistance with appropriate accommodations at (865) 974-6087 or ods@tennessee.edu.
(6) Subcommittees of the Undergraduate Council General Education Committee are charged with management of the courses to be included on the General Education course lists for the Basic Skills and Broadened Perspectives areas. The most current list of General Education courses is posted at http://web.utk.edu/~ugcouncl.
The University of Tennessee, Knoxville, is the state’s flagship institution offering comprehensive programs of undergraduate, graduate, and professional education, research, and public service throughout the state.

UT Knoxville holds the Carnegie classification of “doctoral/research university-extensive.” The campus offers more than 230 degree programs to its 26,000 students, who come from every county in Tennessee, every state in the nation, and more than 100 foreign countries.

A faculty of 1,300 provides high-quality educational experiences to students while also performing research and providing public service to the state and nation.

UT Knoxville is a nationally-ranked research institution that attracts more than $113 million in research awards annually. Centers of Excellence in advanced materials, environmental biotechnology, structural biology, food safety, and information technology are among the university’s nationally recognized programs.

UT Knoxville is one of the first major universities in the country to have campus-wide wireless access to the Internet and university databases. Every academic building and most administrative offices have wireless connections.

UT-Battelle manages the Oak Ridge National Laboratory, located 25 miles northwest of campus. The University of Tennessee’s involvement places it among a select group of universities that manage national laboratories for the U.S. Department of Energy.

ORNL is the university’s largest research partner. The Science Alliance strengthens research ties between the university and the laboratory and improves science programs at the university. As part of the Science Alliance, UT and ORNL share 12 Distinguished Scientists, who hold the rank of full professor at the university and senior scientist at the laboratory.

The university’s libraries have three million volumes, periodicals, computerized resources, and services.

Through public service, the university extends its resources throughout the state and nation. Lifelong learning programs are delivered online and via video and correspondence to off-campus students, particularly working adults seeking college degrees or career advancement.

HISTORICAL BACKGROUND

Blount College, the University of Tennessee’s forerunner, was established in Knoxville in 1794, two years before Tennessee became a state.

Located near the center of Knoxville’s present business district, Blount College was nonsectarian in character, which was unusual for an institution of higher education in that day. The university has remained nondenominational and is said to be the oldest such institution west of the Appalachian Divide.

From the outset, Blount College was all-male, as were most colleges at the time. The restriction was ended in 1892 when the first women students were admitted. The University of Tennessee thereafter was fully coeducational.

In 1807 the state legislature changed the name to East Tennessee College, and in 1826 the present site at Knoxville, the 40-acre tract known as “The Hill,” was acquired. The college’s name changed again in 1840 – to East Tennessee University. The Civil War forced the institution to close, and its buildings were used as a hospital for Confederate troops and later occupied by Union troops.

East Tennessee University reopened after the war, and in 1869 the state legislature selected the university as the state’s federal land-grant institution, under terms of the Morrill Act passed by Congress in 1862. This enabled the university to broaden its offerings by adding agricultural and engineering courses to its curriculum, as well as military science, which the Morrill Act required.

The university has grown almost constantly since then. The medical campus, founded in Nashville and acquired by the university in 1879, moved to Memphis in 1911. The University of Tennessee at Martin, established in 1900 as a private institution, became part of the University of Tennessee in 1927. The University of Tennessee at Chattanooga was established in 1969 when the private University of Chattanooga merged with the University of Tennessee. The Space Institute, a graduate research and education center near Tullahoma, opened in 1964.

The Institute of Agriculture, headquartered in Knoxville, traces its beginnings to 1869 when UT became Tennessee’s land-grant institution, and the Institute for Public Service was founded and brought together several government and industrial outreach programs in 1971.
Today, the University of Tennessee has a presence in each of the state’s 95 counties. In addition to the flagship campus at Knoxville, the UT system includes campuses at Chattanooga and Martin, the Health Science Center at Memphis, and the Space Institute at Tullahoma. Statewide institutes of agriculture and public service have installations throughout Tennessee. The University of Tennessee Board of Trustees governs the statewide institution.

The University of Tennessee counts among its faculty and alumni a Nobel laureate, six Rhodes scholars, six Pulitzer Prize winners, and eleven NASA astronauts. University of Tennessee alumni number more than 300,000.

**ACCREDITATION**

The University of Tennessee, Knoxville, is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award baccalaureate, master’s, and doctoral degrees.

The Commission on Colleges of the Southern Association of Colleges and Schools is the recognized regional accrediting body in the eleven U.S. Southern states (Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, and Virginia) for institutions of higher education that award associate, baccalaureate, master’s, or doctoral degrees. The Commission on Colleges is charged with carrying out the accreditation process. The address is 1866 Southern Lane, Decatur, Georgia 30033; phone (404) 679-4501.

**ADMINISTRATIVE POLICIES**

**Inclement Weather Policy**

The University of Tennessee, Knoxville, will remain open except in the most severe weather conditions. The chancellor may officially close or suspend selected activities of the university because of extreme weather conditions. When a decision to close is reached, campus and local radio and TV stations will be notified so that appropriate announcements may be made. In addition, the information will be posted on the UT Knoxville homepage at http://www.utk.edu.

If the university is officially closed, certain essential activities such as dining services, facilities services, police, steam plant, and telephone services will continue to operate. Some facilities such as the library and University Center will, if possible, continue to function as a service to students and faculty. When the university is officially closed, its policy of Days of Administrative Closing will apply for staff exempt and staff non-exempt employees.

In the event of inclement weather when the university remains open, all faculty, administrators, and staff will be expected to make every reasonable effort to maintain their regular work schedules, but are advised to avoid undue risks in traveling. Employees who anticipate arriving late or not arriving at all should notify their immediate supervisors. Employees will have the option of charging their time off to annual leave or leave without pay; or, with approval, they may make up their lost work hours.

Students will be responsible for any academic work which they miss due to absences caused by severe weather conditions. It is the individual student’s responsibility to take the initiative to make up any missed class work, and it is the instructor’s responsibility to provide a reasonable opportunity for students to complete assignments or examinations missed due to such absences.

**EEO/Title IX/Section 504 Statement**

The University of Tennessee does not discriminate on the basis of race, sex, color, religion, national origin, age, disability, or veteran status in provision of education programs and services or employment opportunities and benefits. This policy extends to both employment by and admission to the university.

The university does not discriminate on the basis of race, sex, or disability in the education programs and activities pursuant to the requirements of Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act (ADA) of 1990.

Inquiries and charges of violation concerning Title VI, Title IX, Section 504, ADA, the Age Discrimination in Employment Act (ADEA), or any of the other above referenced policies should be directed to the Office of Equity and Diversity (OED), 1840 Melrose Avenue, Knoxville, Tennessee 37996-3560, telephone (865) 974-2498 (TTY/TTD available) or 974-2440. Requests for accommodation of a disability should be directed to the ADA Coordinator at the UT Knoxville Office of Human Resources, 600 Henley Street, Knoxville, Tennessee 37996-4125.

The University of Tennessee, Knoxville, in its efforts to ensure a welcoming environment for all persons, does not discriminate on the basis of sexual orientation in its campus-based programs, services, and activities. Inquiries and complaints should be directed to the Office of Equity and Diversity.

**Policy on a Drug-Free Campus and Workplace**

In support of the Drug-Free Workplace Act of 1988 (Public Law 100-690) and the Drug-Free Schools and Communities Act of 1989, the University of Tennessee is notifying all students, faculty, and staff of the following university policy approved by the UT Board of Trustees on 21 June 1990.

It is the policy of the University of Tennessee to maintain a safe and healthful environment for its students and employees. Therefore, university policy prohibits the unlawful use, manufacture, possession, distribution, or dispensing of drugs (“controlled substances” as defined in the Controlled Substances Act, 21 U.S.C. 812 et seq.) and alcohol on university property or during university activities.

Violation of this policy is grounds for disciplinary action – up to and including immediate discharge for an employee and permanent dismissal for a student. Federal and state laws provide additional penalties for such unlawful activities, including fines and imprisonment (21 U.S.C. 841 et seq.; T.C.A. 39-6-401 et seq.). Local ordinances also provide various penalties for drug and alcohol-related offenses. The university is bound to take all appropriate actions against violators, which may include referral for legal prosecution or requiring the individual to participate satisfactorily in an approved drug use/alcohol abuse assistance or rehabilitation program.

Aside from any university policy considerations, the use of illicit drugs and/or the abuse of alcohol may be harmful to your health. Some of the health risks associated with such use/abuse are

**Alcohol Abuse Health Risks**

- Liver damage – cirrhosis, alcoholic hepatitis.
- Heart disease – enlarged heart, congestive heart failure.
- Ulcers and gastritis.
- Malnutrition.
- Cancer – of the mouth, esophagus, stomach, liver.
- Brain damage – memory loss, hallucinations, psychosis.
- Damage to fetus if pregnant mother drinks.
- Death – 50% of fatal auto accidents involve alcohol; 31% of suicides are alcoholics.

**Drug Use Health Risks**

- Overdosing – psychosis, convulsions, coma, death.
- Long-term use – organ damage, mental illness, malnutrition, death.
- Casual use – heart attack, stroke, brain damage, death.
- If a pregnant mother uses drugs, her baby can be born addicted or dead.

Individuals who are paid by the University of Tennessee, Knoxville, from federal grants or contracts must notify the university of any criminal drug statute conviction for a violation occurring in the workplace within five days after such conviction. The university is, in turn, required to inform the granting or contracting agency of such violation within ten days of the University’s receipt of notification.

**Drug Use Health Risks**

- Overdosing – psychosis, convulsions, coma, death.
- Long-term use – organ damage, mental illness, malnutrition, death.
- Casual use – heart attack, stroke, brain damage, death.
- If a pregnant mother uses drugs, her baby can be born addicted or dead.

Individuals who are paid by the University of Tennessee, Knoxville, from federal grants or contracts must notify the university of any criminal drug statute conviction for a violation occurring in the workplace within five days after such conviction. The university is, in turn, required to inform the granting or contracting agency of such violation within ten days of the University’s receipt of notification.

**Drug Use Health Risks**

- Overdosing – psychosis, convulsions, coma, death.
- Long-term use – organ damage, mental illness, malnutrition, death.
- Casual use – heart attack, stroke, brain damage, death.
- If a pregnant mother uses drugs, her baby can be born addicted or dead.

Individuals who are paid by the University of Tennessee, Knoxville, from federal grants or contracts must notify the university of any criminal drug statute conviction for a violation occurring in the workplace within five days after such conviction. The university is, in turn, required to inform the granting or contracting agency of such violation within ten days of the University’s receipt of notification.

**Drug Use Health Risks**

- Overdosing – psychosis, convulsions, coma, death.
- Long-term use – organ damage, mental illness, malnutrition, death.
- Casual use – heart attack, stroke, brain damage, death.
- If a pregnant mother uses drugs, her baby can be born addicted or dead.

Individuals who are paid by the University of Tennessee, Knoxville, from federal grants or contracts must notify the university of any criminal drug statute conviction for a violation occurring in the workplace within five days after such conviction. The university is, in turn, required to inform the granting or contracting agency of such violation within ten days of the University’s receipt of notification.

**Drug Use Health Risks**

- Overdosing – psychosis, convulsions, coma, death.
- Long-term use – organ damage, mental illness, malnutrition, death.
- Casual use – heart attack, stroke, brain damage, death.
- If a pregnant mother uses drugs, her baby can be born addicted or dead.

Individuals who are paid by the University of Tennessee, Knoxville, from federal grants or contracts must notify the university of any criminal drug statute conviction for a violation occurring in the workplace within five days after such conviction. The university is, in turn, required to inform the granting or contracting agency of such violation within ten days of the University’s receipt of notification.

**Drug Use Health Risks**

- Overdosing – psychosis, convulsions, coma, death.
- Long-term use – organ damage, mental illness, malnutrition, death.
- Casual use – heart attack, stroke, brain damage, death.
- If a pregnant mother uses drugs, her baby can be born addicted or dead.
**Employees and their families needing treatment information should call their local Personnel Office, Employee Assistance Program, or the State of Tennessee Employee Assistance Program (800-867-6811). Students needing treatment information should contact their campus Student Affairs Office, Student Health Center, or Counseling Center.**

**Security Information**

In accordance with the Tennessee College and University Security Information Act of 1989 and the Student Right-To-Know and Campus Security Act (1999 Clery Act), the University of Tennessee has prepared a report containing campus security policies and procedures, data on campus crimes and other related information. The UT Security Brochure for the Knoxville campus is available on the Office of the Dean of Students Web page at http://web.utk.edu/~homepage, where you may print the entire document for your use. In addition, a free printed copy of this report may be obtained by any student, employee, or applicant for admission or employment from the Office of the Dean of Students, 413 Student Services Building.

**ADMISSION TO THE UNIVERSITY OF TENNESSEE**

As the state's largest and most comprehensive university, the University of Tennessee, Knoxville, seeks to provide high-quality educational programs for all students who have the academic ability and motivation to pursue and profit from a baccalaureate education. Similar opportunities are available at the graduate level. While the majority of students at the University of Tennessee, Knoxville, are residents of the State of Tennessee, the university welcomes qualified students from other states and from outside the United States. Students from a variety of cultures add richness and diversity to the total educational experience for all.

**Undergraduate Admission**

Admissions decisions for degree-seeking students are based upon several factors, most important of which are the applicant’s grades in high school and college courses and the applicant’s scores on the ACT or SAT exams. Anyone interested in attending the University of Tennessee, Knoxville, as an undergraduate student is encouraged to visit the Web site of the Office of Undergraduate Admissions for information and application forms.

http://admissions.utk.edu/undergraduate

The application for undergraduate admission is available on the web at http://admissions.utk.edu/undergraduate/application.shtml and may be submitted electronically. Copies of the application form are available on request by e-mail – admissions@utk.edu, at the Office of Undergraduate Admissions in Knoxville, or by written request. Official copies are required for all transcripts and test scores, and these should be sent directly from schools or testing agencies to the Office of Undergraduate Admissions. Official test reports that are part of a high school transcript are accepted. For additional information, please contact the following offices.

Office of Undergraduate Admissions
320 Student Services Building
The University of Tennessee, Knoxville
Knoxville, TN 37996-0230

Knoxville – main office
E-mail admissions@utk.edu
Phone (865) 974-2184

Memphis – branch office
E-mail admittutk@utk.edu
Phone (901) 448-8289

Nashville – branch office
E-mail admit3@utk.edu
Phone (615) 726-2688

 Folio

**Freshman Admission**

The University of Tennessee calculates a core GPA based upon a four-point grading scale in high school courses in fourteen areas.

- 4 units of English
- 2 units of Algebra
- 1 unit of Geometry, Trigonometry, Advanced Math, or Calculus
- 2 units of Natural Science, including at least 1 unit of Biology, Chemistry, or Physics
- 1 unit of American History
- 1 unit of European History, World History, or World Geography
- 2 units of a single foreign language
- 1 unit of visual or performing arts

Courses in the list above that were taken as Honors or Dual Enrollment are given an additional half-quality point, and courses that were taken as Advanced Placement or International Baccalaureate are given an additional quality point in the calculation of the core GPA. The core GPA is used for determining eligibility for admission, scholarships, and participation in the Chancellor’s Honors Program.

UT Knoxville accepts either the ACT or SAT examination.

**Dual Enrollment Students**

Academically talented students attending Tennessee high schools may apply to enroll at UT Knoxville and receive college credit. These students must receive the recommendation and approval of parents/legal guardians and the high school principal or college counselor, have a high school grade point average equivalent to 3.2 or higher on a 4.00 scale, and submit the application for undergraduate admission and application fee.

**Transfer Admission**

The admission decision for transfer students with fewer than 30 earned transferable college-level hours will be based on their high school GPA, ACT/SAT scores, and a minimum required college GPA of 2.5. The admission decision for transfer students with at least 30 earned transferable college-level hours will be based on the college grade point average. In order to be considered for admission to the University of Tennessee, Knoxville, a transfer applicant must have a minimum of a 2.0 overall grade point average (on a 4-point scale) in college credit courses eligible for transfer credit. Academic colleges or departments may require greater than a 2.0 for acceptance into certain programs. Only those courses in which at least a grade of C was earned will be eligible for transfer credit. Grades earned at other colleges and universities are used only for admission, course placement, and other academic decisions.

Prior to graduating from UT Knoxville, transfer students must have completed their last 30 semester hours of credit at UT Knoxville and their last 60 semester hours of credit at a four-year college or university.

**Advanced Placement – International Baccalaureate – CLEP – Dual Enrollment Credits**

Freshmen or transfer students admitted to the University of Tennessee, Knoxville, may receive course credit on the basis of performance on Advanced Placement (AP) Examinations, International Baccalaureate Examinations (IB), and College Level Examination Program (CLEP) tests.

Course credit may also be earned by high school students who enroll in dual enrollment courses at colleges and universities to fulfill their high school graduation requirements while also receiving college credits.

See the section on "Academic Policies and Procedures" of this catalog for additional information.
Articulation Agreements

Articulation agreements are programs developed between nearby two-year colleges and the University of Tennessee, Knoxville. While at the two-year college, students take a specified curriculum that leads to the associate degree and also prepares students for the corresponding baccalaureate degree at the University of Tennessee, Knoxville. Currently, UT Knoxville has articulation agreements with six Tennessee community colleges. Details on specific majors and requirements are available from the Office of the University Registrar Web site (http://registrar.tennessee.edu/) or from the specified community college.

Residency Classification for the Purpose of Paying University Fees and for Admission Purposes

Initial residency classification is determined by an admissions processor from information included on the University of Tennessee, Knoxville, Application for Admission. Notice of classification is sent at the time the applicant is notified of admission. Students who would like their residency classification reconsidered may submit an appeal to the residency classifier listed at http://registrar.tennessee.edu/. The application for reclassification with supporting documentation must be filed no later than last day of registration in order to have the reclassification effective for the upcoming semester. Classification will be determined and the applicant will be notified by mail. Additional information regarding the State of Tennessee regulations for classification may be found at the Office of the University Registrar Web site http://registrar.tennessee.edu/.

Academic Common Market

The Academic Common Market is an agreement among states for sharing unique programs. Participating states can make arrangements for their residents who are fully admitted to specific programs at the University of Tennessee, Knoxville, to enroll on an in-state tuition basis if these programs are not available in the state of residence.

Cooperating states in the Academic Common Market are Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia. Bachelor’s, master’s, and doctoral programs at UT Knoxville are approved by the Academic Common Market for residents of these states to enroll at in-state tuition rates.

For additional information, visit the Southern Regional Educational Board at http://www.sreb.org or contact Norma Harrington, Office of Undergraduate Admissions (865) 974-2184.

Re-Entry Student Applicants

A re-entry student is one who has not been enrolled in high school or college for three years or more prior to making application for admission to UT Knoxville. Re-entry applicants must complete and submit the application for undergraduate admission and the application fee. If a student has been enrolled at UT Knoxville as a degree-seeking student at any time, that person is considered to be a Readmission Student.

Readmission to the University

A student previously seeking a degree who has withdrawn from the University of Tennessee, Knoxville, who has been absent for a term other than the summer term, or who has been academically dismissed is required to submit an application for readmission. A copy of the readmission application is available from the Office of Undergraduate Admissions or on the Web at http://admissions.utk.edu/undergraduate/readmit.shtml.

A student who previously attended UT Knoxville as a non-degree student and wants to re-enter as a degree-seeking student must complete the application for undergraduate admission. Students dismissed when they last attended UT Knoxville must apply well in advance, usually three to four months prior to the beginning of the term in which they wish to enroll. Submitting an application for readmission does not guarantee admission, and a readmission applicant may be asked to appear before the Committee on Readmission. The Committee on Readmissions may require a student who has been previously dismissed to participate in a special program that emphasizes academic success skills and strategies. Such strategies may include restrictions on the number of credit hours taken the first term back at the university and registration holds.

A student who has attended another college or university since attending the University of Tennessee, Knoxville, must have an official transcript sent to the Office of Undergraduate Admissions. A student who has been previously dismissed from the university and who has attended another college or university for fewer than 30 hours must meet the same cumulative grade point average standards as a transfer student who has completed less than 30 hours - 2.5 transfer GPA. For specific deadline dates, students should contact the Office of Undergraduate Admissions or visit http://admissions.utk.edu/undergraduate/registrationdates.shtml.

Visiting Student Applicants

A visiting student is one who is actively enrolled in a program at another accredited college or university but who desires to enroll temporarily at the University of Tennessee, Knoxville. Applicants are required to complete the application for undergraduate admission, pay the application fee, and submit to the Office of Undergraduate Admissions a letter of good standing or a transcript showing good academic standing from their college or university.

Senior and Disabled Applicants

Persons 60 years or older or totally disabled persons who are residents of Tennessee may audit course without payment of fees if space is available in the individual class. Persons 65 years or older or totally disabled persons who are residents of Tennessee may enroll in courses for credit at reduced fees. Interested persons should contact the Office of the University Registrar for additional information.

International Student Applicants

All foreign nationals on non-immigrant visas are classified as international students whether they are applying to the University of Tennessee, Knoxville, as freshmen or transfer students. In addition to the information below, additional information for international students is available from the International Admissions Office or from the Center for International Education.

To apply for admission as an undergraduate student, each international student is required to provide the following.
1. A completed application for undergraduate admission.
2. Authenticated copies of all secondary and post-secondary academic records. These records should describe courses of instruction in terms of years spent in school, types of subject matter covered, and grades earned in each subject.
3. Evidence of English proficiency according to the following requirements for those whose first language is not English.
   a. Any applicant to the undergraduate program whose first language is not English – with the exception of some transfers from regionally accredited colleges or universities in the United States (see c below) – must present a Test of English as a Foreign Language (TOEFL) score of at least 193 (computer-based) or 523 (paper-based), earned within two years prior to application, before being admitted. Final consideration cannot be granted until test results are received by International Admissions from the TOEFL test agency.
b. The University of Tennessee, Knoxville, English Placement Test must be taken prior to registration. This test will determine whether the student needs to take more English and, if so, at what level. The English Placement Test grants no credit. Students assigned to special English courses must enroll the first semester of attendance, stay continuously enrolled in the assigned courses until completion of all requirements, and complete the requirements within the first year of continued enrollment at UT Knoxville.

c. An undergraduate student whose first language is not English is exempted from taking the University of Tennessee, Knoxville, English Placement Test and from presenting a TOEFL score of 523 (or 193 on the computer-based TOEFL) provided that the student has satisfied all requirements for freshman composition with a grade of C or better at an accredited college or university in the United States. Freshmen English for Foreign Students does not exempt a student from presenting an acceptable TOEFL score.

d. A United States citizen or Permanent Resident may demonstrate English proficiency by submitting a minimum ACT English score of 21 (SAT verbal 510; 430 if taken prior to April, 1995) or TOEFL 193 (computer-based) or 523 (paper-based).

4. Applicants from certain countries are required to make a significant monetary deposit prior to issuance of Form I-20 to secure a student visa.

5. International students must enroll in the health and accident insurance plan provided by UT Knoxville.

6. For international students, completed application forms and the processing fee must be received in the Office of International Admissions no later than the following dates: February 1 for fall semester; July 1 for spring semester; December 1 for summer term.

International students are subject to various enrollment limitation regulations comparable to those affecting U.S. citizens. The International Admissions Office will notify any applicant of any applicable regulations in effect at the time of application.

Fees for Sponsored International Students

An administrative management fee will be charged to sponsoring agencies of international students whose programs require special administrative or management services beyond those normally provided. Fees are $250 per semester and $100 per summer session.

UNIVERSITY FEES

For the most current listing of tuition and fees at the University of Tennessee, Knoxville, see http://www.utk.edu/bursar

University fees and other charges are determined by the Board of Trustees and are subject to change without notice. All student fees are due in advance.

All charges and refunds will be made to the nearest even dollar. All charges are subject to subsequent audit and verification. The University reserves the right to correct any error by appropriate additional charges or refunds.

All students must confirm their attendance by (1) making the minimum payment; (2) signing a Confirmation of Attendance form; or (3) setting their Confirmation of Attendance on the Web at CPO.UTK.EDU if no fees are due.

If the student does not owe fees due to a waiver (staff, GA, GTA, GRA, etc.), financial aid including scholarships, or if fees are paid by another source; a signed Confirmation of Attendance Form must be received by the Bursar’s Office or the student must set his/her confirmation on the Web at CPO.UTK.EDU on or before the due date published on the Bursar’s Office Web site each semester. The schedule will be canceled if one of the above is not accomplished each term on or before the published due date. This includes graduate assistants, teaching assistants, teaching associates, research assistants, staff and others whose fees may be billed, prepaid, or waived. Late registration fees are applicable to students who register during late registration.

The university is authorized by statute to withhold diplomas, grades, transcripts, and registration privileges from any students until their debts and obligations owed to the university are satisfied.

Part-time students may elect to pay fees computed by semester hour credit (or audit) at the rates shown on the above Web site, with the total charge not to exceed the regular maintenance fee for in-state students or the maintenance fee plus tuition for out-of-state students.

All students both in- and out-of-state are required to pay the established maintenance fee. In addition, tuition is required of all students who are classified as non-residents for fee assessment purposes.

VOLXpress

VOLXpress is the centralized accounting system of the University of Tennessee, Knoxville. Students may pay their fees via the mail, in person, or on the Web at CPO.UTK.EDU. Through VOLXpress, statements are mailed to each student’s billing address. The statement includes class schedules, current tuition and fees, fee waiver information, fines and past-due amounts, pending financial aid that can be credited toward fees, any excess funds from scholarships and/or loans and choices about how to receive them.

VOLXpress is a convenient method for students to take care of business from home. Students who register and pay early will receive the greatest benefit if the payment deadlines are observed.

Each student must submit any change of address on the Web at CPO.UTK.EDU to ensure timely receipt of a VOLXpress statement. Failure to receive a statement does not relieve the student of his/her obligation to pay on or before the due date.

University Program and Services Fee

http://www.utk.edu/bursar/volxfees.html

The purpose of the University Programs and Services Fee (UPSF) is to provide non-instructional facilities and programs of an educational, cultural, social, recreational, and service nature for UT Knoxville students. The fee has three components which include program, health, and capital. The health portion of the fee is included only with the payment of the full UPSF (contact Student Health Service for additional information).

Students enrolled in 9 or more hours are assessed the full-time University Programs and Services Fee. Students enrolled for fewer than 9 hours are assessed a prorated fee based on the highest number of hours for which the student is enrolled at any time during the semester. The fee is non-refundable.

Graduate, teaching, and research assistants, teaching associates, and fellowship students must pay the University Programs and Services Fee, even if they have a waiver of fees (tuition and/or maintenance).

Any part-time student (minimum of 3 hours) may elect to pay the health portion of the UPSF in addition to the standard prorated assessment. Part-time students enrolled in 6 or more hours may elect to pay the full-time UPSF instead of the standard prorated assessment.

Technology Fee

The purpose of the Technology Fee is to provide all students with improved access to the technological infrastructure, resources, and services at the University of Tennessee, Knoxville.

Graduate, teaching, and research assistants, teaching associates, and fellowship students, who may have a waiver of fees (tuition and/or maintenance), must pay the appropriate Technology Fee.
The Technology Fee is mandatory and may be refunded on the same percentage scale as maintenance and tuition charges.

**Special Course Fee**

Academic areas, such as art, biology, chemistry, engineering, music, and physical education, charge fees for certain courses. Refunds on these fees are determined by the department or on the same percentage as maintenance and tuition.

**Facilities Fee**

The Facilities Fee is used to provide students with upgraded classroom facilities, expand information technology into the classroom, and assist in funding a backlog of campus and classroom projects that will enhance the university's facilities.

**Transportation Fee**

The Transportation Fee is a mandatory fee assessed to all students enrolled in credit and audit courses. The fee is used to provide students with a convenient method of movement around campus. The fee will subsidize the costs associated with the new comprehensive campus transit system.

**Fees for Courses Not Taken for Credit**

Fees for courses audited are the same as for courses taken for credit. For fee purposes, courses listed for 0 credit hours are considered as one-hour courses.

**Late Registration Fee**

A late registration fee will be assessed to students who register during Late Registration (including those who were canceled during Priority Registration). Payment of fees or a Confirmation of Attendance form must be turned in to one of the Bursar's Office locations by the Late Registration payment due date. This due date is published on the Bursar's Office Web site. The Late Registration Fee is non-refundable.

See the Bursar's Office Web site for the dates and fees to be assessed during Late Registration.

**Late Fee**

VolXpress (fee) accounts which have a balance one month prior to the end of a term will be assessed a late fee. The account balance must be paid in order to access registration services, receive a transcript, grades, or a diploma.

**Returned Check Service Fee**

All checks are deposited the day they are received. A $30 service charge will be assessed when checks fail to clear the bank on which they are drawn. Returned checks will not be re-deposited. Cash or certified funds are required for payment of the returned check and service charges.

Any student who does not respond within 2 weeks from the date of the first notice may be assessed an additional $10 Service Charge.

Failure to clear returned checks will result in the forfeiture of all university services, including the receipt of grades, transcripts, schedule of classes, and check cashing/writing. Failure to pay may also result in additional late fees, collection costs, and reasonable attorney fees.

**Deferred Payment Plan**

Students in good financial standing will be offered a deferment of up to 50% of the total charges on their VolXpress statement. All financial aid must be applied toward fees before a deferment will be considered. A deferred payment service fee is assessed when any portion of tuition, fees, and other charges are deferred with the approval of the Bursar’s Office. An additional late payment fee will be assessed on each installment not paid on or before the due date. Failure to receive a statement does not relieve students of their obligation to pay on or before the due date. An additional late fee will be assessed if fees are not paid by one month prior to the end of the term.

**Refunds**

Refunds are defined as the portion of maintenance and/or tuition and University housing/meal charges due as a rebate when a student withdraws or drops a portion of class hours. Refunds are also processed as a rebate on some fines/penalties paid such as parking fines, library fines, etc. Once a refund is determined to be appropriate, all amounts will be applied toward other outstanding fees/fines owed to the University at the time the refund is issued, including outstanding fees due on the Deferred Payment Plan. Any remaining refund balance will be refunded to the credit card charged or mailed to the student’s billing address.

**Refund/Charge of Fees for Withdrawal (DROP ALL CLASSES)**

After payment of fees and/or a Confirmation of Attendance Form has been submitted by the student, withdrawal for the semester must be by official notification to the Office of the University Registrar, 209 Student Services Building. Failure to attend class does not automatically withdraw or drop a student from college or class.

The effective date of the withdrawal is the date the withdrawal office is notified by completion of the official withdrawal request form. The appropriate percentage of fees (maintenance and tuition, facility, transportation, and technology fees only) will be charged unless this action is completed by the close of the day before the first official day of classes for the semester. Failure to notify the withdrawal office promptly when withdrawing could result in a larger fee assessment. Withdrawal does not cancel fees and charges already incurred. All charges and refunds will be made to the nearest even dollar.

The drop/add procedure cannot be used to withdraw from school for the semester. See the Bursar’s Office Web site for the dates and percentage charges for the semester in question.

**Financial Aid Withdrawals (REPAYMENTS)**

Repayments are defined as the portion of aid, received by a student after university direct charges have been paid by that aid, which must be repaid when a student withdraws or is dismissed. The amount of repayment is determined by the Refund/Charge percentages stated previously.

Refunds and repayment to the Title IV programs are determined according to the formula published in the current Federal Student Financial Aid Handbook. The Financial Aid Office is responsible for calculating the amount of the refund and/or repayment and distributing the correct amount back to the financial aid program(s) according to the Refund/Repayment Allocation Policy.

**Refund/Charge of Fees for Dropped Courses (CONTINUE WITH A REDUCED COURSE LOAD)**

Students who drop courses and continue with a reduced load are eligible for a refund only if the sum of charges computed at the semester-hour rate for the hours continued, plus the percentage assessed for the hours dropped, results in an amount less than that paid. A course on a student's schedule is officially dropped, and the drop becomes effective, on the date the change of registration form is processed or the date the drop was entered on CPO or the registration telephone system. Any refund due for dropped courses will be made after the drop deadline. See the Bursar's Office Web site for the drop charge/percentage refund for the semester in question.
Waiver of Fees

Graduate assistants, teaching assistants and associates, research assistants, staff, and others whose fees are billed, prepaid, waived, or partially waived must confirm their attendance by making payment, signing a Confirmation of Attendance Form, or setting their confirmation of attendance on the Web at CPO.UTK.EDU by the due date as published on the Bursar’s Office Web site or their schedule will be canceled. If an appointment terminates during the term, the student owes the appropriate fees from the termination date until the end of the term.

Graduate students are not eligible for University of Tennessee employee spouse dependent discounts.

VolCard

The VolCard is issued to a new student after admission at the appropriate university level or anytime during the year to all students. The VolCard is used in nearly all aspects of campus life to obtain services including meals, vending machines, computers, laundry machines, check cashing, sporting events, cultural attractions, residence halls access, library, recreational facilities and equipment, University Bookstore, and much more. Many students have established debit or charge accounts which are accessed through use of the VolCard ID.

These cards are non-transferable and may not be duplicated. The VolCard must be carried at all times for purposes of identification. Students are responsible for the safekeeping of this card and must immediately report it lost or stolen if the card is not in their possession. Failure to notify the VolCard office will make the student liable for any unauthorized charges to the debit on charge accounts the student may have.

To obtain a new VolCard or replace a lost or stolen card, report to the VolCard Office, Room 472, South Stadium Hall (between gates 12 and 13 at Neyland Stadium) on Stadium Drive. There is a minimum charge of $10.00 for replacement of a VolCard.

STUDENT FINANCIAL AID

The University of Tennessee offers a comprehensive program of financial aid to students who would not otherwise be able to afford to attend. Through these federal, state, and university programs, an eligible student may receive one or more types of assistance. For additional information on any financial aid or scholarship program, please contact the Office of Financial Aid and Scholarship or view information online at http://web.utk.edu/~finaid.

Families applying for financial assistance based upon financial need (grants, scholarships, loans and employment) must complete a Free Application for Federal Student Aid (FAFSA) annually. Families desiring only a scholarship based on academics, and/or merit are not required to complete federal financial aid applications.

To receive aid from federal student aid programs, a student must have financial need, with the exception of some of the loan programs. Students must also be U.S. citizens or eligible non-citizens, have a valid social security number, have a high school diploma or General Education Development (GED) certificate, be enrolled or accepted for enrollment as a regular student working towards a degree or certificate in an eligible program, make satisfactory academic progress, sign a statement of educational purpose and a certification statement on overpayment and default, and register with the Selective Service. Students may not receive aid for correspondence, distance education or telecommunications courses unless they are part of an approved associate, bachelor’s or graduate degree program.

When applying for financial aid, the Free Application for Federal Student Aid (FAFSA) must be completed. This information is used in a formula, established by the U.S. Congress, that calculates the Expected Family Contribution (EFC), an amount the student and his/her family are expected to contribute towards the student’s educational costs. Financial need is defined as the difference between the cost of attendance and a family’s contribution towards these educational expenses.

The University of Tennessee offers three general types of financial aid: scholarships and grants, loans, and part-time employment. These may be awarded individually or in a combination according to the needs of the family and student.

Priority in awarding financial aid will be reserved for processed application data received on or before the priority application deadline of March 1. The University of Tennessee is unable to meet full financial need for all applicants; therefore, requests for financial aid are processed on both a date priority and financial need basis.

For additional information on application procedures, please contact the Office of Financial Aid and Scholarships.

Scholarships and Grants

Scholarships

The University of Tennessee scholarship program is made possible through the generosity of funds provided to the university from individuals, alumni, outside foundations, private businesses, and civic organizations. The majority of the scholarship programs are coordinated by the Office of Financial Aid and Scholarships and are awarded based on demonstrated strong academic achievement and financial need. Individual colleges administer some undergraduate scholarships for currently enrolled students. Departments may require a separate application.

All scholarships are highly competitive and there are insufficient funds to assist all qualified students. Most scholarships are awarded for one year, with the recipients competing for scholarships each year of enrollment.

Federal Pell Grant

Pell Grants are awarded only to undergraduate students who have not earned a bachelor’s or professional degree. A Federal Pell Grant does not have to be repaid. All undergraduates applying for need-based financial assistance from the university must apply for a Federal Pell Grant using the Free Application for Federal Student Aid (FAFSA).

Federal Supplemental Educational Opportunity Grants

This federal grant is for undergraduate students with exceptional need. Priority is given to students who receive a Federal Pell Grant. Students who receive this grant may apply Federal SEOG funds are limited, and do not require repayment.

The Tennessee Student Assistance Award

The award is designed to further the educational opportunities to residents of the state who display financial need. Awards cover approximately one-half of the maintenance fees for fall and spring terms. More information may be obtained by writing to the Tennessee Student Assistance Corporation, 404 James Robertson Parkway, Suite 1950, Parkway Towers, Nashville, Tennessee 37243, or on-line at http://www.state.tn.us/tsac.

The Tennessee Education Lottery Scholarship

The award is for Tennessee residents attending a college or university within the State of Tennessee. Recipients must meet minimum academic and state residency requirements as established by the Tennessee State Legislature. Awards amounts vary by category and range from $2,000 to $4,300 per academic year. More information may be obtained by writing to the Student Assistance Corporation, 404 James Robertson Parkway, Suite 1950, Parkway Towers, Nashville, Tennessee 37243, or on-line at http://www.state.tn.us/tsac.

Student Loans

Federal Perkins Loan

This is a low-interest loan (currently 5 percent) for students with exceptional financial need as determined by the school. For undergraduate students, priority is given to Federal Pell Grant eligible students. The loan will be issued through the Office of Financial Aid and Scholarships, disbursed and repaid to the Student Loan Department in the University of Tennessee Bursar’s Office.
Repayment begins following graduation, withdrawal, or when the student ceases to carry at least half-time enrollment.

Eligibility for the Federal Perkins Loan is determined when the student applies for federal aid using the Free Application for Federal Student Aid (FAFSA). The above regulations and provisions of the Federal Perkins Loan Program are correct as of this printing and are subject to change by federal legislation or regulation.

The University of Tennessee Student Loan

Student loans from University sources are available to currently-eligible students with a 2.0 or higher cumulative grade point average. A loan of an annual maximum of one and one-half times the amount of in-state fees paid per term can be extended up to $4,000. One surety or cosigner who meets specific credit requirements is required for each promissory note and a new promissory note must be completed each year a loan is received. The interest rate is 6 percent per year payable on July 1 of each year.

Repayment of the amount borrowed plus any unpaid accrued interest shall begin six months following graduation, withdrawal, or when the student ceases to carry at least half-time attendance. The above regulations and provisions are correct as of this printing and are subject to change by action of the UT Board of Trustees.

Federal Stafford Loan Program

This is a low-interest loan made by a lender, such as a bank, credit union, or savings and loan association. These loans are insured by a Guaranty agency in each state and reinsured by the Federal Government.

To receive a Federal Stafford Loan, a student must apply for federal aid with the Free Application for Federal Student Aid. The student must be in good standing with the university and must be enrolled or admitted at least in a half-time degree program. Federal Stafford loans are available to students on need-based eligibility and non-need based circumstances. Students determined eligible for the subsidized (need-based) Stafford Loan program will have interest subsidies paid by the federal government to the lending institution while the borrower is in school. Unsubsidized (non-need based) Stafford loans are available to students regardless of need. Interest will accrue while the borrower of an unsubsidized Stafford Loan is in school. The student has the option to pay this interest on a monthly or quarterly basis or allow it to accrue and capitalize.

Two disbursements of the loan will be made to the borrower; one at the time of enrollment and one in the middle of the loan period. Some first-year undergraduate students who are first-time Stafford Loan borrowers will not receive the first loan disbursement until 30 days after the day the program of study begins.

Some first-time borrowers must receive Entrance Interview Loan Counseling at the Office of Financial Aid and Scholarships before receiving the first disbursement of loan funds. Charges of up to percent will be deducted from the loan disbursements for federal government and bank loan costs. Repayment will begin no earlier than six months after graduation, withdrawal, or less than half-time enrollment. Certain circumstances may allow a borrower to defer payment or cancel a portion of a loan if requested by the borrower through the lending institution. The above regulations and provisions of the Stafford Loan Program are correct as of this printing and are subject to change by federal legislation or regulation.

PLUS Program

Federal PLUS loans are available to parents of dependent students enrolled at least half-time in a degree seeking program. This low-interest loan program is available to students in good standing at the University. A PLUS disbursed on or after the higher of June (check with lending institution for the current interest rate), Charges of up to percent will also be deducted from the loan disbursements for federal government and bank loan costs.

A Federal PLUS may be requested by the parent borrower for up to the student's cost of education minus any estimated financial aid received. Funds will be disbursed to the school and made co-payable to the parent borrower and the school. PLUS loans are subject to credit checks at the lending institution. Repayment of principal and interest begins 60 days after the final loan disbursement. Certain circumstances may allow the lending institution to defer payment or cancel a portion of a loan if requested by the borrower. The above regulations and provisions of the PLUS program are correct as of this printing and are subject to change by federal legislation or regulation.

Student Employment

Many students are employed part-time in order to supplement financial aid or other sources of support while at the university. Such employment offers valuable aid and develops good working skills. However, the more time spent in employment, the less available for preparing for classes and involvement in campus life, two of the most important factors contributing to academic success. For those who find employment while classes are in session to be necessary, the Office of Financial Aid and Scholarships administers the Federal Work Study Program. Career Services administers the Student Employment Service.

Federal Work Study

The Federal Work Study Program provides jobs for students who have financial need and who must earn a part of their educational expenses. Eligible students are placed in jobs on campus where they can work a maximum of 20 hours per week. Jobs are available in a wide variety of academic departments and other campus units. The rate of pay is above federal minimum wage.

Student Employment Service

The Student Employment Service operates as a central referral agency for all UT students who are eligible U.S. residents. It coordinates listings of part-time employment from both university and private employers with the requests of students seeking employment. Part-time jobs average from 15 to 20 hours per week.

STUDENT AFFAIRS AND ACADEMIC SERVICES

Adult Student Services Center

http://web.utk.edu/~adultssc/

The Adult Student Services Center assists students 25 years or older, or those who have delayed or interrupted their college education for a significant period of time. The office works individually with students to address their unique re-entry and educational needs. The ASSC collaborates with campus departments to provide admission and readmission counseling, academic advising, peer support programs, orientation programs, career and financial aid information, educational workshops, and other specialized services for adult students.

The Adult Student Services Center is located at 413 Student Services Building. (865) 974-4504; fax (865) 974-0088; e-mail adultssc@utk.edu.

The Black Cultural Center

Minority Student Affairs

http://web.utk.edu/~omsa/

The Black Cultural Center and Minority Student Affairs are an integral part of the University of Tennessee, Knoxville. Minority Student Affairs provides academic, cultural and social outlets through programs and services as an on-going part of the university’s retention efforts. The Tutorial, Book Loan and Early Alert Programs, along with the library, computer lab, student lounge, and multi-purpose area, serve as an extension to services provided across campus. The center houses several student organizations that plan activities ranging from success skills workshops, Black History Month events, Hispanic Heritage Month events, Welcome Week activities and festivals to renown speakers such as Maya Angelou, Dr. Kweisi Mfume, Cornel West, John Singleton, and Alice Walker.
Career Services

http://careear.utk.edu

The mission of Career Services is to help students identify and pursue career goals by providing quality information and services reflecting attention to individuals' needs, use of technology, adaptability, and a positive attitude.

Career Services, located in Dunford Hall, is a university-wide department providing career-related assistance to University of Tennessee, Knoxville, students through a wide range of programs and services.

Included in the services offered are:

- Individual career counseling, career interest inventories, information on majors and careers, and a one credit course on exploring majors and careers.
- Several annual career fairs providing opportunity to speak informally with representatives from hundreds of different organizations about their entry-level jobs, part-time positions and internships.
- A Web site including valuable links to hundreds of other career-related Internet resources.
- A part-time employment service for students seeking such positions.
- Resources that help students identify and locate internships and summer employment.
- Workshops providing instruction in skills and tactics for successful interviewing, resume preparation, business and dining etiquette, and other topics.
- An online resume database that allows students to submit resumes for hundreds of on-campus interviews, view job postings, and participate in a Web resume book.

Students can contact Career Services, 974-5435, for more information or to schedule an appointment.

Center for International Education

http://www.UTInternational.org
http://www.UTIHouse.org

The Center for International Education (CIE), located at 1623 Melrose Avenue, promotes and supports all aspects of international education and international exchanges at the University of Tennessee, Knoxville, both for American students and faculty and for students and faculty from other countries. CIE coordinates the administration of official linkage agreements between the University of Tennessee and institutions of higher education in other countries.

Programs Abroad

The University of Tennessee, Knoxville strongly encourages students to undertake a semester, summer, or academic year of study outside of the United States. Significant time spent abroad increases students' ability to appreciate other cultures, helps them better understand their own country and its place in the world, and can bolster their resumes. In addition, students gain confidence as they successfully face the unique challenges of living abroad.

The Programs Abroad Office (PAO) can help students find opportunities that meet their needs. Study programs are available in many countries, vary in length from 10-days to a full academic year, and sometimes cost only a little more than it would cost to attend UT Knoxville. Financial Aid can be used and credits can often transfer back to fulfill university requirements. Advanced planning helps assure that study abroad does not delay graduation. Throughout the academic year, information sessions are held every weekday at 2:00 p.m. at the PAO.

In addition to formal study abroad, the PAO has information about other types of opportunities for graduate students to enjoy significant international experiences. These include volunteer programs and such work-based experiences as teaching English abroad, internships, and experiential learning. Students are encouraged to visit the PAO to learn more about the international opportunities available to them.

International Students and Scholars

CIE coordinates campus administration of such international grants and scholarships for students as the Fulbright, Rhodes, Marshall, David L. Boren NSEP, W.K. McClure, and provides information about other sources of funding for overseas study and research, including the Rotary Foundation and German Academic Exchange Service (DAAD) grants. CIE also administers UT Knoxville’s portion of the University of Bonn’s Transatlantic Summer Academy (TASA) for graduate students and upper-division undergraduates. Within its library on study, work, and travel abroad, CIE has information on student summer job programs in seven countries.

International Scholarships

CIE provides information and assistance in matters relating to United States visa issues and U.S. Department of Homeland Security regulations. It produces The Link, an online newsletter for UT Knoxville’s international students and scholars, and administers the insurance policy required of all international students at the university. International student advisors are available to discuss academic and personal concerns. Student orientation programs conducted at the beginning of each semester facilitate adjustment to the campus and community and provide essential information related to U.S. laws for international students. For visiting J-1 and H-1B scholars there are extensive advising, assistance and weekly orientation sessions.

The International House

The I-House, 1623 Melrose Avenue, is CIE’s on-campus social, recreational and programming center and serves as a meeting place for international and U.S. students, faculty and staff. Culture Nights, formal discussions on global topics, language tables and cooking classes are regular features on the I-House calendar.

Contacts

General inquiries to CIE are cie@utk.edu; (865) 974-3177; Web site http://www.UTInternational.org. The I-House Web address is http://www.UTIHouse.org and the phone is (865) 974-4453.

Counseling Center

http://www.tennessee.edu/counselingcenter

The Counseling Center provides services designed to help students with educational, vocational, personal, and social problems. Professional counselors work with students in a setting that allows for confidential discussion of concerns. Services include: crisis intervention, group therapy, individual therapy, couples counseling, academic classes, consultation with faculty/staff/students, and various workshops and presentations.

To access services, students may come to the center during walk-in hours Monday-Friday from 10:00-11:30 a.m. and 1:00-3:30 p.m. If schedules will not accommodate these times, students can call the center to schedule an appointment. Anyone experiencing a crisis during the week is seen immediately between 8:00 a.m. and 5:00 p.m. After these hours, students are encouraged to go to the University of Tennessee Medical Center emergency room.

The center is located at 900 Volunteer Boulevard and can be reached at (865) 974-2196.
Disability Services
http://ods.utk.edu/

The University of Tennessee is committed to ensuring equal access to all programs for people with disabilities. All students with disabilities are encouraged to identify themselves to the Office of Disability Services regardless of whether or not they use the office’s services.

The Office of Disability Services provides appropriate accommodations to all students with documented disabilities. We are here to assist in arranging for accommodations, as well as working with faculty and staff to ensure that needs are met throughout a student’s college career. Students are encouraged to register with the office as early as possible.

Eligibility must be established before services can be provided. No services can be provided until registration occurs and it is confirmed that the documentation meets required standards. Accommodations are not retroactive.

The Office of Disability Services is located at 2227 Dunford Hall, Knoxville, Tennessee 37996-4020. Phone (865) 974-6087 V/T. Fax (865) 974-9552. E-mail ods@tennessee.edu.

Educational Advancement Program
http://web.utk.edu/~mcnair/eap/

The Educational Advancement Program student support service is a U.S. Department of Education funded TRIO program designed to provide counseling, academic advising, instructional, tutorial, and mentoring services to students with demonstrated academic needs who are also first generation college students, low income, or who have physical disabilities.

The project serves 250 students and provides the following services to those who meet program eligibility criteria after application and interview.

Counseling
Trained professionals offer advice and help students develop personal strategies in matters related to financial aid, learning styles, relations with family and friends, adjustment to college, personal and career decision making.

Academic Advising
EAP Counselors provide accurate, thorough and personal one-on-one advice about general curriculum and major requirements for majors in every college in the university. Academic review advising is an additional service provided by the counselors.

Tutoring
The program employs 35 experienced and knowledgeable undergraduate and graduate students who are trained to provide one-on-one tutoring in a wide range of 100-, 200-, and 300-level subjects. Students receive 2 to 3 hours of individualized assistance per week. Group tutoring is also available.

Strategies for Academic Success
The program provides a series of workshops and seminars that focus on the art and science of becoming a master student. Workshop topics include: the master student philosophy, threats to success in college, learning and thinking, memory enhancement, brain functioning, note-taking techniques, study skills, habits and attitudes, learning styles, test-taking techniques and relaxation methods.

Mentoring
A series of structured cultural and social events is scheduled for selected EAP students centered around the need to develop networking skills. Citizens of the Knoxville metropolitan community are invited to share with students.

Instruction
EAP offers special sections of selected classes with limited class size (25), increased number of class meetings, and empathetic faculty.

Mathematics 123 – Finite Mathematics
Mathematics 125 – Basic Calculus
Biology 101, 102 – Human Kind in a Biotic World
Chemistry 120, 130 – General Chemistry

Cultural
EAP purchases tickets to the university’s cultural attractions, and theatre events each semester, and joins EAP students to attend and broaden their cultural horizons.

Pell Grant Supplement
EAP first and second year participants with high financial aid need are provided with additional financial aid.

The Educational Advancement Program office is located at 201 Aconda Court. (865) 974-7900; fax (865) 974-7903; e-mail mcfadden@utk.edu.

Hearing and Speech Center
http://www.uthearingandspeech.org/

The Hearing and Speech Center, located at 1600 Peyton Manning Pass, offers complete diagnostic and treatment services to all university students with speech and language disorders/differences and/or hearing disorders.

The center serves as a clinical observation and education facility for students majoring in speech pathology and audiology. It also serves as a community hearing and speech center providing diagnostic and treatment services for persons of all ages exhibiting communication disorders/differences.

For speech-language services: (865) 974-5451; fax (865) 974-4639. For audiology services: (865) 974-5453; fax (865) 974-1792.

Office of Information Technology
http://oit.utk.edu

The Office of Information Technology (OIT) provides computing and telecommunications resources and services for students, faculty, and staff. Information about OIT is available on the OIT Web site http://oit.utk.edu.

OIT provides the core information technology equipment and services for The University of Tennessee, Knoxville. OIT provides public-access computer labs, central computing, administrative information systems, and network services, as well as information security for UT Knoxville.

Individual computer accounts are provided at no charge for all UT Knoxville students. The student’s UT email account is the official way the University communicates with students. These accounts may be used for e-mail, course work, research, and personal Web pages. Information and on-line registration for computer accounts are available at http://oit.utk.edu/accounts/. Students are also encouraged to download http://antivirus.utk.edu and use AntiVirus software supplied by OIT at no cost to the student.

Students on the Knoxville campus may access the Internet through wireless, direct Ethernet, or dial-up connections. UT Knoxville’s wireless infrastructure is available in most of the academic and administrative buildings on the Knoxville campus.

To provide access to computing facilities on campus, OIT staffs seven computing labs, maintains several unstaffed labs, and supports computing installations in residence halls. The computing labs are equipped with more than 300 microcomputers including current models of Apple, Dell, and Gateway machines. In addition, there are laser printers, wireless printers, scanners, CD-Writers, and zip drives available. A variety of industry standard software applications are available for use on the machines in the computing laboratories. Please refer to http://oit.utk.edu/labs.html for more information.

OIT Help Desk
OIT provides the telephone Help Desk as a centralized source of information and service for the computer and network resources managed by OIT. Help Desk Services are available to all University of Tennessee Students. To contact the Help
Desk, please dial 974-9900. The Help Desk may also be contacted online by filling out the Help Desk request form which can be found at http://oit.utk.edu/contact.html. For more information, please visit the Help Desk Web site at http://oit.utk.edu/helpdesk.

OIT Customer Service Center

OIT maintains a Customer Service Center that centrally locates all contact points for walk-in support on related OIT services. Students can receive assistance and/or training on a wide variety of topics at our Customer Service Center. These services include installing academic software free of charge on personally owned computers and helping students diagnose problems with their computers. The Customer Service Center also cleanups virus and spyware infected machines and reloads/upgrades operating systems. The Customer Service Center is located on the corner of Cumberland and Volunteer in rooms 103/104 Aconda Court and is open Monday through Friday, 9 a.m. until 4 p.m.

Technology Training

Several courses are offered aimed at improving skills with the technology available at UT. Life Preserver: An Introduction to UT Computing is offered several times each semester on supported application software and operating systems. Other courses include those about MS Office products, Dreamweaver, JavaScript, using the Internet and search engines, and Web Page Essentials (four levels of HTML training). There is also a series of courses on Adobe Photoshop. Please refer to http://web.utk.edu/~training for more information.

Computer-Based Training

Computer-Based Training (CBT) is a self-paced series of interactive, Web delivered, learn-as-you-go courses offered on many computing topics. CBT offers courses for Microsoft products (Word, Excel, etc.), Internet topics (Internet basics, How to create a Web page, etc.), and more advanced topics, such as JavaScript, Visual Basic, object-oriented techniques, and open systems. There are over 800 courses available. This training is free to students. For registration and access to the CBT courses on the Web go to http://oit.utk.edu/cbt/.

Statistical Consulting Center

Our mission is to help UT students, faculty, and staff enhance the quality of their research by working together to effectively apply analytical methods, especially statistics. The software we support includes SPSS, SAS, Maple, MATLAB, LabVIEW, QDA Miner, WordStat, Enterprise Miner and Text Miner. The SCC can help you with determining sample sizes, designing surveys and deploying them on web pages, scanning and scoring Scan Forms, acquiring and managing data, analyzing or mining data or text, visualizing data through interactive or presentation graphics, and interpreting the results. Assistance is available by appointment via the Help Desk at 974-9900, by walk-in at 200 SMC, and by e-mail at StatHelp@utk.edu. For details, see http://oit.utk.edu/scc/.

The Innovative Technology Center

The Innovative Technology Center (http://itc.utk.edu) provides the leadership, support, resources, and training necessary to help University of Tennessee faculty, graduate teaching assistants, and academic teaching staff make effective use of technology in their teaching, both online and in the classroom. The ITC supports the University's academic community by providing free production services for the design and development of web-based course materials, implementing faculty grants for instructional technology projects, and administering Online@UT, the University's Blackboard-powered integrated online academic community. Students can get help with Online@UT/Blackboard by calling the OIT Help Desk at 974-9900.

Student Health Service

http://web.utk.edu/~shs

Health services provided by the university are available to any student who has paid the health fee (either through paying the full University Programs and Services Fee or, if taking fewer than 9 but at least 3 hours, paying the optional health fee). These out-patient services are available continually throughout every term. The health clinic located at 1818 Andy Holt Avenue is open from 8:00 am to 4:30 pm, Monday through Friday. While urgent care needs may be handled on a walk-in basis, appointments should be made in most instances. The Student Health Service will cooperate with students and family physicians in ensuring the continuity of quality health care during the university career.

The State of Tennessee has three immunization requirements for students attending state colleges and universities.

- Measles, mumps and rubella – all students born after January 1, 1957, must provide proof of immunization with two doses of measles, mumps, and rubella vaccine.
- Hepatitis – New incoming students must be vaccinated against Hepatitis B or complete a waiver form acknowledging that they have elected not to be vaccinated.
- Meningitis – New incoming students, who live in on-campus housing, must be vaccinated against meningococcal disease or complete a waiver form acknowledging that they have elected not to be vaccinated.

Students must be accompanied by the Student Health Service documentation before students can attend college. Students who have not provided proof of immunization for one or more of the above conditions will be referred to Student Health Service.

This documentation must be provided to the Student Health Service. In addition, Student Health Service recommends that entering college students assure immunity to tetanus/diphtheria, polio, and chicken pox.

Student Judicial Affairs

http://web.utk.edu/~homepage/departments/judicial/

The Office of Student Judicial Affairs is concerned with the individual rights and responsibilities of students. Staff members serve as advisors to the student judicial system and, when necessary, initiate appropriate disciplinary proceedings.

Students placed on disciplinary probation receive direction, guidance, support, and encouragement. An effort is made to identify and correct problems interfering with academic progress. While on probation, students may be referred to other agencies for help with personal, psychological, and drug/alcohol problems.

The office is located at 409 Student Services Building. (865) 974-3171; e-mail osja@utk.edu.

Office of Student Orientation and Leadership Development

http://web.utk.edu/~orient

The Office of Student Orientation and Leadership Development coordinates orientation services for all entering undergraduate students and their parents or guardians. The office also provides leadership development opportunities to students once enrolled. The mission is accomplished through enhancing and promoting quality programs and services to educate students about academic life and campus involvement. The Center for Leadership Development is coordinated within the Office of Student Orientation and Leadership Development.

Student Orientation

The Orientation Staff is committed to assisting students with their personal and academic transition to the university. The office is responsible for the summer orientation program, specially designed for new students beginning UT in the fall semester. Orientation programs are also offered for students starting UT throughout the year. The Office of Student Orientation and Leadership Development is located in 412 Student Services Building. (865) 974-2435; email orient@utk.edu
Center for Leadership Development
http://web.utk.edu/~leader

The Center for Leadership Development helps students maximize their potential to get involved outside the classroom by helping students connect to the university. The center offers a variety of programs and services open to any student who wants to enhance his or her leadership skills. By participating in any one of UT’s leadership opportunities students can gain valuable skills that are useful in college and to future employees. Students can be become involved in the Ignite Program, Emerging Leaders Class, Leadership Guides and Leadership Conference. Student leaders and student organizations can also take advantage of the Leadership Conference. Student leaders and student organizations can also take advantage of the Leadership Library and request special leadership programs. The center is located in 315F of the University Center. (865) 974-2313; email leader@utk.edu

Student Success Center
http://studentsuccess.tennessee.edu

The Student Success Center concept was initiated with the goal of providing a “just in time” service for students who need a place to turn for academic and personal support. The center provides a single source of support to help students sort through services and put them together in a way that meets their needs. In keeping with the “one stop shop” approach, a Virtual Student Success Center (http://studentsuccess.tennessee.edu) is also available. Just like the brick and mortar center, the purpose of the Virtual Center is to provide not only students, but also faculty, staff and parents with a wealth of easy to access information designed to promote student success. The Virtual Student Success Center provides information and resources in the areas of academic advising, tutoring and academic support, service and community, student life, and the academic review or academic probation program and process.

A partnership between Academic Affairs and Student Affairs, the Student Success Center is located at 1817 Melrose and houses First Year Studies, National Student Exchange (NSE), Volunteer Learning Community, the University Advising Committee and Undergraduate Academic Appeals. The African-American Scholar (AAAS) program and the African-American Incentive Grant (AAIG) program are under the Student Success Center and are housed at 812 Volunteer Boulevard. The Thornton Athletic Student Life Center is also associated with the Student Success Center and is located at 1801 Volunteer Boulevard.

Phone 946-HELP (4357), e-mail studentsuccess.tennessee.edu. Hours are 7:30 a.m. – 7:00 p.m. Monday through Thursday, 7:30 a.m. – 5:00 p.m. Friday.

First Year Studies

First Year Studies 101 is a one credit hour, graded first-year seminar designed for students who want to make the most of their college careers. FYS is an excellent way for students to become part of the university community, to examine personal interests and strengths, and to share ideas and solutions to problems in a small class environment.

National Student Exchange

National Student Exchange (NSE) provides opportunities for undergraduate students to study for up to one calendar year at another NSE member college or university within the United States, its Territories and Canada.

Learning Communities

Students in a freshmen learning community live on one floor of a residence hall, have the opportunity to take classes together, participate as a floor in intramurals, and become involved in community events, social activities, and cultural and educational programs. The four communities are the Volunteer Community, the Honors Community, the Engage Community, and the Architecture and Design Cluster. Each community is unique in both its design and requirements. However, all offer opportunities to connect with other students, to become involved in campus life, and to develop skills necessary to be both a successful student and a successful leader. The Student Success Center office works specifically with the Volunteer Community.

Academic Appeals

The Student Success Center assists students with academic problem resolution and works with the Undergraduate Council to assist in the administration of appeals for academic dismissals, university readmission appeals, grade appeals that have gone through the college dean’s level, and late withdrawal appeals for individual courses. The forms needed for the various academic appeals are located on the Student Success Center’s Web site http://studentsuccess.tennessee.edu.

African-American Achievers Scholarship Program

The African-American Achievers Scholarship Program is designed to create an atmosphere in which high achieving African-American students can continue to excel during their collegiate career at UT while still becoming well-rounded scholars of the university community and preparing to enter the professional world. The scholarship program provides various programs and academic support services for students to ensure their success at the University of Tennessee.

African-American Incentive Grant Program

The African American Incentive Grant Program (AAIG) awards “incentive” grants to African-American students who have demonstrated an ability to succeed during high school. The grant is renewable for an additional three years if the student maintains a 2.5 GPA in UT coursework. The program provides special academic support courses and programs for the students as well opportunities to connect with the larger university community.

Thornton Athletics Student Life Center

The Thornton Center is a comprehensive academic support center for student-athletes. The Center houses study halls, a computer lab, and writing and math labs. Academic counselors meet regularly with the student-athletes to assess and evaluate their academic plans and NCAA progress towards degree requirements. In addition, the CHAMPS/Life Skills program offers programs that emphasize career development, leadership skills, community service and personal development.

Veteran’s Education Benefits
http://registrar.utk.edu/veterans_affairs.shtml

Basic military placement credit may be given on the basis of previous honorable active duty to students who are eligible for the Montgomery G.I. Bill Education Benefits. For more information, please contact the Veterans Administration Assistant in 209 Student Services Building, Monday through Friday, or visit our Web site for more information.

Service members, veterans, and dependents of veterans who are eligible beneficiaries of United States Department of Veterans Affairs education benefits or other governmentally funded educational assistance, subject to the conditions and guidelines set forth in Tennessee Code Annotated 49-7-104 as amended, may elect, upon formal application, to defer payment of required tuition and fees until the final day of the term for which the deferment has been requested. Application for the deferment must be made no later than 14 days after the beginning of the term, and the amount of the deferment shall not exceed the total monetary benefits to be received for the term. Students who have been granted deferments are expected to make timely payments on their outstanding tuition and fees balance once education benefits are being delivered, and eligibility for such deferment shall terminate if the student fails to abide by any applicable rule or regulation, or to act in good faith in making timely payments. This notice is published pursuant to Public Chapter 279, Acts of 2003, effective July 1, 2003.
Women’s Center

The Women’s Center provides essential informational and referral services to UT Knoxville students and faculty. The library’s specialized collection provides books, journals, and brochures about issues and concerns of women from both a current and historical perspective. Information is available on a variety of topics including racism, violence against women, spirituality, and sex roles. The Women’s Coordinating Council is the programming branch of the Center responsible for educational, social, and cultural events pertaining to women’s issues. The Women’s Center is located in 301 University Center. If you need more information or are interested in volunteering, please call (865) 974-1029 or email wcc@utk.edu.

Writing Center

http://web.utk.edu/~english/writing.php

The Writing Center offers free, one-to-one assistance to all writers on The University of Tennessee, Knoxville, campus. Students, faculty, and staff may drop by at any time to get feedback during every stage of the writing process. The up-to-date facility and trained tutors provide a supportive environment where writers can work and ask questions about their texts. A variety of reference and writing instruction materials are available for use, as well as computers for those who are working with the Writing Center tutors.

Students enrolled in English 101 or 102 may enroll in English 103 or 104, individualized writing workshop courses that meet in the Writing Center, for one hour of elective (S/NC) credit.

The Writing Center is located in Room 212 of the Humanities and Social Sciences Building. Hours are Monday, Tuesday, Wednesday 9:00-7:30; Thursday 9:00-6:00; Friday 9:00-3:00. (865) 974-2611. There is also an after-hours Writing Center located in the Hodges Library, Room 135G of Reference Services. Call for the specific hours each semester, or e-mail writingcenter@utk.edu.
STUDENT RIGHTS AND RESPONSIBILITIES

By registering at the university, the student neither loses the rights nor escapes the duties of a citizen. Enjoying greater opportunities than the average citizen, the university student has greater responsibilities. Each student’s personal life should be conducted in a context of mutual regard for the rights and privileges of others. It is further expected that students will demonstrate respect for the law and for the necessity of orderly conduct in the affairs of the community.

Students are responsible for being fully acquainted with the university catalog, handbook, and other regulations pertaining to students and for complying with them in the interest of an orderly and productive community. The student handbook, *Hilltopics*, is published and distributed annually and is also available online at the Dean of Students’ Web site (http://web.utk.edu/~home-page/hilltopics/default.html) so that students are aware of the university Standards of Conduct and all disciplinary regulations and procedures. Since conduct and actions will be measured on an adult standard, students should understand that they assume full responsibility for the consequences of their actions and behavior. The academic community will be judged in large measure by the actions of its members. Therefore, it is incumbent upon students to include the implications for their community in their criteria for determining appropriate behavior.

Failure or refusal to comply with the rules and policies established by the university may subject the offender to disciplinary action up to and including permanent dismissal from the university.

ACADEMIC ADVISING AT THE UNIVERSITY OF TENNESSEE, KNOXVILLE

The University of Tennessee recognizes academic advising to be a critical component of the educational experience of its undergraduate students. Faculty, administrators, and professional staff on this campus consider advising both a responsibility and an opportunity for enriching and enhancing each student’s pattern of learning and personal development. Central to the mission of academic advising at the university is teaching students to understand the meaning of higher education, teaching students to understand the purpose of the curriculum, and fostering students’ intellectual and personal development toward academic success and lifelong learning. Through individual, collaborative relationships with academic advisors, students are best able to define and implement sound educational plans that are consistent with their personal values, goals, and career plans.

At the time of application for admission to UT Knoxville, each student is asked to indicate whether he/she has already identified a preferred college. Students who are admitted as University Students and have not yet declared an interest in a specific college are advised by the College of Arts and Sciences Advising Center with assistance of advisors in other colleges and career planning. Advising centers and designated offices in each college handle all freshmen and a substantial amount of sophomore advising; major advisors within the college, working closely with the advising center, guide advanced students. At all levels, campus-wide guidelines for good advising are supplemented by specific college standards, guidelines, and evaluations.

Prior to advanced registration, all students who have earned fewer than 30 hours at UT Knoxville or are on Academic Review are required to meet with an advisor during each main term of the academic year (i.e., during fall and spring). All other students are required to consult with an advisor for a substantial conference during a designated term each year. Students whose ID numbers end in an even digit are required to meet with an advisor during fall semester. Students whose ID numbers end in an odd digit are required to meet with an advisor during spring semester. This policy does not place a limit on advising for students. Students are encouraged to consult with a college or major advisor at any point during a term or academic year.

All students at the University of Tennessee, Knoxville, should review carefully the prescribed curricula of the respective degree-granting units and should choose courses in accordance with their college preference. An advisor assists a student in selecting subjects to ensure a well-balanced education and interprets university and college policies and requirements. However, the student, not the advisor, bears the ultimate responsibility for selecting courses, meeting course prerequisites, and adhering to policies and procedures.

Assistance to students with academic problems or questions is provided by professors, advisors, department heads, and college deans or advising centers. Numerous other sources of academic, career, and personal counseling exist on the UT Knoxville
DEGREE AUDIT REPORT SYSTEM (DARS)

DARS provides an automated record of a student's academic progress toward degree completion in his/her major. DARS was designed for colleges, deans, advisors, and students to use as an advising tool and to check graduation requirements.

DARS audits for enrolled undergraduate students are available in the advising center and/or the dean's office of each college. Students can also print their own individual audit in the Office of the University Registrar, 209 Student Services Building.

Students should contact their advisor or Advising Office with any questions pertaining to their DARS audit. Final certification of degree requirements rests with the Office of the University Registrar, 209 Student Services Building. Phone (865) 974-2101.

CLASS ATTENDANCE AND ELIGIBILITY

Only students who are properly registered for a course may attend it on a regular basis. Any other person in the classroom for special reasons must obtain the consent of the instructor. It is the prerogative of the individual instructor to set the attendance requirements for a particular class. This means, for example, that an instructor in freshman English may state in a syllabus how many absences are allowed before a student receives a grade of No Credit.

FIRST CLASS MEETING

Students who fail to attend the first class or laboratory meeting without prior arrangements with the department concerned may lose their space in class to other students. Students should not assume that they will be officially dropped from the class; it is always the responsibility of the student to drop courses not attended. Otherwise, the student is liable for a grade of F in the course and for payment of appropriate fees.

MINIMUM CLASS SIZE

An undergraduate course will not normally be given for fewer than fifteen students at the lower division and twelve at the upper division except by permission of the chancellor. The university reserves the right to cancel, postpone, or combine classes when necessary.

HONOR STATEMENT

All facets of the university community have responsibilities associated with the Honor Statement. These responsibilities are unique to each sector of the university community. Each student is responsible for his/her own personal integrity in academic life. While there is no affirmative duty to report the academic dishonesty of another, each student, given the dictates of his/her own conscience, may choose to act on any violation of the Honor Statement. Each student is responsible for knowing the terms and conditions of the Honor Statement and may acknowledge his/her adherence to the Honor Statement by writing "Pledged" and signing each graded class assignment and exam.

Students are also responsible for any acts of plagiarism. Plagiarism is using the intellectual property of someone else without giving proper credit. The undocumented use of someone else's words or ideas in any medium of communication (unless such information is recognized as common knowledge) is a serious offense, subject to disciplinary action that may include failure in a course and/or dismissal from the university.

Specific examples of plagiarism are:

- Copying without proper documentation (quotation marks and a citation) written or spoken words, phrases, or sentences from any source.
- Summarizing without proper documentation (usually a citation) ideas from another source (unless such information is recognized as common knowledge).
- Borrowing facts, statistics, graphs, pictorial representations, or phrases without acknowledging the source (unless such information is recognized as common knowledge).
- Collaborating on a graded assignment without instructor's approval.
- Submitting work, either in whole or part, created by a professional service and used without attribution (e.g., paper, speech, bibliography, or photograph).

Faculty members also have responsibilities which are vital to the success of the Honor Statement and the creation of a climate of academic integrity within the university community. Each faculty member is responsible for defining, in specific terms, guidelines for preserving academic integrity in a course. Included in this definition should be a discussion of the Honor Statement. Faculty members at their discretion may also encourage their students to acknowledge adherence to the Honor Statement by "pledging" all graded class assignments and exams. The form of pledge may include writing the honor statement on the assignment, signing the printed statement, or simply writing "Pledged." Additionally, it will be the responsibility of each faculty member, graduate teaching assistant, and staff member to act on any violation of the Honor Statement. It is also incumbent upon faculty to maintain an atmosphere conducive to academic integrity by insuring that each quiz, test, and exam is adequately proctored.

The Statement

An essential feature of the University of Tennessee, Knoxville, is a commitment to maintaining an atmosphere of intellectual integrity and academic honesty. As a student of the university, I pledge that I will neither knowingly give nor receive any inappropriate assistance in academic work, thus affirming my own personal commitment to honor and integrity.

GRADE APPEAL PROCEDURE

Appeals to the Undergraduate Council

The Undergraduate Council hears appeals concerning grades only after grievances have been duly processed, without resolution, through appropriate procedures at the department and college levels (See Appeals Procedure outlined below). The council does not review grievances concerning allegations of misconduct or academic dishonesty. Procedures for consideration of such matters are published in Hilltopics under "Student Rights and Responsibilities." Students should begin the appeal process as soon as possible. No appeal may be filed later than 90 days after the final grade has been issued.

Grounds for Appeal

Students may appeal grades on the basis of one or more of the following grounds:

1. A clearly unfair decision (such as lack of consideration of circumstances clearly beyond the control of the student, e.g., a death in the family, illness or accident).
2. Unacceptable instruction/evaluation procedures (such as deviation from stated policies on grading criteria, incompletes, late paper, examinations, or class attendance).
3. Inability of instructor to deal with course responsibilities.
4. An exam setting which makes concentration extremely difficult.
The Appeals Procedure

The student should first consult with the instructor and if agreement cannot be reached, the student may appeal to the department head. If the student believes the grade assignment was based on criteria other than academic, such as race, gender, religious beliefs, national origin, age or handicap, then the student should make an appeal in writing to the Office of Equity and Diversity with a copy to the department head.

If the student appeals to the department head after attempts to resolve the matter with the instructor have failed, it is the responsibility of the department head to determine the circumstances surrounding the assignment of the grade. If the department head has reason to believe that none of the four academic conditions specified above apply, then the department head should encourage the student to accept the assigned grade. If the department head has reason to believe that any of the four conditions do apply, then instructor should be encouraged by the department head to reconsider the grade.

If the instructor elects not to change the grade, then the department head will appoint a committee of at least three faculty members to review the matter. Such committee will be charged with making a timely recommendation to the department head concerning the student’s grade. The student must submit a written appeal for the committee’s consideration or for any appeal made beyond the departmental level. If the departmental committee’s recommendation is that the student’s grade should be higher than the one assigned and the instructor still elects not to assign the recommended higher grade, the department head will assign the grade of pass, or, at the student’s option, he/she may accept the existing grade. In such a case, all other restrictions to use of the grade to satisfy graduation requirements are waived.

If the student wishes to pursue the appeal further, he or she may appeal in writing to the dean of the college in which the department is located.

If the issue is still unresolved, the student may initiate the formal Undergraduate Council appeals procedure.

Composition of the Appeals Committee

Members of the Appeals Committee are appointed by the chairperson of the Undergraduate Council. The committee consists of at least five members, one of whom is named chairperson.

The student may forward to the Assistant Vice Chancellor for Academic Affairs and Chair of the Undergraduate Council a statement requesting a review of the student’s complaint concerning his or her grade. The appeal must be written and must be based upon one or more of the four allowable grounds, explaining in detail why the appeal is based upon these grounds. No appeals will be accepted via fax or e-mail. The appeal must be written and must be in proper form, will, first, forward the appeal to the Appeals Committee of the Undergraduate Council for review and, second, notify the dean, the department head, the course instructor, and the student that the Appeals Committee has the case under review. Upon receipt of the appeal, the chairperson of the Appeals Committee will call a special meeting of the committee for purposes of hearing the appeal. The chair will invite the student, the instructor, and the department head to appear in person if they choose or to supply a written statement (in the student’s case this statement will already have been provided). The committee will maintain a recording of the hearing. After hearing the appeal, the Appeals Committee will vote as to whether the grade should be overturned. A majority vote will constitute the decision of the committee. A tie vote will be decided by the chair. The decision of the Appeals Committee will be relayed by the chair of the committee in writing to the principals.

If the appeal has been denied by the Appeals Committee, the student may appeal to the full Undergraduate Council. If the council denies the appeal, the grade stands.

If the student’s appeal is upheld by the Appeals Committee, the instructor may appeal to the full Undergraduate Council. If the council holds for the instructor, the grade stands. If the student’s appeal is upheld by the Appeals Committee and there is no appeal by the instructor to the full Undergraduate Council, or if the instructor does appeal to the full Undergraduate Council and the council holds for the student, the instructor may either elect to change the grade to a higher grade or refuse to do so. If the instructor refuses to change the grade, the chancellor will instruct the university registrar to change the course grade to Pass.

In all cases of appeal to the full Undergraduate Council, the chairperson of the Undergraduate Council will notify the student or instructor, in writing, of the Council’s decision and if applicable, of the right to further appeal in accordance with Article 5, Section 7, of the University Bylaws: Officers, faculty and staff members, students, employees, alumni, and all other officers who feel that they may have a grievance against the university shall have the right of appeal through the chancellor or vice-president to the president of the university.

An appeal to the chancellor must be filed within 60 days of the Undergraduate Council decision.

SPECIAL STATE AND FEDERAL LAWS FOR EDUCATIONAL PURPOSES

American History

Effective July 1, 1978 and afterwards, all students receiving a bachelor’s degree must have completed one unit of American history on the high school level or 6 semester hours of collegiate American history as required by the General Assembly of the State of Tennessee (Tennessee Code Annotated Section 493253).

Family Education Rights and Privacy Act (FERPA)

This act provides for confidentiality of student records; however, it also provides for basic identification of people at the University of Tennessee, Knoxville, without the consent of the individual. Release of information to third parties includes directory information, such as contained in the campus telephone book and sports brochures. This information includes name, address, telephone number, date and place of birth, classification, college, major, dates of attendance, degrees and awards, the most recent previous educational agency or institution attended, participation in school activities and sports, and weight and height (for special activities).

Public notice of the categories to be contained in a directory is given, and a period of one week is provided during which a student may request that such information not be released. For additional information, see http://registrar.tennessee.edu/privacy.shtml.

Social Security Number Use

The University of Tennessee, Knoxville, requires the assignment of a unique student number for internal identification of each student’s record. Prior to January 1, 1975, students’ Social Security Numbers (SSNs) were used as student identification numbers; therefore, Federal law allows the continued use of the SSN as the unique student identifi-
er. In December 2004, the university began assigning individual student identification numbers to newly admitted students; new students will no longer use their SSNs to conduct business or access their records.

Student identification numbers are used for university business only. The university complies with FERPA guidelines when releasing student identification numbers.

Students requiring a correction or change to their student identification numbers or to their Social Security Numbers should contact Student Data Resources at (865) 974-2108.

OTHER REQUIREMENTS

Program Assessment and Improvement Through Student Evaluation

In order for the university to assess and improve its academic programs, periodic measurements of student perceptions and intellectual growth must be obtained. As a requirement for graduation, students may be asked to participate in one or more evaluative procedures, which may include examinations in general education and/or the major field of study. The evaluative information obtained through testing is used solely to improve the quality of the educational experience for future generations of students.

Senior General Education Test

The Tennessee Higher Education Commission (THEC) requires that each public institution for higher learning evaluate the general education skills of the senior class. Each year a percentage of the seniors are selected to take the test. The test results enable the University of Tennessee to evaluate its general education program and to qualify for needed funding from the state. Students are informed in their senior year if they have been selected to take the test.

Senior Major Field Assessment Test

THEC also requires that each public institution for higher learning evaluate the knowledge and expertise obtained within each major area of study. Each year, a subset of all departments on campus is required to test all graduating seniors from those respective areas. The results from these tests enable the University of Tennessee to evaluate and, where necessary, improve the quality of major fields of study. Students are informed in their senior year if they are required to take such a test.

Special Requirements for Student Athletes

Student athletes participating in intercollegiate sports under the provisions of the National Collegiate Athletic Association and the Southeastern Conference must fulfill the NCAA academic progress requirements in addition to the university’s academic continuation and retention policies for continuation of eligibility to participate in intercollegiate sports. In addition to meeting with college specific academic advisors, student athletes are required to meet with academic counselors in the Thornton Athletic Student Life Center to ensure adherence to University, NCAA and SEC academic policies and requirements.

Teacher Licensure

Though faculty members of the College of Education, Health, and Human Sciences take major responsibility for teaching students how to teach (i.e., pedagogy), other faculty throughout the campus teach students what to teach (i.e., subject matter). For example, the faculty in the College of Arts and Sciences has responsibility for providing the broad, general education, background required of all teachers and for providing the specialized content knowledge needed by elementary and secondary teachers.

Information regarding other teaching fields and educational specialties is available through the following campus offices.

- Agriculture Education – 325 Morgan Hall
- Art Education – 1715 Volunteer Boulevard, 213 Art and Architecture Building
- Music Education – 1741 Volunteer Boulevard, 211A Music Building
- School Counseling – A525 Claxton Complex
- School Psychology – A525 Claxton Complex
- Speech and Hearing Education – 457 South Stadium Hall
- Social Work – Henson Hall

Information regarding general teacher preparation is described in the College of Education, Health, and Human Sciences section of this catalog and is available through the college’s Licensure Services, A313 Claxton Complex.

OPPORTUNITIES FOR HIGH-ACHIEVING STUDENTS

 Advanced Placement Examinations
Freshmen admitted to the University of Tennessee, Knoxville, may receive credit on the basis of performance on one or more of the Advanced Placement Examinations offered each May by the College Entrance Examination Board (CEEB) in 16 subject areas. The tests are usually taken by high school students during their junior or senior year.

Disciplines at UT Knoxville which grant advanced placement credit for satisfactory test scores include art, biology, chemistry, computer science, geology, economics, English, French, German, history, Latin, mathematics, music, physics, political science, psychology, Spanish, and statistics. Each participating department decides the acceptable score for credit. Information may be obtained from http://admissions.utk.edu/undergraduate/ap.shtml or from Arts and Sciences Advising Services.

International Baccalaureate Examinations

The International Baccalaureate Diploma Program of the International Baccalaureate Organization (IBO) is a rigorous pre-university course of studies that leads to examinations for highly motivated secondary school students. Students who have participated in the International Baccalaureate Program through their high schools may receive credit based on satisfactory test scores as established by UT Knoxville’s participating departments. Each participating department decides the acceptable score for credit. Information may be obtained from Arts and Sciences Advising Services.

Proficiency and Other Examinations

With departmental approval, nationally recognized examinations, such as the examinations of the College Level Examinations Program (CLEP) of the College Entrance Examination Board, may be used to earn credit.

Students who want to use proficiency or other examinations to earn credit for work or material mastered through non-credit courses or experiences should contact the dean of the college that offers the course for which credit is sought.

Honors Programs at the University of Tennessee

Several honors options are available. The Chancellor’s Honors Program is available to entering freshmen and a limited number of transfer and sophomore students. For a description of this program please see Chancellor’s Honors. Some colleges have college-wide honors programs. In the College of Agricultural Sciences and Natural Resources, see the CASNR Honors Research and Creative Achievements Program and in Arts and Sci-
ences, see the College Scholars major. Many academic departments have Honors programs. For specific requirements see individual program degree requirements.

Courses designated as honors courses are available to all students with requisite ACT/SAT scores and previous acceptable academic performance. Please see specific course descriptions for the requirements for registration.

Dean’s List
A public announcement is made of students passing a semester’s work summa cum laude (3.80 through 4.00), magna cum laude (3.65 through 3.79), and cum laude (3.50 through 3.64). To be eligible, students must complete at least 12 hours, not counting work taken on a Satisfactory/No Credit basis.

Seniors Eligible for Graduate Credit
Subject to approval by the Dean of Graduate Studies, a senior at the University of Tennessee, Knoxville, who needs fewer than 30 semester hours to complete requirements for a bachelor’s degree and has at least a B average (3.0) may enroll in graduate courses for graduate credit, provided the combined total of undergraduate and graduate coursework does not exceed 15 credit hours per semester.

- Senior privilege is extended only to students working toward a first bachelor’s degree.
- Students who have met all requirements for graduation are not eligible for senior privilege.
- Approval must be obtained each semester at the Office of Graduate Student Services, P-105 Andy Holt Tower; (865) 974-2475. Form available online at http://gradstudies.tennessee.edu.
- A maximum of 9 hours of graduate credit at the 400- and 500-level can be obtained in this status.
- Some departments do not permit seniors to register for graduate courses without prior permission.
- Courses taken for graduate credit may not be used toward both the baccalaureate and a graduate degree.

GENERAL REGULATIONS
Classification
Undergraduate students are classified according to the following chart, on the basis of semester hours passed.

To be considered a full-time undergraduate student in any semester, a student must be enrolled in 12 semester hours, including the full summer term. Six hours for each separate term of the summer session are required for full-time classification. Audit hours are not considered in the computation.

<table>
<thead>
<tr>
<th>Year</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>0-29.9</td>
</tr>
<tr>
<td>Second</td>
<td>30-59.9</td>
</tr>
<tr>
<td>Third</td>
<td>60-89.9</td>
</tr>
<tr>
<td>Fourth</td>
<td>90-up</td>
</tr>
<tr>
<td>Fifth</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Architecture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>Hours</td>
</tr>
<tr>
<td>First</td>
<td>0.31.9</td>
</tr>
<tr>
<td>Second</td>
<td>32-63.9</td>
</tr>
<tr>
<td>Third</td>
<td>64-95.9</td>
</tr>
<tr>
<td>Fourth</td>
<td>96-127.9</td>
</tr>
<tr>
<td>Fifth</td>
<td>128-up</td>
</tr>
</tbody>
</table>

Correspondence Work
An undergraduate student may take by correspondence as many as one-fourth of the total hours required for the degree sought and have this work count toward the degree.

- Credit for undergraduate courses in correspondence in the major subjects shall be limited to one-fourth of the total credit hours required.
- All courses taken by correspondence for which degree credit is given must meet degree program requirements of the university. In addition, all currently enrolled students who intend to take correspondence courses must have the approval of the dean of the college in which they are enrolled prior to registering for any college credit correspondence course.
- Degree credit will not be granted for correspondence courses taken at an institution other than the University of Tennessee, Knoxville, by a UT Knoxville student if an equivalent correspondence course is available from the UT Knoxville Department of Distance Education and Independent Study.
- Correspondence courses are open to students who have been dropped from the university for academic reasons only with the prior permission of the dean of the college or school in which they were enrolled.
- A senior may take only 6 hours of the last year’s work (the last 30 semester hours) by correspondence, and this must be taken from the University of Tennessee, Knoxville. If the student is a senior transfer, no work may be taken by correspondence.
- Students taking work for Teacher Certification purposes should consult the State Department of Education of their respective states concerning the amount of correspondence credit allowed for Teacher Certification.

Correspondence credits are not accepted for students enrolled in the College of Law, or except by prior permission, for students in the Center for Health Sciences.
High School Deficiencies

Beginning with fall term 1989, the university adopted new undergraduate admission requirements to include certain specified courses. With the exception of American History, one high-school unit is comparable to one three-hour semester of university work.

- Freshmen must remove any deficiencies within their first 60 hours of university work.
- Transfer students graduating from high school in 1989 or later and having more than 12 hours of transfer work must remove the deficiencies within their first 30 hours at UT Knoxville.
- Transfer students graduating from high school in 1989 or later having 60 or more hours of transferable work will be exempt from university unit entrance requirements.
- Any student graduating from high school before 1989 will be exempt from university unit entrance requirements.
- If the course taken to remove a deficiency fulfills a curriculum requirement, the hours will be counted toward satisfying the requirement. Those hours will not be counted toward total hours for graduation, effectively adding to the total number required for graduation.

For additional information and a list of courses that remove high school deficiencies, see http://Registrar.Tennessee.edu/Records/HS_Deficiencies.shtml.

Petitioning Process

The university offers a petitioning procedure through which students can occasionally gain exceptions to the general rules included in this catalog. It is the direct responsibility of the student who seeks to deviate from the rules to complete the petitioning process. In cases where this might affect the student’s eligibility to enroll in a particular course, the student should begin the petitioning process during the previous term and must gain final approval for the petition no later than the add deadline of the term involved.

The steps involved in this process are as follows.

**Curricular, Major, Minor and/or Graduation Requirements**

- The student completes the petition with the assistance of his/her advisor and obtains the signatures of the advisor and department head or curricular chair.
- The department sends the petition to the college’s advising center or dean’s office for consideration.
- If the petition is approved, it is entered into DARS (Degree Audit Report System).

**University General Education Requirement**

- The student completes the petition with the assistance of his/her advisor and obtains the signatures of the advisor.
- The student takes the signed petition to the student’s college advising office.
- The college sends the petition to the General Education Committee designee for consideration.
- If the petition is approved, it is entered into DARS (Degree Audit Report System).

University Students

Many students are undecided about their major when they enter UT Knoxville. All undecided students are designated University Students and are advised by Arts and Sciences Advising Services. While it is proper to explore alternative choices, students should also pursue a course of study that culminates in graduation. For this reason, there is a limit to the length of time students may remain as University Students.

At the completion of 45 hours, University Students who have entered the University of Tennessee, Knoxville, as freshmen must associate with a college or officially declare a major prior to the end of the next term of enrollment.

Students who transfer from another college or university may enroll as University Students. However, transfer students may remain as University Students no longer than through the completion of 15 semester hours if the total number of hours transferred is 30 or more.

UT Knoxville students who fail to progress in a given major, college, or school and are undecided about an alternative course of study may continue at the University of Tennessee, Knoxville, as University Students for a maximum of 15 semester hours.

Writing Competence

The faculty of all colleges expect students to communicate effectively in standard written English in laboratory reports, examinations, essays, and other written assignments.

If a student cannot fulfill the requirements for a course because of an inability to communicate in writing, the instructor will give the student an IW to designate “incomplete due to writing.” Any student who receives an IW should contact the Writing Center Director (212 Humanities and Social Sciences Building).

- The instructor of the course determines the appropriate requirement for remediation and sends any student work requiring revision to the Writing Center director.
- The Writing Center director determines when the requirement has been fulfilled. Upon the Writing Center director’s recommendation, the student’s work is returned to the instructor, who will change the student’s grade accordingly.
- As with other incompletes, the student will have one calendar year to make up the deficiency before the grade automatically changes to reflect failure for the course.

**GRADES, CREDIT HOURS, AND GRADE POINT AVERAGE**

- The basic unit of credit at UT Knoxville is the semester hour. This normally represents one hour of lecture or recitation or 2 hours of laboratory work per week.
- Each course at the university carries a number of credit hours specified in the course description.
- At the completion of each course, a student will be assigned a grade reflecting the student’s performance in the course.
- Passing grades carry a certain number of quality points per credit hour in the course.
- A student’s grade point average is obtained by dividing the number of quality points the student has accumulated at UT Knoxville by the number of hours the student has attempted at UT Knoxville, not including hours for which grades of I, N, NC, NR, P, S, W, and WP have been received.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Performance Level</th>
<th>Quality Points Per Semester Hours of Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Superior</td>
<td>4.0</td>
</tr>
<tr>
<td>B+</td>
<td>Very Good</td>
<td>3.5</td>
</tr>
<tr>
<td>B</td>
<td>Good</td>
<td>3.0</td>
</tr>
<tr>
<td>C+</td>
<td>Fair</td>
<td>2.5</td>
</tr>
<tr>
<td>C</td>
<td>Satisfactory</td>
<td>2.0</td>
</tr>
<tr>
<td>D</td>
<td>Unsatisfactory</td>
<td>1.0</td>
</tr>
<tr>
<td>F</td>
<td>Failure</td>
<td>0.0</td>
</tr>
<tr>
<td>WF</td>
<td>Withdrawn Failing</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Note: WP carries no quality points or credit hours.
Freshman English

English 101, 102, 118, 131, and 132 are offered on a system of A, B+, B, C+, C, I, NC, W grading. All entering freshman, except international students, must enroll in English 101, 102 or 118.

Grade of Incomplete

Under extraordinary circumstances and at the discretion of the instructor, the grade of I (Incomplete) may be awarded to students who have satisfactorily completed a substantial portion of the course but cannot complete the course for reasons beyond their control.

• The I grade is not issued in lieu of the grade F or FX.
• The terms for the removal of the I, including the time limit for removal of the I, is decided by the instructor.
• It is the responsibility of the student receiving an I to arrange with the instructor whatever action is needed to remove the grade at the earliest possible date, and in any event, within one calendar year of the assignment of Incomplete.
• Students may not remove an I grade by re-enrolling in the course.
• The I grade does not carry quality points and is not computed as a grade of F in the grade point average.
• If the I grade is not removed within one calendar year or upon graduation, it shall be changed to an F and count as a failure in the computation of the grade point average.
• A student need not be enrolled at the university to remove a grade of Incomplete.
• In addition, a grade of IW may be assigned if a student cannot fulfill the requirements for a course because of an inability to communicate in writing. (See Writing Competence for more information about the IW grade.)

Grades that do not Influence Grade Point Average

The following grades carry no quality points and hours for which these grades are earned are not counted in computing a student's grade point average.

• NC (No Credit) indicates failure to complete a course satisfactorily when taken on an S/NC basis.
• S (Satisfactory) is assigned for C or better work when a course is taken on an S/NC grading basis.
• W (Withdrawal) is assigned in courses when a student has officially withdrawn from the university. W is also assigned in courses when a student withdraws from a course between the eleventh and forty-first calendar day of classes. Regulations concerning withdrawal from courses or from the university appear under Changes in Registration.
• WP (Withdrawn Passing) is assigned in courses when a student withdraws from a course after the forty-second calendar day of classes and is passing the course at the time of withdrawal.

Satisfactory/No Credit Grading System

The purpose of this system is to encourage the student to venture beyond the limits of those courses in which the student usually does well and, motivated by intellectual curiosity, explore subject matter in which performance may be somewhat less outstanding than work in other subjects. To this end, Satisfactory/No Credit (S/NC) grading has been developed for undergraduate courses (100-, 200-, 300, and 400-level courses).

• Neither grade is counted in a student’s grade point average, but, like all other grades, is entered on the permanent record.
• Auditors receive no credit and the audited course will not be recorded on the transcript.
• The student’s name will appear on the class roll to inform the instructor that the student is properly enrolled as auditor.
• Auditors are required to register and pay fees.
• Prior to the add deadline, a change from credit to audit or from audit to credit may be made by completing the change of credit portion of the Change of Registration form and having it processed in 209 Student Services Building.
• After the add deadline, the signature of the dean or designee is needed in order to change credit. Once the drop deadline is passed, a change will not be allowed.

Prerequisite and Corequisite Courses
Students must meet prerequisite and corequisite requirements for all courses with such restrictions, and no student shall be permitted to register for those courses in which the requirements have not been met.

Changes in Registration
Undergraduate students may add courses through the tenth calendar day counted from the beginning of classes Fall and Spring terms. Because of the nature of some courses, permission of the department head may be required to add a course after classes begin. Students may also, as departmental policies permit, change a section of a course through the add deadline.
• Students may drop courses until the 10th calendar day from the start of classes with no notation on the academic record for full term courses in Fall and Spring.
• From the 11th calendar day until the 42nd calendar day, students may drop courses which will receive the notation of W (Withdrawn) for full term courses in Fall and Spring.
• The W grade is not computed in the grade point average.
• Courses may be dropped on the Web (http://cpo.utk.edu).
• After the 42nd calendar day and to the 84th day of classes, courses may be dropped and will be assigned a WP (Withdrawn Passing) or a WF (Withdrawn Failing) for full term courses in Fall and Spring. Instructor’s signature is required. The form, once signed, should be taken to the Office of the University Registrar for processing.
• The WF is calculated in the grade point average as an F.
• After the 84th day, no drops are permitted.
• The periods for add, drop, change of grading are sessions within the full term, summer, and mini term are determined based on a percentage of the equivalent deadline within the full term. See Timetable of Classes each term for exact dates on the Circle Park Website at http://cpo.utk.edu. Deadline dates will be moved to the next business day if the deadline falls on a holiday, weekend day or spring recess.
• Failure to attend a course is not an official withdrawal and will result in the assignment of an F grade.

Withdrawing from the University
Undergraduate students who need to leave the university before a term is finished must apply for withdrawal in the Office of the University Registrar, 209 Student Services Building. Information on dropping a single course is provided in the catalog section, Changes in Registration.
• Requests for withdrawal are routinely approved when the student applies by the deadline listed on the Web (www.cpo.utk.edu).
• The word “withdrawn” will be posted on the transcript.
• It is the responsibility of a student who has registered for classes to attend them or, if that is impossible, to apply for withdrawal.
• A student will receive final grades unless the student follows procedures for withdrawal from the university.
• A student who simply stops participating in classes, or fails to attend class, without officially withdrawing will be assigned the grade of F in each course.
• Students who do officially withdraw must apply for readmission in advance of their next term of anticipated enrollment, except for withdrawal from summer term.
• Enrolled students are liable for payment of fees. Any refunds that may be due upon a student’s withdrawal are issued by Office of the Bursar, 211 Student Services Building.

Extracurricular Participation
Students who are enrolled or eligible to enroll at the university may participate in extracurricular activities as permitted by the individual club or organization.

UNDERGRADUATE RETENTION STANDARDS
Academic Review
The University of Tennessee, Knoxville, expects all students who enter to remain in good academic standing. To accomplish this, the university has established retention standards. To graduate from UT Knoxville, a student must earn a minimum cumulative GPA of 2.00. The catalog contains additional retention, progression, and graduation requirements for specific programs.
A student will be placed on Academic Review when either his/her cumulative grade point average falls below the minimum acceptable level of 2.00 for one semester, or when his/her semester grade point average falls below the minimum acceptable level of 2.00 for two consecutive semesters regardless of his/her cumulative GPA.
• During that semester, and any other semesters in review, a student must participate in a special advising program in his or her college.
• If, while in review, a student does not maintain a 2.00 grade point average for hours attempted each term, the student may be released from his or her college or be released and dismissed from the university.
• A student released from his or her college with a cumulative grade point average of 2.00 or higher may seek admission to an alternate college and major.
• A student with a grade point average below 2.00 who is released from the college but not dismissed from the university is classified as a University Student and is advised in the College of Arts and Sciences.
• A student dismissed from the university may apply for readmission to the university after a minimum of one calendar year away from the university. Readmission is not automatic.
• A student will no longer be on academic review when his or her cumulative grade point average is 2.0 or higher and the term grade point average is 2.0 or higher.

Academic Second Opportunity
Academic Second Opportunity is designed to assist the student who was not successful in progressing toward a degree during a previous attendance at the University of Tennessee, Knoxville, but is now performing satisfactory work. Granting it is an acknowledgment by the university that the student’s earlier work is not consistent with his or her academic potential but that the work earned since return is. This policy is not intended to allow students to progress directly into a major. Exceptions to progression standards must be made at the college level.
An undergraduate student may petition for Academic Second Opportunity upon meeting the following requirements:

- The student has re-enrolled following an absence from UT Knoxville of at least three full calendar years.
- The student’s previous academic record at the university was unsatisfactory (normally, below a C average).
- Since readmission, the student has completed 15 or more graded hours (correspondence coursework may not be included in the 15 hours), earning a 2.5 GPA or above.

Decisions on granting Academic Second Opportunity are made by committee. If the student’s petition is approved, all previous academic work will remain on the permanent record, but the grades for such work will not be used in computing the grade point average or in determining academic standing. Previous credits earned with a grade of C or better will continue to meet major, distribution, and graduation requirements.

To graduate, a student granted Academic Second Opportunity must complete at least 30 hours at the University of Tennessee, Knoxville, following readmission. To meet minimum qualifications for graduation with honors, the student must earn at least 60 semester hours of letter grades (A-F) following readmission. Academic Second Opportunity may be granted only once. If hours earned during the previous attendance have already been applied toward the completion of an awarded degree from a four-year institution, Academic Second Opportunity will not be granted. Registration at any other college or university since the previous UT Knoxville enrollment will not prevent a student from qualifying.

Petition must be made no later than the academic term prior to the one when the degree will be granted. Students should consult the Office of the University Registrar’s Web site (http://registrar.utk.edu/) or contact their college for deadlines for specific terms. To initiate the petitioning process, students should meet with designated advisors in their colleges.

**EXAMS**

**Proficiency Examination**

A proficiency examination may be given in any academic course offered for undergraduate credit. University policy is to reserve to departments the decisions as to which courses, if any, can be passed by proficiency examinations.

- Proficiency examination credit is available only for the University of Tennessee, Knoxville, students.
- When applying to a department for a proficiency examination, a student should present evidence of having developed the abilities, knowledge, and attitudes expected of those who have taken the course in question.
- The giving of the examination must be approved by the head of the department in which the course is offered.
- A fee must be paid in advance at the Bursar’s Office.
- Subject to the grading policy of the college in which the student is enrolled, and except for courses which are graded only on a S/NC basis, a student who passes a proficiency examination and who wishes to have the grade recorded may choose to take the grade on the examination (A, B+, B, C+ or C) or take an S. An S gives credit for the course but does not affect the grade point average. If a grade of D or F is made on a proficiency examination, the department is expected to note the attempt but no record of the examination is made on the student’s transcript.
- The maximum credits obtainable through proficiency examination and the use of proficiency examinations to remove failing grades (also the grade of I) are determined by the department offering the proficiency examination.

Entering international students whose native language is not English are required to take the University of Tennessee, Knoxville, English Proficiency Examination to determine placement in the appropriate English course. No credit for any English course is awarded through this special examination.

**Final Exams**

Final exams must be given during the final exam period at the scheduled time, although alternative uses of the scheduled exam period may be designated by the instructor.

- Students are not required to take more than two exams on any day.
- The instructor of the last non-departmental exam (see Glossary) on that day must reschedule the student’s exam during the final exam period.
- It is the obligation of students with such conflicts to make appropriate arrangements with the instructor at least two weeks prior to the end of classes.
- No in-class, written quizzes or tests counting more than 10% of the semester grade may be given the last five calendar days prior to the study period.

**GENERAL REQUIREMENTS FOR A BACHELOR’S DEGREE**

To receive a bachelor’s degree from the University of Tennessee, Knoxville, a student must complete all of the requirements listed below. Some colleges within the university have special requirements above and beyond those stated here. Students are advised to consult the appropriate section of this catalog for any further degree requirements. Each program presented by the candidate for a bachelor’s degree is reviewed and approved for meeting the degree requirements by the Office of the University Registrar. Grades cannot be changed for courses within a degree that has been awarded.

- Complete satisfactorily all requirements of the curriculum for which the student is enrolled, as described in the portion of this catalog devoted to the college or school offering the curriculum, and the University General Education Requirement, as described in the front of this catalog. Curricular requirements change frequently, and students should note the caution on the second page of this catalog. A student is allowed to satisfy requirements for a bachelor’s degree under any curriculum in effect during the student’s attendance at UT Knoxville provided the curriculum has been in effect within six years of the date of graduation. This does not obligate the university to offer a discontinued course. Programs may be adjusted by the student’s faculty advisor and college dean in consultation with the Office of the University Registrar.
- Achieve a grade point average of at least 2.00 on all work attempted at the University of Tennessee, Knoxville.
- Complete 60 hours of credit offered for the bachelor’s degree at an accredited senior college.
- Complete the last 30 hours of credit offered for the bachelor’s degree in residence at the University of Tennessee, Knoxville. Credit for correspondence courses taught by the faculty of the UT Knoxville campus may be counted as part of this requirement with the exception of the limitation noted in the regulations concerning correspondence work. Special arrangements to allow work taken at other University of Tennessee campuses to be counted as part of this requirement must be approved by the dean of the student’s major college.
- Comply with the state law that one unit of American history at the high school level or 6 semester hours of collegiate work be satisfactorily completed. This requirement is effective for those graduating July 1, 1978, and thereafter.
It may be satisfied by completing History 221-222 (or 227-228). History 449 may be used in lieu of 3 hours of American History. Students should consult the catalog of enrollment to determine how the six hour’s credit for fulfillment of this requirement is to be included in individual curricula.

- Comply with the Southern Association of Colleges and Schools requirement that students complete 25 percent of the credit hours required for the bachelor’s degree at the University of Tennessee, Knoxville.
- Hours completed at the university level to remove high school deficiencies may be used to meet specific curricular requirements. However, hours earned in these courses will not count toward the total hours required for graduation, effectively adding to the total number required for graduation.
- Satisfy all financial obligations (fees or fines) owed to the university.
- File an application for a degree with the Office of the University Registrar, Room 209, Student Services Building. Application deadlines for each term are on the Web. (http://registrar.tennessee.edu/).
- Comply with the Tennessee Higher Education Commission requirements (Senior General Education Test and Senior Major Field Assessment Test).

Students who wish to participate in their graduating class commencement ceremony will need to place a cap and gown order with the University Center Book and Supply Store. Orders placed after the deadline date established by the Book and Supply Store will be subject to a late fee.

Multiple Concentrations
Multiple concentration listings may appear on a student’s transcript when a minimum of 12 distinct credit hours differentiates one concentration from another. Once a bachelor’s degree has been awarded, students may not add a different area of concentration.

Second Majors and Minors
Students may pursue any available minors or second majors. Second minors and majors will be noted on students’ transcripts upon graduation. Meeting the requirements of minors or second majors may lengthen students’ academic programs. Once a bachelor’s degree has been awarded, students may not add a second major or minor to that degree.

Second Bachelor’s Degree
A student who holds a bachelor’s degree may receive a second bachelor’s degree from the University of Tennessee, Knoxville, by satisfying the following.

- Meet all requirements of both degrees.
- Complete at least 30 semester hours in addition to the total hours required for the first bachelor’s degree.
- Declare the intention to work for a second bachelor’s degree with the Office of the University Registrar when application is made for the second degree.

Students are able to enroll in additional post-baccalaureate coursework in lieu of pursuing a second baccalaureate degree. Students are further encouraged to pursue graduate studies toward an advanced degree. Once a bachelor’s degree has been awarded, a student may not add a second bachelor’s degree in the same major as the first bachelor’s degree even if the student wants to pursue a different concentration in that major. A student may not receive a second bachelor’s degree in a major that has already been awarded as a minor in a first bachelor’s degree.

Graduating Senior Privilege
A senior who fails one subject during the semester of intended graduation may, with approval, take an examination or other appropriate form of evaluation. The senior must receive the approval of the instructor and appropriate collegiate personnel which may include the department head and/or dean. The evaluation may take place at the beginning of or during the next semester and, if successful, the senior will receive the degree at the next commencement.

Honors Categories for Graduation
Honors are conferred upon graduating undergraduate students who have displayed a high level of achievement during their university career. Recipients of honors receive their degrees with

- cum laude 3.50 through 3.64.
- magna cum laude 3.65 through 3.79.
- summa cum laude 3.80 through 4.00.

These honors categories are based on a student’s cumulative average at the end of the semester preceding the graduation semester.

- Students must have earned at least 60 hours at UT Knoxville in order to qualify for honors categories.
- If, at graduation, a student’s grade point average would allow a higher honors category than that determined at the end of the semester preceding the graduation semester, the student may, upon written request, receive a substitute diploma indicating the higher category.
- Courses may not be repeated for the purpose of raising an honors category.
- University Honors are conferred upon graduating students who have completed the Chancellor’s Honors Program.
The College of Agricultural Sciences and Natural Resources (CASNR) dates back to 1869 when the university was designated as Tennessee’s federal land-grant institution. Under terms of the Federal Land-Grant Act, the university was enabled for the first time to offer instruction in agriculture. Later, federal legislation provided resources for agricultural research and extension programming for dissemination of research findings to the people of Tennessee. Over time, the college expanded its academic majors from traditional agricultural fields to include natural resources and agribusiness. Today, academic majors represent the breadth of modern natural resources and agricultural sciences. The college, the Agricultural Experiment Station, UT Extension Service, and the College of Veterinary Medicine constitute the University of Tennessee Institute of Agriculture (http://www.agriculture.utk.edu).

The College of Agricultural Sciences and Natural Resources faculty conduct research using the resources available to them from the Agricultural Experiment Station. They are engaged in significant basic and applied research ranging from biotechnology to wildlife management to agricultural economics to public horticulture. On-campus and field research laboratories are used in the instructional programs of the college, while extension and research activities provide many students excellent opportunities for individualized study with faculty mentors, as well as part-time job opportunities.

Majors and Minors

The college offers a broad range of majors that prepare students for natural and social sciences based careers in a wide array of opportunities in agricultural sciences and natural resources.

Majors, Concentrations, and Departments

- Agricultural economics and business with a concentration in agricultural equipment systems management (Department of Agricultural Economics).
- Agricultural science with concentrations in agricultural education and agricultural extension education (interdepartmental unit).
- Animal science with concentrations in production/business/communication, science/technology, science/technology – pre-veterinary medicine, and pre-veterinary medicine 3+1 (Department of Animal Science).
- Biosystems engineering with a pre-professional concentration (Department of Biosystems Engineering and Soil Science).
- Environmental and soil sciences with concentrations in agricultural systems technology, environmental science, and soil science (Department of Biosystems Engineering and Soil Science).
- Food science and technology with concentrations in technology/business, pre-professional, and science (Department of Food Science and Technology).
- Forestry with concentrations in forest resources management and wildland recreation (Department of Forestry, Wildlife and Fisheries).
- Plant sciences with concentrations in landscape design and construction; plant science, biotechnology and horticulture; public horticulture; turfgrass science and management (Department of Plant Sciences).
- Wildlife and fisheries science with concentrations in wildlife and fisheries management and wildlife health (Department of Forestry, Wildlife and Fisheries).

The Department of Entomology and Plant Pathology offers undergraduate courses in support of the above majors and an undergraduate minor. It does not offer an undergraduate major.

The professional degree program in biosystems engineering receives strong support from the College of Engineering and is fully accredited by the Accreditation Board of Engineering and Technology. The forest resources management and wildland recreation concentrations are fully accredited by the Society of American Foresters. The food science and technology program maintains the professional standards as established by the Institute of Food Technologists. The agricultural education concentration meets state of Tennessee teacher education standards.

A pre-veterinary medicine curriculum is offered in the college. This program is designed to prepare students for admission to the College of Veterinary Medicine located on the Knoxville campus. The pre-professional program in food science and technology allows students to be awarded a Bachelor of Science in agriculture with a major in food science after three years and upon successful completion of the first year at UT-Memphis dental, medical or pharmacy programs, or at the University of Tennessee, Knoxville, College of Veterinary Medicine.
Specific degree requirements are given under each of the departmental headings in this section of the catalog. A student must meet all degree requirements as outlined by the department in which he/she is majoring in order to receive a degree. In all majors, particular emphasis is placed upon the sciences that are fundamental to agricultural sciences and natural resources; other courses are included to provide a university general education. In all curricula, there is the opportunity to select elective courses appropriate to the educational objectives of the individual students. The choice of electives in each major should be made with the guidance of the faculty academic advisor. However, it is ultimately the responsibility of the student to understand what is required to earn a degree.

All academic and general requirements of the university as stated in the front section of this catalog must be met by students enrolled in CASNR majors and they must complete the requirements in one of the majors. Students transferring into the College of Agricultural Sciences and Natural Resources from other than the University of Tennessee, Knoxville, must have a grade point average of 2.0.

The use of transfer credit in subject areas appropriate to each organized curriculum will be considered by the student’s academic advisor if deemed appropriate, the petition to apply transfer courses will be processed through departments and submitted to the Dean of the College of Agricultural Sciences and Natural Resources for final approval. All university guidelines and policies must be followed. When desirable, validating or proficiency examinations may be requested to determine competence in an area and to avoid unnecessary repetition. Such examinations should be taken during the first semester in residence and must be conducted under the supervision of the head of the department in which the course is offered.

A minimum of 18 semester hours of upper-division agriculture and natural resources coursework appropriate to a specified major requirement, and approved by the major advisor, must be completed in residence to fulfill the requirements of baccalaureate degrees offered in the college.

A minimum grade point average of 2.0 for all courses taken in the department offering the major/concentration is required. All courses must be passed. A student cannot graduate with a grade of F in any course in the major/concentration. Students must repeat courses in the major/concentration and earn a passing grade prior to the awarding of the degree.

**Selection of a Major**

When registering as freshmen, students who have decided upon their area of study select the major that meets their interests or career goals. A faculty member, from the department that manages the major, will serve as the academic advisor. It is not necessary, however, that freshman students select their major until the end of the first year. Undecided students will be assigned an academic advisor to assist them in exploring College of Agricultural Sciences and Natural Resources programs and to guide them in the planning of appropriate courses of study for the freshman year. Undecided students are encouraged to enroll in Agriculture and Natural Resources 100, Orientation to Studies in Agriculture and Natural Resources, during the fall semester of their first year of enrollment at the University of Tennessee, Knoxville. When they choose a major, an academic advisor will be assigned from the appropriate department.

Students interested in a career with a state’s agricultural extension service should select the agricultural science major and follow the agricultural extension education concentration.

A foundation for advanced study beyond the baccalaureate degree may be established in any major if appropriate electives are included. Most departments offer a science concentration intended for those students who have a strong interest in pursuing graduate studies. A very careful choice of electives enables a student with an excellent academic record to complete a double or triple major by satisfying all the requirements in each major. For this purpose, the academic advisors of each major should be consulted. The academic advisors will work with the student to ensure that degree requirements are met. However, it is ultimately the responsibility of the student to understand what is required to complete multiple majors. Completing multiple majors will normally require more than 124 credit hours for graduation. It is the student’s responsibility to keep academic advisors informed about each major and/or minor he/she is pursuing.

**Satisfactory/No Credit Courses**

Students may include a maximum of 21 hours in non-directed electives taken on a satisfactory/no credit basis in the total hours required for graduation.

**Graduate Studies**

The College of Agricultural Sciences and Natural Resources faculty participates in both master of science and doctoral graduate student education and training. Master of Science study is available from all academic departments. Graduate programs leading to the Doctor of Philosophy degree in animal sciences; biosystems engineering; food technology and science; natural resources; and plants, soils, and insects are available.

**Minimum Requirements for Baccalaureate Degree Programs**

All Bachelor of Science degree programs offered in the college have the following minimum requirements.

- Communicating through Writing – three courses to include English Composition (101-102) and one writing-intensive (WC) course from the university-approved list.
- Communicating Orally – one course from Communication Studies 210 or 240 or a course with an (OC) designation from the university-approved list.
- Quantitative Reasoning – two courses from a two-course mathematics sequence or one mathematics course and one course with a (QR) designation from the university-approved list.
- Arts and Humanities – two courses from the university-approved list.
- Social Sciences – two courses from the university-approved list.
- Biological Sciences – two courses, minimum 6 hours, one course may be a College of Agricultural Sciences and Natural Resources course.
- Physical Sciences – two courses, minimum 6 hours from chemistry, physics, geology, Geography 131-132 (physical geography), Environmental and Soil Sciences 210.

**Note:** At least one of the four biological and physical sciences courses must be a lab course.

- Cultures and Civilizations – two courses from the university-approved list or a two-course sequence in a foreign language at the intermediate level (200-level).
- Computer Technology/Applications – one course from Agriculture and Natural Resources 290 or a course in which computer technology is an integral and necessary component and is approved by the College of Agricultural Sciences and Natural Resources Undergraduate Council as such.
- Major courses – minimum of 22 hours in the major to include an orientation course (Agriculture and Natural Resources 100 or an equivalent orientation course in the department or university).

For a total of 120 hours minimum.

**Selection of a Minor**

Students may have a single or multiple minors in any of the University of Tennessee, Knoxville, colleges recorded on their transcripts without regard to course overlap among majors and
Minors and Departments

• Agricultural economics and business (Department of Agricultural Economics).
• Animal science (Department of Animal Science).
• Biosystems engineering technology (Department of Biosystems Engineering and Soil Science).
• Entomology and plant pathology (Department of Entomology and Plant Pathology).
• Environmental and soil sciences (Department of Biosystems Engineering and Soil Science).
• Forestry (Department of Forestry, Wildlife and Fisheries).
• Food science and technology (Department of Food Science and Technology).
• Plant sciences (Department of Plant Sciences).
• Wildlife and fisheries science (Department of Forestry, Wildlife and Fisheries).

Independent Study

Independent study, special topics courses, and seminars offered in each department provide exceptional students the opportunity to explore in greater depth subject matter of unusual significance to agriculture and natural resources. Students gain experience and are encouraged to assume responsibilities not available in formally organized courses. Working with students and faculty from all phases of agriculture and natural resources in the study of a common problem provides an exciting experience.

Students may also earn academic credit for faculty-guided international study. Students should consult with their academic advisors, department heads, or the Assistant Dean for Academic Programs about international experiences in agriculture and natural resources.

CASNIR Honors Research and Creative Achievements Program

The CASNR Honors Research and Creative Achievements Program is designed to allow students to expand and improve their critical thinking and analytical skills while pursuing the baccalaureate degree in the college. Students in this program will complete an Honors project, related to research, teaching or extension, under the guidance of a faculty member, and report that work in both written and oral format in a one-hour course, Agriculture and Natural Resources 498. The program objectives are

• to increase the scope of educational attainment by providing a program with greater breadth and depth.
• to provide special recognition for outstanding scholastic achievement.
• to foster a sustained interest in advanced education, research and creative achievement.

To be eligible, a student must be a junior, senior, or second semester junior transfer student with a minimum grade point average of 3.25. Additionally, once a student is admitted to the program, he/she must maintain a GPA of 3.25 or above. Students will be invited by the college to participate in the program the first semester they are eligible and once per academic year thereafter. Students must apply for the program and be approved by a College Honors Committee. This application includes details of the proposed research, teaching or extension project. Upon admission, the student can enroll in Agriculture and Natural Resources 497, Honors Project (repeatable for a maximum of 6 hours), or departmental independent study credit. The student should enroll during the semester(s) that he/she is actively working on the project. Some departments may elect to allow some or all of this credit to count toward graduation requirements. Upon completion of their work, students must enroll in Agriculture and Natural Resources 498, Honors Presentations (1). Students prepare a written report and give an oral presentation to the Committee and interested individuals.

Participation in and completion of a CASNR Honors Research and Creative Achievements Program participant. More detailed information is available from the college dean’s office.

Course Load

Students desiring to take more than 19 hours per semester must have the approval of their academic advisor and the dean of the college.

Transfer Students

Students who transfer to the College of Agricultural Sciences and Natural Resources from another institution or from another college at the University of Tennessee, Knoxville, should contact the specific department of the major they wish to follow for assignment to an appropriate advisor. If the student is unsure of the specific major, he/she should contact the dean’s office. Requests for substitutions (application of transfer credit to meet degree requirements if not already assigned through the Degree Audit Report System) or special examinations should be submitted for consideration during the first semester of study in the selected major.

DEPARTMENT OF AGRICULTURAL ECONOMICS

http://economics.ag.utk.edu/

Dan L. McLemore, Head

Professors
Brooker, J.R., PhD .............................................. Florida
Cross, T.L. (Assistant Dean), PhD ...................... Oregon State
English, B.C., PhD ........................................... Iowa State
Garland, C.D., PhD ........................................ Tennessee
Gerloff, D.G., PhD ........................................ Texas A&M
Hall, C.R., PhD ............................................. Mississippi State
Jensen, K.L., PhD ........................................... Oklahoma State
Klindt, T.H. (Associate Dean), PhD ..................... Kentucky
McLemore, D.L., PhD ..................................... Clemson
Orr, R.H., PhD ............................................... Illinois
Park, W.M., PhD .............................................. Virginia Tech
Rawls, E.L., PhD .............................................. Virginia Tech
Ray, D.E., PhD ............................................... Iowa State
Riley, J.B., PhD ............................................... Oklahoma State
Roberts, R.K., PhD ........................................ Iowa State
Smith, G.F., PhD ............................................. Tennessee

Associate Professors
De La Torre Ugarte, D.G., Ph D ............................ Oklahoma State
Larson, J.A., PhD ............................................. Oklahoma State
Yen, S.T., PhD ................................................ Minnesota

Assistant Professors
Bazen, E.F., PhD ............................................. Kentucky
Cho, S.H., PhD ............................................... Oregon State
Clark, C.D., PhD ............................................. Vanderbilt
Tiller, K.H., PhD ............................................. Tennessee
Students majoring in agricultural economics and business study the functioning of the agricultural sector of the global economic system and economic principles for decision making by business managers, consumers, policymakers and others within that system. Students complete a curriculum designed to provide them with a broad-based education and the specialized skills necessary for a successful career in the agribusiness industry or with a related organization or public agency. The curriculum builds upon the university-wide general education requirements by adding a set of directed electives from within the College of Agricultural Sciences and Natural Resources, a set of core courses from within the College of Business Administration, and a set of required courses within the Department of Agricultural Economics. Students then are able to customize their program by selecting among upper-division electives within the department. General elective hours in the curriculum also allow flexibility for students to pursue a minor within some area of technical agriculture or another field such as communications. Students have ample opportunity to develop strong microcomputer skills and gain practical real-world experiences through case study analyses, the NAMA marketing team, internships, and extracurricular activities.

Students graduating with a major in agricultural economics and business are prepared for a wide variety of careers. Many graduates take positions as managers of businesses involved in processing farm inputs, supplies, production of agricultural commodities, or processing of food products. Other graduates become marketing representatives or serve in a customer or public relations role. Quite a number of graduates establish careers in financial institutions, insurance agencies, or real estate companies. Many industry organizations and government agencies also have employment opportunities for our graduates. It is not uncommon for our graduates to take positions with businesses that are outside the food and agricultural industry. Graduates also find themselves well prepared for graduate study in agricultural economics or agribusiness management, as well as for professional programs such as law.

**Requirements for the Bachelor of Science in Agriculture • Agricultural Economics and Business Major**

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Economics 110</td>
<td>1</td>
</tr>
<tr>
<td>Agriculture and Natural Resources 290</td>
<td>3</td>
</tr>
<tr>
<td>Biological Science Electives*</td>
<td>8</td>
</tr>
<tr>
<td>Cultures and Civilizations Electives*</td>
<td>6</td>
</tr>
<tr>
<td>English 111*, 112*</td>
<td>8</td>
</tr>
<tr>
<td>Mathematics 123*, 125*</td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting 200</td>
<td>3</td>
</tr>
<tr>
<td>Agricultural Economics 212</td>
<td>3</td>
</tr>
<tr>
<td>Animal Science 280 or 381</td>
<td>3</td>
</tr>
<tr>
<td>Economics 201*</td>
<td>4</td>
</tr>
<tr>
<td>Arts and Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Physical Sciences Electives*</td>
<td>3</td>
</tr>
<tr>
<td>Environmental and Soil Science 210 or Plant Sciences 335</td>
<td>3-4</td>
</tr>
<tr>
<td>Statistics 210*</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Economics 310, 320, 342, 350, 412</td>
<td>13</td>
</tr>
<tr>
<td>Agricultural and Extension Education 440* or English 360* or Journalism and Electronic Media 201*</td>
<td>3</td>
</tr>
<tr>
<td>Non-departmental Agricultural Electives</td>
<td>6</td>
</tr>
<tr>
<td>Psychology 110* or Political Science 102* or Sociology 120*</td>
<td>3</td>
</tr>
</tbody>
</table>

**Communication Studies 210* or 240* | 3**

**Statistics 320 or 365 | 3**

**Fourth Year**

<table>
<thead>
<tr>
<th>Courses</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Economics 410</td>
<td>1</td>
</tr>
<tr>
<td>Agricultural Economics or Rural Sociology Electives</td>
<td>15</td>
</tr>
<tr>
<td>Economics 313</td>
<td>3</td>
</tr>
<tr>
<td>Arts and Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>8-9</td>
</tr>
</tbody>
</table>

* Meets University General Education Requirement.
* 1 Selected from Biology 101 and 102, 111 and 112, or 130 and 140.
* 2 Choose any course from the University General Education list.
* 3 Selected from Chemistry 100, 110, 120, 130; Geography 131, 132; or Biology 101, 102, 103.
* 4 A minimum of 9 credit hours must be taken from the following courses: Agricultural Economics 315, 330, 337, 355, 360, 420, 430, 442, 444, 450, 470. A maximum of 3 credit hours can be used from each of the following courses: Agricultural Economics 356, 492, and 493.

**DIRECTED ELECTIVES FOR AGRICULTURAL ECONOMICS AND BUSINESS MAJOR**

<table>
<thead>
<tr>
<th>Non-departmental Agricultural Electives</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal Science 280, 381; Biosystems Engineering Technology 202; Entomology and Plant Pathology 201, 313, 321; Environmental and Soil Sciences 210; Food Science and Technology 150; Forestry, Wildlife and Fisheries 211, 250; Plant Sciences 335</td>
<td></td>
</tr>
</tbody>
</table>

**AGRICULTURAL EQUIPMENT SYSTEMS MANAGEMENT CONCENTRATION**

The agricultural equipment systems management concentration is a unique interdisciplinary program that combines courses from the agricultural economics and business program and the biosystems engineering technology program. Students develop a high degree of technical expertise with respect to agricultural equipment, as well as the ability to apply sound business and economic principles to management of a business. Graduates are particularly well prepared for career opportunities in the agricultural machinery industry as dealerships, as well as with agribusiness firms in operations management.

Students in this concentration are strongly encouraged to obtain an industry internship that will complement their academic program.

**Requirements for the Bachelor of Science in Agriculture • Agricultural Economics and Business Major • Agricultural Equipment Systems Management Concentration**

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Economics 110</td>
<td>1</td>
</tr>
<tr>
<td>Agriculture and Natural Resources 290</td>
<td>3</td>
</tr>
<tr>
<td>Biology 111*, 112*</td>
<td>8</td>
</tr>
<tr>
<td>Cultures and Civilizations*</td>
<td>6</td>
</tr>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 123*, 125*</td>
<td>6</td>
</tr>
<tr>
<td>Accounting 200</td>
<td>3</td>
</tr>
<tr>
<td>Agricultural Economics 212</td>
<td>3</td>
</tr>
<tr>
<td>Biosystems Engineering Technology 202</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry 120*</td>
<td>4</td>
</tr>
<tr>
<td>Economics 201*</td>
<td>4</td>
</tr>
<tr>
<td>Arts and Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Physics 161*</td>
<td>3</td>
</tr>
<tr>
<td>Environmental and Soil Science 210</td>
<td>4</td>
</tr>
<tr>
<td>Statistics 201*</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Economics 310, 320, 342, 350, 412</td>
<td>13</td>
</tr>
<tr>
<td>Agricultural and Extension Education 440* or English 360* or Journalism and Electronic Media 201*</td>
<td>3</td>
</tr>
<tr>
<td>Arts and Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Psychology 110* or Political Science 102* or Sociology 120*</td>
<td>3</td>
</tr>
<tr>
<td>Communication Studies 210* or 240*</td>
<td>3</td>
</tr>
</tbody>
</table>
Agricultural and Natural Resources (Interdepartmental Unit)

Agriculture and Natural Resources is an interdepartmental unit that offers a general agricultural science major with concentrations in agricultural education and agricultural extension education. The major is designed for students who want a broad, general background in agriculture and natural resources and wish to pursue careers in non-formal agricultural education, agricultural communications or agriculture public relations. The agricultural education concentration leads to teacher licensure in agricultural sciences in the State of Tennessee. The agricultural extension concentration is designed for those interested in agricultural extension careers. This major is also designed for students who want an individualized plan of study. Plans need to be submitted before the junior year and approved by the advisor, department head, and the dean’s office.

Students who are undecided as to their studies in agriculture and natural resources are advised to follow the agricultural science program and explore the different majors available in the college. They should work with their assigned advisor to eventually choose one of the agricultural sciences minors. Students in the agricultural education and agricultural extension education concentrations or one of the minors offered by the College of Communication and Information should follow the appropriate concentration and work with faculty in agricultural and extension education housed in Morgan Hall.

Agricultural Science Major

Requirements for the Bachelor of Science in Agriculture

• Agricultural Science Major

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture and Natural Resources 100</td>
<td>1</td>
</tr>
<tr>
<td>Agriculture and Natural Resources 290</td>
<td>3</td>
</tr>
<tr>
<td>Animal Science 160</td>
<td>3</td>
</tr>
<tr>
<td>Biology 130* or 140*</td>
<td>3</td>
</tr>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 113* and Quantitative Reasoning course*</td>
<td>6</td>
</tr>
<tr>
<td>Plant Sciences 120</td>
<td>2</td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural and Extension Education 211</td>
<td>3</td>
</tr>
<tr>
<td>Agricultural Economics 212</td>
<td>3</td>
</tr>
<tr>
<td>Food Science and Technology 101</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry 100*-110* or 120*-130*</td>
<td>8</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 210</td>
<td>4</td>
</tr>
</tbody>
</table>

* Meets University General Education Requirement.

1 Choose any course from University General Education list.

2 A minimum of 6 credit hours must be taken from the following list of courses: Agricultural Economics 315, 330, 337, 355, 360, 420, 430, 444, 450, 470. A maximum of 3 credit hours can be used from each of the following courses: Agricultural Economics 356, 492, and 493.

Minor in Agricultural Economics and Business

**Required Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economics 201*</td>
<td>4</td>
</tr>
<tr>
<td>Accounting 200</td>
<td>3</td>
</tr>
<tr>
<td>Agricultural Economics Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

Total 22

Agricultural and Extension Education Concentration

Plant Sciences 335 
Economics 201* 
Communication Studies 210* or 240*

**Third Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Economics 342</td>
<td>3</td>
</tr>
<tr>
<td>Entomology and Plant Pathology 313 or 321</td>
<td>3</td>
</tr>
<tr>
<td>1 2* Cultures and Civilizations Elective*</td>
<td>3</td>
</tr>
<tr>
<td>1 2* Arts and Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Plant Sciences 330 or 430</td>
<td>2-3</td>
</tr>
</tbody>
</table>

* Meets University General Education Requirement.

1 Choose from the University General Education lists.

2 One of the University General Education Electives, Agricultural Sciences and Natural Resources Electives, or Free Electives must be a writing-intensive (WC) course.

3 Students should select one of the minors offered by the College of Agricultural Sciences and Natural Resources (agricultural economics, animal science, biosystems engineering technology, entomology and plant pathology, environmental and soil sciences, food science and technology, forestry, plant sciences, wildlife and fisheries science) or one of the minors in the College of Communication and Information (see listing in this catalog) or submit an individualized plan of study before the third year for approval by the advisor, department head, and the Dean’s Office. If the minor is less than 21 hours, the excess hours will become free electives.

Agricultural Education Concentration

http://aee.tennessee.edu/

**Professor**

Waters, R.G., PhD 
Penn State

**Assistant Professor**

Fritz, C.A., PhD 
Iowa State

**Emeriti Faculty**

Lessly, R.R., EdD 
Oklahoma State

Todd, J.D., EdD 
Illinois

The agricultural education concentration is designed to prepare students to meet teacher certification requirements for agricultural education in the public schools. Teacher certification is given in collaboration with the College of Education, Health, and Human Sciences. Progression toward completion of a degree and licensure in agricultural education requires acceptance to the teacher education program by a board of admissions. The admissions process begins at the time of matriculation at the University of Tennessee, Knoxville, whether the student enters as a freshman or transfer student.

Students must maintain a 2.7 undergraduate cumulative GPA to be admitted to the teacher education program. It is important to note that all professional education courses must be passed with a minimum letter grade of C or better or they must be repeated.

Requirements for the Bachelor of Science in Agriculture

• Agricultural Science Major • Agricultural Education Concentration

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture and Natural Resources 100</td>
<td>1</td>
</tr>
<tr>
<td>Agriculture and Natural Resources 290</td>
<td>3</td>
</tr>
<tr>
<td>Animal Science 160</td>
<td>3</td>
</tr>
<tr>
<td>Biology 130* or 140*</td>
<td>3</td>
</tr>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 113* and Quantitative Reasoning course*</td>
<td>6</td>
</tr>
<tr>
<td>Plant Sciences 120</td>
<td>2</td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural and Extension Education 211</td>
<td>3</td>
</tr>
<tr>
<td>Agricultural Economics 212</td>
<td>3</td>
</tr>
<tr>
<td>Food Science and Technology 101</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry 100*-110* or 120*-130*</td>
<td>8</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 210</td>
<td>4</td>
</tr>
</tbody>
</table>

**Third Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Economics 342</td>
<td>3</td>
</tr>
<tr>
<td>Entomology and Plant Pathology 313 or 321</td>
<td>3</td>
</tr>
<tr>
<td>1 2* Cultures and Civilizations Elective*</td>
<td>3</td>
</tr>
<tr>
<td>1 2* Arts and Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Plant Sciences 330 or 430</td>
<td>2-3</td>
</tr>
</tbody>
</table>

**Fourth Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Economics 342</td>
<td>3</td>
</tr>
<tr>
<td>Entomology and Plant Pathology 313 or 321</td>
<td>3</td>
</tr>
<tr>
<td>1 2* Cultures and Civilizations Elective*</td>
<td>3</td>
</tr>
<tr>
<td>1 2* Arts and Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Plant Sciences 330 or 430</td>
<td>2-3</td>
</tr>
</tbody>
</table>

Agricultural and Extension Education 211 3
Agricultural and Extension Education 201 1
Biosystems Engineering Technology 202 3
Chemistry 100*-110* or 120*-130* 8
Environmental and Soil Sciences 210 4
Food Science and Technology 269 2
1. Arts and Humanities Elective 3
Plant Sciences 120 and 335 5
1. Social Sciences Elective* 3

**Third Year**

Agricultural Economics 342 3
Agricultural and Extension Education 345 3
Educational Psychology 210 3
Cultural Studies in Education 400 2
Educational Psychology 401 2
Special Education 402 2
Entomology and Plant Pathology 313 or 321 3
1. Arts and Humanities Elective* 3
2. Health Elective 3
Plant Sciences 330 or 430 2-3

**Fourth Year**

Agricultural and Extension Education 435 and 436 12
Agricultural and Extension Education 434 3
Animal Science 381 3
Biosystems Engineering Technology 452 3
1. Arts and Humanities Elective* 3
2. Health Elective 3
Free Electives 1-2

Total 124

* Meets University General Education Requirement.
1. Choose from the University General Education lists.
2. One of the University General Education Electives or Free Electives must be a writing-intensive (WC) course.
3. Health elective list is available and should be selected in conference with academic advisor.

**AGRICULTURAL EXTENSION EDUCATION CONCENTRATION**

[http://aee.tennessee.edu/](http://aee.tennessee.edu/)

**Professor**

Waters, R.G., PhD  Penn State

**Assistant Professor**

Fritz, C.A., PhD  Iowa State

**Emeriti Faculty**

Lessly, R.R., EdD  Oklahoma State

Todd, J.D., EdD  Illinois

The agricultural extension education concentration is designed to prepare students to gain the agricultural and educational skills necessary to work in the national Cooperative Extension System or the Agricultural Extension Service in Tennessee.

The agricultural extension agent is a generalist in agriculture who plans and delivers non-formal educational programs for local citizens and community groups. The extension agent has an understanding of community needs, educational program planning, and the non-formal learner, as well as a broad background in the disciplines of agriculture and natural resources.

Students must maintain a 2.7 undergraduate cumulative GPA to be considered for employment in the Tennessee Agricultural Extension Service. Other states may or may not have established GPA requirements for employment.

**Requirements for the Bachelor of Science in Agriculture**

**Agricultural Science Major**

**Agricultural Extension Education Concentration**

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural and Extension Education 211</td>
<td>3</td>
</tr>
<tr>
<td>Agriculture and Natural Resources 100</td>
<td>1</td>
</tr>
<tr>
<td>Agriculture and Natural Resources 290</td>
<td>1</td>
</tr>
<tr>
<td>Animal Science 280</td>
<td>3</td>
</tr>
<tr>
<td>Biology 101*—102* or 130*-140*</td>
<td>8</td>
</tr>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
</tbody>
</table>

**Second Year**

Agricultural and Extension Education 201 1
Agricultural Economics 212 3
Animal Science 220 3
Chemistry 100*, 110* or 120*-130* 8
Economics 201* 4
Psychology 110* 3
Environmental and Soil Sciences 210 4
Plant Sciences 120 2
Communication Studies 210* 3

**Third Year**

Agricultural and Extension Education 345 3
Agricultural Economics 342 3
Animal Science 330 3
Entomology and Plant Pathology 313 (recommended course) or 321 3
Environmental and Soil Sciences 344 3
Food Science and Technology 269 2
Forestry, Wildlife and Fisheries 250 3
1. Arts and Humanities Elective* 3
2. Health Elective 3
Plant Sciences 335 3

**Fourth Year**

2. Agricultural Sciences and Natural Resources Electives 3
Animal Science 381 3
Agricultural and Extension Education 434 3
Biosystems Engineering Technology 432 3
Biosystems Engineering Technology 442 3
Biosystems Engineering Technology 462 3
2. Free Electives 7-8
1. Arts and Humanities Elective* 3
2. Health Elective 3
Plant Sciences 330 or 430 2-3

Total 124

* Meets University General Education Requirement.
1. Choose from the University General Education lists.
2. One of the University General Education Electives or Free Electives must be a writing-intensive (WC) course.

**DEPARTMENT OF ANIMAL SCIENCE**

[http://animalscience.ag.ukt.edu/](http://animalscience.ag.ukt.edu/)

Alan G. Mathew, Head

**Professors**

Conatser, G.E., MS  Kentucky
Godkin, J.D., PhD  Kansas
Hopkins, F., DVM  Tennessee
Kattesh, H.G., PhD  Virginia Tech
Kirkpatrick, F.D., PhD  Texas A&M
Lane, C.D., PhD  Tennessee
Mathew, A.G., PhD  Purdue
Neel, J.B., PhD  Texas A&M
Oliver, S.P., PhD  Ohio State
Robbins, K.R., PhD  Illinois
Rogers, G.W., PhD  North Carolina State
Saxton, A., PhD  North Carolina State
Smith, M.O., PhD  Oklahoma State

**Associate Professors**

Griszle, J.M., PhD  Florida
Harper, F., PhD  Rutgers
Heitmann, R.N., PhD  Maine
Schrick, F.N., PhD  Clemson
Waller, J.C., PhD  Nebraska

**Assistant Professors**

Edwards, J.L., PhD  Florida
Krugman, C.J., PhD  Missouri
Lin, J., PhD  Ohio State
Pighetti, G.P., PhD  Penn State
Richards, C.J., PhD  Kentucky
The curriculum is designed to prepare students for leadership careers in livestock production and related industries. Courses in horse, swine, poultry, sheep, dairy, beef cattle and companion, zoo and lab animal production and management may be elected, providing the opportunity for special or additional training in the dynamic livestock and husbandry technology (production) areas.

Through course selection, students may prepare for general or livestock farming, management, business, or science, or elect the pre-veterinary courses preparatory for specialization. Elective selection permits special training for work with feed companies, meat animal, milk, egg, or poultry production, managerial or marketing groups, other educational agencies, supply and equipment business, agricultural extension services, agricultural communication, public relations, and various organizations associated with agriculture.

For a complete list of accepted directed electives appearing in the showcases below see the departmental Undergraduate Advising Guide at http://www.animalscience.utk.edu/undr_guide.htm.

### ANIMAL SCIENCE MAJOR PRODUCTION/BUSINESS/COMMUNICATION CONCENTRATION

#### Requirements for the Bachelor of Science in Animal Science • Animal Science Major • Science/Technology Concentration

<table>
<thead>
<tr>
<th>Year</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td></td>
<td>124</td>
</tr>
<tr>
<td>Second</td>
<td></td>
<td>23</td>
</tr>
<tr>
<td>Third</td>
<td></td>
<td>30</td>
</tr>
<tr>
<td>Fourth</td>
<td></td>
<td>20</td>
</tr>
</tbody>
</table>

#### First Year
- Animal Science 160 ✡
- Biology 130* or 140*
- English 101* or 102*
- Mathematics 125* or 141* or 151* or 161* or 171* or 193* or 194*
- Chemistry 100*-110* or 120*-130*

#### Second Year
- Animal Science 220, 280*
- Agriculture and Natural Resources 290
- Environmental and Soil Sciences 210
- Economics 201*
- Arts and Humanities Electives* ✡
- Business Administration minor or
  - Agricultural Economics and Business minor or
  - Communication and Information minor
- Social Science Elective*

#### Third Year
- Animal Science 320, 330, 340, 380, 395
- Biological Science Restricted Elective
- Arts and Humanities Electives*
- Animal Science 360*
- Business Administration minor or
  - Agricultural Economics and Business minor or
  - Communication and Information minor

#### Fourth Year
- Animal Science 430, 495
- Select two courses from: Animal Science 481, 482, 483, 484; 485 or 489
- Business Administration minor (10 credits) or
  - Agricultural Economics and Business minor (9 credits) or
  - Communication and Information minor (9 credits) or
- Free Electives

* Meets University General Education Requirement.
1 Courses selected from the University General Education lists. Animal Science 280 satisfies the WC requirement. Animal Science 360 satisfies the OC requirement.
2 Requirements for the business administration minor are Accounting 200 (3); Economics 201 (4); Statistics 201 (3); Business Administration 201 (4); Finance 301 (3); Marketing 300 (3); Management 300 (3). Total 23 hours.
3 Requirements for the agricultural economics and business minor are Economics 201 (4); Accounting 200 (3); Agricultural Economics 212, 342, 350, 412 (12); Agricultural Economics elective (Total 22 hours.
4 Requirements for the communication and information minor are Communication and Information 150 (3); select 6 hours from Advertising 225, Communication Studies 201; Information Sciences 102; Journalism and Electronic Media 200 or 275, or Public Relations 270; select 9 hours of 300-level or above from one or more of the following areas: advertising, communication studies, information sciences, journalism and electronic media, or public relations. Total 18 hours.

### SCIENCE/TECHNOLOGY – PRE-VETERINARY MEDICINE CONCENTRATION

#### Requirements for the Bachelor of Science in Animal Science • Animal Science Major • Science/Technology – Pre-Veterinary Medicine Concentration

<table>
<thead>
<tr>
<th>Year</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td></td>
<td>124</td>
</tr>
<tr>
<td>Second</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Third</td>
<td></td>
<td>36</td>
</tr>
<tr>
<td>Fourth</td>
<td></td>
<td>22</td>
</tr>
</tbody>
</table>

#### First Year
- Animal Science 160
- Biology 130* or 140*
- English 101* or 102*
- Mathematics 125* or 141* or 151* and second approved Quantitative Reasoning course
- Chemistry 120* or 130*

#### Second Year
- Animal Science 220, 280*
- Agriculture and Natural Resources 290
- Communication Studies 210 or 240* or Animal Science 360*
- Arts and Humanities Elective*
- Economics 201*
- Physical Science and Mathematics Restricted Elective
- Biological Science Restricted Elective

#### Third Year
- Animal Science 320, 330, 340, 380, 395
- Biological Science Restricted Elective
- Physical Science and Mathematics Restricted Elective
- Arts and Humanities Elective*
- Business Elective
- Free Electives

* Meets University General Education Requirement.
1 Courses selected from University General Education lists. Animal Science 280 satisfies the WC requirement. Animal Science 360 satisfies the OC requirement.
Students must begin this program early in the pre-veterinary curriculum. The following (or approved equivalents) must be 
completed before entering the College of Veterinary Medicine.

**PRE-VETERINARY MEDICINE PROGRAM (3+1)**

This program allows students to be awarded a Bachelor of Science in Animal Science after the successful completion of the first two semesters in the College of Veterinary Medicine (CVM). Students must begin this program early in the pre-veterinary curriculum. The specific requirements are as follows.

- Completion of all pre-veterinary requirements.
- At least 12 hours of upper-division (300- and 400-level courses) technical agriculture courses must be taken at the University of Tennessee, Knoxville.
- In addition to all the required pre-veterinary medical courses, the following (or approved equivalents) must be completed before entering the College of Veterinary Medicine.

**Chemistry 350, 360, and 369** .................................................. 8
**Physics 221*-222* ** ...................................................... 8

* Meets University General Education Requirement.

**Second Year**

Chemistry 120*-130* ................................................... 8

**Third Year**

Animal Science 160 .................................................. 3
Biology 240 ......................................................... 4

**Minor in Animal Science**

Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal Science 220</td>
<td>3</td>
</tr>
<tr>
<td>Animal Science 280</td>
<td>3</td>
</tr>
<tr>
<td>Animal Science 381</td>
<td>3</td>
</tr>
<tr>
<td>Animal Science 480 series</td>
<td>3</td>
</tr>
</tbody>
</table>

Nine credits from Animal Science 320, 330, 340, 360, 380, 420, 430, and the 480 Series ................. 9

Total 21

NOTE: The core courses give the student a broad background in physiology, nutrition, and management. Careful selection of the directed electives allows the student to emphasize physiological reproduction, nutrition, or management.

**DEPARTMENT OF BIOSYSTEMS ENGINEERING AND SOIL SCIENCE**

http://bioengr.ag.utk.edu

Ike Sewell, Interim Head

**Professors**

Ammons, J.T., PhD .................................................. West Virginia
Ayers, P.D., PhD, PE ............................................. North Carolina State
Buschermohle, M.J., PhD ......................................... Clemson
Essington, M.E., PhD ............................................. California (Riverside)
Freeland, R.S., PhD, PE .......................................... Tennessee
Mote, C.R. (Assistant Dean, Tennessee Agricultural Experiment Station), PhD, PE ........................ Ohio State
pre-professional concentration is available. The degree program systems and their components is emphasized in the senior year. biological and agricultural systems. Comprehensive design of try and geometry. Otherwise, the general admission require-
ments; safer machinery systems with lower environmental impact and conserve water resources; biological waste treatment sys-
ments, or management of practices that minimize soil erosion below. Program details are given in the showcase curricula and the
higher education in Biosystems Engineering and Bachelor of Science in Envi-
romental and Soil Sciences. Biosystems engineering is a four-
year, ABET-accredited engineering program emphasizing engi-
neering applications to biological systems. Environmental and soil sciences is a strong science-based program for students interest-
ed in environmental science, soil science, and agricultural sys-
tems technology. Minors in either environmental and soil sciences or in biosystems engineering technology are also available. More detailed descriptions of each program are included with the cur-
ricular material that follows.

In order to provide students with the best advice concerning course selection, general academic success, and career choices, the programs within the Department of Biosystems Engineer-
ing and Soil Science require that all undergraduate students meet with their academic advisors every semester before regist-
ering for classes.

BIOSYSTEMS ENGINEERING MAJOR

Advisors
Ayers, Freeland, Hart, Hayes, Raman, Wilkerson, Womac, Yoder

The College of Agricultural Sciences and Natural Resources, in cooperation with the College of Engineering, offers a four-year cur-
riculum leading to the Bachelor of Science in Biosystems Engineering. The curriculum is accredited by the Engineering Commis-
sion of the Accreditation Board for Engineering and Technology (ABET). Overall goals of the program are emphasized in the edu-
cational objectives and program outcomes statements listed below. Program details are given in the showcase curricula and the individual course descriptions.

Career opportunities for graduates include the design, develop-
ment, or management of practices that minimize soil erosion and conserve water resources; biological waste treatment sys-
tems; safer machinery systems with lower environmental impact and improved food and bio-processing systems. Employment opportunities are available in a wide variety of industries, govern-
ment agencies, research and testing organizations, and educa-
tional and non-profit institutions.

The mathematics requirement for freshman admission to the biosystems engineering program is 3½ units, including trigonometry and geometry. Otherwise, the general admission require-
ments of the university apply.

The curriculum provides instruction in the analytical and design skills needed to solve engineering problems related to biological and agricultural systems. Comprehensive design of systems and their components is emphasized in the senior year. In addition to the standard biosystems engineering curriculum, a pre-professional concentration is available. The degree program has provisions for elective courses to be taken in specified sub-
ject areas. Students should outline a plan for all such electives not later than their second year of study. Proper scheduling of courses is very important since prerequisite requirements must be met. Students must consult with their advisors each semester to review their scheduling plan.

Students majoring in biosystems engineering are eligible to participate in the Engineering Cooperative Scholarship Program and other student activities in the College of Engineering. Biosys-
tems engineering majors interested in the Engineering Cooperative Scholarship Program should consult with their faculty advisor or the head of the Biosystems Engineering and Soil Science Department, (865) 974-7266; e-mail bess@utk.edu.

The biosystems engineering program at the University of Ten-
nessee, Knoxville, has specific educational objectives that follow the objectives of the University of Tennessee Institute of Agricult-
ture. In order to meet the Institute’s objectives, program gradu-
ates will receive the educational tools necessary to perform as entry-level engineering professionals. Recent graduates are to be:

• Competitive in seeking employment at the regional and national levels.
• Aware of meeting their own and societal needs consistent with the goals of life-long learning, professional ethics, and leadership.
• Performing as entry-level engineers in a manner that pos-
itively reflects on the overall program’s reputation.

Program Outcomes
To achieve the educational objectives listed above, a series of program outcomes have been adopted. These program out-
comes provide specific measures to determine the degree of success in meeting each of the educational objectives. These outcomes are as follows.

• An ability to apply knowledge of mathematics, science, and engineering.
• An ability to design and conduct experiments, as well as to analyze and interpret data.
• An ability to design a system, component, or process to meet desired needs.
• An ability to function on multi-disciplinary teams.
• An ability to identify, formulate, and solve engineering problems.
• An understanding of professional and ethical responsibili-
ty.
• An ability to communicate effectively.
• The broad education necessary to understand the impact of engineering solutions in a global and societal context.
• A recognition of the need for, and an ability to engage in, life-long learning.
• A knowledge of contemporary issues.
• An ability to use the techniques, skills, and modern engi-
neering tools necessary for engineering practice.
• An understanding of the complexity of biological systems, and the ability to apply engineering principles to those systems.

One of the primary tools engineers bring to the solution of many problems is a mastery of mathematics, so mathematical competence is a critical component of an engineering education. In order to graduate with a major in biosystems engineering, stu-
dents must display this competence by achieving an average GPA of at least 2.0 in the required mathematics courses. It is the student’s responsibility to work with their academic advisor in assuring that they meet this requirement.
## Requirements for the Bachelor of Science in Biosystems Engineering • Biosystems Engineering Major

### First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biosystems Engineering 104</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Engineering Fundamentals 105, 151, 152, 202</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>1Chemistry 120*</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>1Mathematics 141*, 142*</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>1English 101*, 102*</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>3Cultures and Civilizations Elective*</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

### Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biosystems Engineering 201, 221, 231, 321</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Mechanical Engineering 231, 321</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Nuclear Engineering 203</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Mathematics 231, 241</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>Microbiology 210*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 210</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>3Arts and Humanities Elective*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>3Cultures and Civilizations Elective*</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

### Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biosystems Engineering 411, 416, 431, 451</td>
<td></td>
<td>13</td>
</tr>
<tr>
<td>Statistics 251</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Electrical and Computer Engineering 301</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Mathematics 200</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>4Fluid Science Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>5Technical Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>3Arts and Humanities Elective*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>English 360*</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

### Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biosystems Engineering 401*, 402, 404, 444</td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>5Technical Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Economics 201 (Social Sciences Elective)*</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>3Social Sciences Elective*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>3Arts and Humanities Elective*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>3Cultures and Civilizations Elective*</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

### Total 128

* Meets University General Education Requirement.
1 Or equivalent honors course.
2 If mathematics placement test does not indicate placement into at least Mathematics 141, discuss mathematics options with advisor.
3 Select from the corresponding University General Education list after consultation with advisor.
4 Select from Civil and Environmental Engineering 390 or Aerospace Engineering 341 after consultation with advisor.
5 Typically, upper-division courses in engineering or related areas. Must be approved in advance by advisor.

## Pre-Professional Concentration

The pre-professional concentration provides comprehensive training in biosystems engineering while preparing the student for candidacy to medical school. While this program meets most of the general published pre-medical requirements, it is the student’s responsibility to work with an academic advisor to ensure that his or her program meets the demands of specific schools.

### Requirements for the Bachelor of Science in Biosystems Engineering • Biosystems Engineering Major • Pre-Professional Concentration

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biosystems Engineering 104</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Engineering Fundamentals 105, 151, 152, 202</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>1Chemistry 120*, 130*</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>1Mathematics 141*, 142*</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>1English 101*, 102*</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>3Arts and Humanities Elective*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>3Cultures and Civilizations Elective*</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

### Total 128

* Meets University General Education Requirement.
1 Or equivalent honors course.
2 If mathematics placement test does not indicate placement into at least Mathematics 141, discuss mathematics options with advisor.
3 Select from Civil and Environmental Engineering 390 or Aerospace Engineering 341 after consultation with advisor.
4 Select from the corresponding University General Education list after consultation with advisor.
5 Typically, upper-division courses in engineering or related areas. Must be approved in advance by advisor.

## Minor in Biosystems Engineering Technology

### Advisors
Ayers, Freeland, Hart, Wilkerson, Womac, Yoder

No baccalaureate degree program is offered in biosystems engineering technology; however, seven undergraduate courses are offered to prepare students in other disciplines to apply elementary principles, techniques, and systems of engineering to the broad industry of agriculture.

### Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biosystems Engineering Technology 202 or 212, 326, and 432</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>Select three from 414, 422, 434, 442, 452, 462, 474</td>
<td></td>
<td>9</td>
</tr>
</tbody>
</table>

### Total 18

## ENVIRONMENTAL AND SOIL SCIENCES MAJOR

### Advisors
Eash, Essington, Hart, Lee, Logan, Radosевич

Many human activities adversely impact soil, water, and environmental quality. The Bachelor of Science in Environmental and Soil Sciences provides students with a strong grounding in basic sciences and technology to prepare them for careers in environmental and natural resource management. Students in this program study basic natural sciences as well as applied areas such as ecology, soil sciences, and natural resource policy. Students also build expertise with modern technologies such as geographical information systems, global positioning systems, and computer applications in natural resource management. Graduates are prepared to work in a wide variety of interesting and challenging career paths and to work with a broad variety of other professionals to solve complex problems. Examples of potential careers include soil and environmental specialists and scientists; state and federal regulatory agency work; private consulting in environmental and agricultural areas; and working with non-governmental organizations with interests in agriculture, environment, and natural resources. Students receiving this degree are also very competitive for placement in graduate programs in environmental and agricultural sciences and technology, as well as law school.

The core program provides a strong grounding in the sciences and technology, while concentrations permit a focus on either science or technology. The three concentrations in this program are soil science, environmental science, and agricultural systems technology.

### TECHNICAL ELECTIVES FOR SOIL SCIENCE AND ENVIRONMENTAL SCIENCE CONCENTRATIONS

Note that some electives have required prerequisites. The prerequisites are either required in the major or are listed below. See individual course descriptions in the catalog for specific information.
Animal Science 220, 280, 320, 330, 380, 381; Biochemistry and Cellular and Molecular Biology 306, 310, 321, 401, 402, 404, 411, 471, 481; Biology 240, 250; Biosystems Engineering Technology (any course not required for the major); Chemistry 230, 310, 319, 320, 329, 350, 360, 369, 430, 439, 471, 481; Ecology and Evolutionary Biology 240, 304, 305, 330, 370, 380, 410, 414, 421, 433, 470, 474, 484, 495; Entomology and Plant Pathology 313, 321, 451; Environmental and Soil Sciences (any course not required for the major); Food Science and Technology 420, 429; Forestry 314, 321; Forestry, Wildlife and Fisheries 250, 312, 313, 317, 410, 412, 420; Geophysics 101, 102, 131, 132, 310, 334, 410, 411, 412, 413, 415, 434, 436, 439; Geology 102, 103, 201, 202, 203, 310, 345, 370, 381, 450, 455, 485, 486; Management 301, 321, 431; Microbiology 310, 319, 410, 411, 470; Physics 222; Plant Sciences 335, 434, 435, 457, 461; Political Science 300, 330, 340, 402, 430, 431, 440, 442, 470; Public Health 310; Sociology, 360, 462, 464, 465; Statistics (any course above 201); University Studies 322.

**TECHNICAL ELECTIVES FOR AGRICULTURAL SYSTEMS TECHNOLOGY CONCENTRATION**

Note that some electives have required prerequisites. The prerequisites are either required in the major or are listed below. See individual course descriptions in the catalog for specific information.

Agricultural and Extension Education 450; Agricultural Economics 342, 350, 355; Biosystems Engineering Technology 202, 442, 452; Business Administration 101, 186; Entomology and Plant Pathology 325, 410; Environmental and Soil Sciences 442, 444, 446; Geography 413; Industrial Engineering 304, 423; Management 471; Plant Sciences 340, 410, 430, 434, 440.

**AGRICULTURAL SYSTEMS TECHNOLOGY CONCENTRATION**

The agricultural systems technology concentration emphasizes the skills needed to manage the sophisticated technological systems that are increasingly essential to modern agricultural production. The program starts with a basic science foundation, adds courses in crop production, pest control, and protection of soil and water resources, then introduces the technologies and control systems available to make production more efficient and environmentally sound. It rounds out the curriculum with analysis and management courses to tie all the information together and to most effectively use it in making and carrying out management decisions. Directed technical electives allow the student to concentrate in a particular area of agricultural production or to develop increased skills with particular technologies or management tools. Students from this program will have the skills and understanding to be successful in agribusiness, agricultural consulting, or employment with agricultural equipment and material suppliers.

**Requirements for the Bachelor of Science in Environmental and Soil Sciences • Environmental and Soil Sciences Major • Agricultural Systems Technology Concentration**

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total 124</td>
<td></td>
</tr>
<tr>
<td>Biology 111, 112*</td>
<td>.8</td>
</tr>
<tr>
<td>Chemistry 120*, 130*</td>
<td>.8</td>
</tr>
<tr>
<td>English 101*, 102*</td>
<td>.6</td>
</tr>
<tr>
<td>Mathematics 151*, 152*</td>
<td>.6</td>
</tr>
<tr>
<td>&quot;Social Sciences Elective&quot;</td>
<td>.3</td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture Economics 212</td>
<td>.3</td>
</tr>
<tr>
<td>Agriculture and Natural Resources 290</td>
<td>.3</td>
</tr>
<tr>
<td>Biosystems Engineering Technology 212</td>
<td>.3</td>
</tr>
<tr>
<td>&quot;Cultures and Civilizations Elective&quot;</td>
<td>.3</td>
</tr>
<tr>
<td>Economics 201*</td>
<td>.3</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 210, 334</td>
<td>.3</td>
</tr>
<tr>
<td>Communication Studies 210* or 240*</td>
<td>.3</td>
</tr>
<tr>
<td>Physics 221*</td>
<td>.3</td>
</tr>
<tr>
<td>Statistics 201*</td>
<td>.3</td>
</tr>
</tbody>
</table>

**Third Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting 200</td>
<td>.3</td>
</tr>
<tr>
<td>Agricultural Economics 350 or 355</td>
<td>.3</td>
</tr>
<tr>
<td>&quot;Arts and Humanities Elective&quot;</td>
<td>.3</td>
</tr>
<tr>
<td>Biosystems Engineering Technology 326</td>
<td>.3</td>
</tr>
<tr>
<td>Total 124</td>
<td></td>
</tr>
</tbody>
</table>

**Fourth Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts and Humanities Elective*</td>
<td>.3</td>
</tr>
<tr>
<td>Biology 130*, 140*</td>
<td>.8</td>
</tr>
<tr>
<td>Chemistry 120*, 130*</td>
<td>.8</td>
</tr>
<tr>
<td>English 101*, 102*</td>
<td>.6</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 120*</td>
<td>.3</td>
</tr>
<tr>
<td>Mathematics 151*, 152*</td>
<td>.6</td>
</tr>
<tr>
<td>Total 124</td>
<td></td>
</tr>
</tbody>
</table>

**Total 124**

* Meets University General Education Requirement.

**ENVIRONMENTAL SCIENCE CONCENTRATION**

The environmental science concentration is a blended program of science and technology that provides a strong, broad background in the natural sciences. The plan of study emphasizes human impacts on the long-term use and productivity of land and water resources. Emphasis is also placed on the tools and techniques necessary for management of these resources. The curriculum provides a good foundation in the collection and analysis of the information required to characterize resource conservation problems and to make good resource use decisions. Directed technical electives allow the students to concentrate in an area of interest. Students in this program will gain the practical knowledge necessary to compete for career opportunities in government, environmental consulting firms, public health services, environmental research laboratories, and agricultural production, while also gaining the theoretical training necessary for continuing on for advanced degrees in a variety of environmentally related fields.

**Requirements for the Bachelor of Science in Environmental and Soil Sciences • Environmental and Soil Sciences Major • Environmental Science Concentration**

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total 124</td>
<td></td>
</tr>
<tr>
<td>Biology 130*, 140*</td>
<td>.8</td>
</tr>
<tr>
<td>Chemistry 120*, 130*</td>
<td>.8</td>
</tr>
<tr>
<td>English 101*, 102*</td>
<td>.6</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 120*</td>
<td>.3</td>
</tr>
<tr>
<td>Mathematics 151*, 152*</td>
<td>.6</td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture Economics 212</td>
<td>.3</td>
</tr>
<tr>
<td>Agriculture and Natural Resources 290</td>
<td>.3</td>
</tr>
<tr>
<td>Biosystems Engineering Technology 212</td>
<td>.3</td>
</tr>
<tr>
<td>&quot;Cultures and Civilizations Elective&quot;</td>
<td>.3</td>
</tr>
<tr>
<td>Economics 201*</td>
<td>.3</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 210, 334</td>
<td>.3</td>
</tr>
<tr>
<td>Communication Studies 210* or 240*</td>
<td>.3</td>
</tr>
<tr>
<td>Physics 221*</td>
<td>.3</td>
</tr>
<tr>
<td>Statistics 201*</td>
<td>.3</td>
</tr>
</tbody>
</table>

**Third Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting 200</td>
<td>.3</td>
</tr>
<tr>
<td>Agricultural Economics 350 or 355</td>
<td>.3</td>
</tr>
<tr>
<td>&quot;Arts and Humanities Elective&quot;</td>
<td>.3</td>
</tr>
<tr>
<td>Biosystems Engineering Technology 326</td>
<td>.3</td>
</tr>
<tr>
<td>Total 124</td>
<td></td>
</tr>
</tbody>
</table>

**Total 124**

* Meets University General Education Requirement.

1 Choose from the University General Education lists.
SOIL SCIENCE CONCENTRATION

This concentration is a rigorous, science-based program for students interested in the field of soil science. The curriculum emphasizes soils and their long-term use and productivity, as well as surface and sub-surface water resources. Students will understand natural resource problems and their management, including soil and water conservation issues, land use problems, waste disposal, and reclamation of disturbed lands. Other areas of interest can be addressed through the appropriate selection of technical electives in the program. Students in this program will gain the practical knowledge necessary to compete for career opportunities in government, environmental consulting firms, public health services, environmental research laboratories, and agricultural production, while also gaining the theoretical training necessary for continuing on for advanced degrees in a number of environmentally related fields.

Requirements for the Bachelor of Science in Environmental and Soil Sciences * Environmental and Soil Sciences Major
+ Soil Science Concentration

First Year
Biology 130*, 140* ................................. 8
Chemistry 120*, 130* .......................... 8
English 101*, 102* ............................... 6
Environmental and Soil Sciences 120* ............................... 3
Mathematics 151*, 152* ............................ 6

Second Year
Agriculture and Natural Resources 290 ............................... 3
1Arts and Humanities Elective* ............................... 3
1Cultures and Civilizations Elective* ............................... 3
Economics 201* ............................... 4
Environmental and Soil Sciences 210 ............................... 4
Geology 101* ............................... 4
Microbiology 210* ............................... 3
Physics 221* ............................... 4
Statistics 201* ............................... 3

Third Year
Biosystems Engineering Technology 212 or 326 ............................... 3
Chemistry 110* or 350 ............................ 3-4
Chemistry 310 and 319 ............................ 4
Environmental and Soil Sciences 301*, 324, 334, 355 ............................... 10
Philosophy 245* ............................... 3
Plant Science 235 ............................... 3
Technical Electives ............................... 3
English 295* or 360*, or Journalism and Electronic Media 200* ............................... 3

Fourth Year
Agricultural Economics 470 or Economics 462 ............................... 3
Environmental and Soil Sciences 434, 442, 444, 462 ............................... 12
1Social Sciences Elective* ............................... 3
Technical Electives ............................... 3
Free Electives ............................... 6
Total 124

* Meets University General Education Requirement.
1 Choose from the University General Education lists.

Minor in Environmental and Soil Sciences

Required Courses Hours Credit
Environmental and Soil Sciences 210, 324, 334 ............................... 10
Electives in Environmental and Soil Sciences and/or Biosystems Engineering Technology at the 300 level or higher ............................... 9
Total 19

DEPARTMENT OF ENTOMOLOGY AND PLANT PATHOLOGY

http://eppserver.ag.utk.edu

Carl J. Jones, Head

Professors
Bernard, E.C., PhD .............................................. Georgia
Boos, S.C., PhD .............................................. North Carolina State
Burgess, E.E., PhD .............................................. Tennessee
Gerhardt, R.R., PhD .............................................. North Carolina State
Grant, J.F., PhD .............................................. Clemson
Hale, A.A., PhD .............................................. Ohio State
Jones, C.J., PhD .............................................. Wyoming
Lambdin, P.L., PhD .............................................. Virginia Tech
Newman, M.A., PhD ...................................... Texas A&M
Patrick, C.R., PhD .............................................. Mississippi State
Skinner, J.A., PhD ....................................... California (Davis)
Trigiano, R.N., PhD .............................................. North Carolina State
Windham, A.S., PhD .............................................. North Carolina State
Windham, M.T., PhD .............................................. North Carolina State

Associate Professors
Canaday, C.H., PhD ..................................... Ohio State
Gwinn, K.D., PhD .............................................. North Carolina State
Lentz, G., PhD .............................................. Iowa State
Owley, B.H., PhD .............................................. North Carolina State
Stewart, S.D., PhD .............................................. Auburn
Vail, K.M., PhD .............................................. Florida

Assistant Professors
Hajimorad, M., PhD ..................................... Adelaide (Australia)
Jurat-Fuentes, J.L., PhD .............................................. Georgia
Lamour, K., PhD .............................................. Michigan State
Moulton, J.K., PhD .............................................. Arizona

Advisor
Gerhardt

Courses in economic entomology, diseases and insect of ornamental plants, forest protection, plant pathology, and veterinary entomology are available to undergraduate students. No undergraduate degree exists in the Department of Entomology and Plant Pathology, but a program leading to the Master of Science degree with a major in entomology and plant pathology and a PhD with a major in plants, soils and insects and concentrations in entomology, plant pathology, integrated pest management, and bioactive natural products are available (see Graduate Catalog). Instruction and training is provided in those disciplines which deal with the natural hazards that are major causes of losses in agricultural production, namely, insects and plant diseases. Courses of study in entomology or plant pathology should give the student an appreciation of insects and microorganisms, their ecology, population dynamics, potential damage to plants and their products, and various considerations in control alternatives.

Minor in Entomology and Plant Pathology

Required Courses Hours Credit
Choose from Entomology and Plant Pathology 201, 213, 321, 325, 410, 411, 448, 451, 493 ............................... 16
Total 16

DEPARTMENT OF FOOD SCIENCE AND TECHNOLOGY

http://foodscience.utk.edu

P.M. Davidson, Interim Head

Professors
Breke, C.J. (Assistant Dean), PhD .............................................. Wisconsin
Davidson, P.M., PhD .............................................. Washington State
Draughon, F.A., PhD .............................................. Georgia
Goon, H.C., PhD .............................................. Michigan State
Morris, W.C., PhD .............................................. Iowa State
Associate Professors
Golden, D.A., PhD  .................................................. Georgia
Loveday, H.D., PhD ..................................................... Kansas State
Mount, J.R., PhD .......................................................... Ohio State

Assistant Professors
Harte, F.M., PhD  ...................................................... Washington State
Zivanovic, S., PhD  ...................................................... Arkansas

Emeritus Faculty
Penfield, M.F., PhD .......................................................... Tennessee

Advisors
Davidson, Draughon, Golden, Loveday, Mount, Zivanovic

The curriculum concentrations in food science and technology include a science concentration, a technology/business concentration, and a pre-professional concentration. They prepare students to apply basic scientific and business principles to manufacturing, processing, distribution, and utilization of food products that meet the needs and desires of consumers. Coursework emphasizes the basic principles of converting raw food materials into safe acceptable consumer products. Selected commodity courses detail processing of specific types of food materials. Students entering the program should have an interest in the sciences, such as chemistry, microbiology, and biology.

Career opportunities include positions in the food industry in quality assurance, production management, marketing, governmental inspection, etc. The science concentration of coursework conforms to the guidelines in the model curriculum of the Institute of Food Technologists. The technology/business concentration allows students to obtain an agribusiness or business minor or specialization in an area such as animal science or nutrition that strengthens the food science and technology major. A special problems course provides opportunity for practical training in food processing plants and laboratories or federal and state laboratories. The pre-professional concentration provides the science background necessary for medical, pharmacy, dental or veterinary medicine school and also allows the student to develop an understanding of food science principles that will apply to their chosen profession.

FOOD SCIENCE AND TECHNOLOGY MAJOR
PRE-PROFESSIONAL CONCENTRATION

The programs in pre-dental, pre-medicine, pre-pharmacy and pre-veterinary medicine allow students to be awarded a Bachelor of Science in Agriculture with a major in food science and technology after three years and the successful completion of the first year (two semesters) in UT-Memphis dental, medical, or pharmacy programs or the University of Tennessee College of Veterinary Medicine. The last 30 hours of the three-year curriculum must be taken at the University of Tennessee, Knoxville. A total of 124 hours must be completed by the end of the first year in professional school. No later than December 31 of the student’s first year in professional school (s)he should contact the Department of Food Science and Technology to check on graduation procedures for this program.

Although a Bachelor of Science degree is not required for admission to the Colleges of Dentistry or Medicine, most of the students accepted into these programs have the baccalaureate degree before admission. Therefore, students are encouraged to plan to complete all requirements for Bachelor of Science degree before enrolling in either of these colleges. A Bachelor of Science degree can be obtained before enrolling in the Doctor of Pharmacy (PharmD) program.

Requirements for the Bachelor of Science in Agriculture
• Food Science and Technology Major  • Pre-Professional Concentration

First Year Hours Credit
1English* ................................................................. 6
2Mathematics 125* or 141* or 151* .......................... 3-4
Biological Sciences* .................................................. 4
Chemistry 120*-130* .................................................. 8
Food Science and Technology 101 .................................. 3
Agriculture and Natural Resources 290 .......................... 3

Second Year
Chemistry 350, 360-369 .................................................. 8
Microbiology 210* or higher ........................................... 3
Physics 221* ............................................................... 4
Social Sciences Electives* .............................................. 6
Food Science and Technology 340 ..................................... 3
Directed Science Requirements ..................................... 12

Third Year
Food Science and Technology 301 or University Honors 117 .... 1
Food Science and Technology 410-419 and 420-429 .......... 9
Directed Science Requirements ..................................... 9
Arts and Humanities Electives* ....................................... 6
Statistics 201* or Quantitative Reasoning Elective* .......... 3
Cultures and Civilizations Electives* ............................... 6

This curriculum meets the requirements for entrance to the College of Veterinary Medicine or UT medical, dental or pharmacy schools. After the first successful year in the professional school, the student will be awarded a Bachelor of Science in Agriculture with a major in food science and technology. Should the student not gain admittance after the junior year, the student could complete the following requirements during the senior year for a major in food science and technology with a pre-professional concentration.

Fourth Year
Food Science and Technology 401 or University Honors 458 .... 1
Food Science and Technology Electives ........................... 9
Nutrition 100* ............................................................ 3
Communicating Orally Elective ....................................... 3
Electives ........................................................................ 6-9

Total 124

1 Meets University General Education Requirement.
2 Select either English 101 and 102 or English 118 and 102 (Students who obtain a grade of A or B in 118 may complete their freshman requirement with 102, 355, or with a 200-level course in the English Department. The 200-level course may, if so listed, also be used toward the Arts and Humanities requirement.)
3 Mathematics placement depends on high school courses and grades and ACT scores.
4 Physics 222 is taken as a directed science elective for pre-professional programs that require it.
5 Choose from the University General Education lists. One of these courses must be a writing-intensive (WC) course.
6 Choose from Biochemistry and Cellular and Molecular Biology 230, 401, 402; Microbiology 430, Physics 222, Ecology and Evolutionary Biology 240; Biology 240, Food Science and Technology 415, 430, 441, 442, 445, 461, 490, 495 or 493 (maximum of 3 hours); or Nutrition 420.

SCIENCE CONCENTRATION
Requirements for the Bachelor of Science in Agriculture
• Food Science and Technology Major  • Science Concentration

First Year Hours Credit
1English* ................................................................. 6
2Mathematics 125*, 141* or 151* .......................... 3-4
Biological Sciences* .................................................. 4
Chemistry 120*-130* .................................................. 8
Food Science and Technology 101 .................................. 3
Agriculture and Natural Resources 290 .......................... 3
Arts and Humanities Elective* ....................................... 3

1 Meets University General Education Requirement.
Second Year
Chemistry 350, 360-369 ........................................... 8
Microbiology 210* or higher ........................................... 3
5Physics ......................................................... 3-4
6Social Sciences Electives* ........................................... 6
4Arts and Humanities Elective* ....................................... 3
Food Science and Technology 340 ................................. 3
N学前教育 100* ........................................... 3

Third Year
Food Science and Technology 301 or University Honors 117 ........ 1
Food Science and Technology 410-419 and 430 ................. 7
Food Science and Technology 441 .................................. 3
Biochemistry and Cellular and Molecular Biology 310 or 401 .... 4
Statistics 201* or Quantitative Reasoning Elective* .............. 3
4Cultures and Civilizations Elective* .......................... 1-3
Electives ....................................................... 5-7

Fourth Year
Food Science and Technology 401 .................................. 1
Food Science and Technology 420-429 .......................... 5
Food Science and Technology 445, 461, 490, 495 ............. 13
Food Science and Technology 415 .................................. 4
Food Science and Technology 493 .................................. 3
Electives ....................................................... 5-7

Total 124

1 May select either English 101 or 102 or English 118 and 102. (Students who obtain a grade of A or B in 118 may complete their freshman requirement with 102, 355, or with a 200-level course in the English Department. The 200-level course may, if so listed, also be used toward the Arts and Humanities (AH) requirement.)
2 Mathematics placement depends on high school courses and grades and ACT scores.
3 Choose from Biology 101, 102, 111, 112 or 130.
4 Choose from the University General Education lists. One of these courses must be a writing-intensive (WC) course.
5 May be chosen from a physics course.

TECHNOLOGY/BUSINESS CONCENTRATION
Requirements for the Bachelor of Science in Agriculture
• Food Science and Technology Major • Technology/Business Concentration

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1English*</td>
<td>6</td>
</tr>
<tr>
<td>2Mathematics 110* or 123* or 125* or higher</td>
<td>3</td>
</tr>
<tr>
<td>Biological Sciences*</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry 100* or 120*</td>
<td>4</td>
</tr>
<tr>
<td>4Arts and Humanities Elective*</td>
<td>1-3</td>
</tr>
<tr>
<td>Food Science and Technology 101</td>
<td>3</td>
</tr>
<tr>
<td>Agriculture and Natural Resources 290</td>
<td>3</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 110*</td>
<td>4</td>
</tr>
<tr>
<td>Microbiology 210* or higher</td>
<td>3</td>
</tr>
<tr>
<td>4Social Sciences Electives*</td>
<td>6</td>
</tr>
<tr>
<td>5Directed Technology/Business Electives</td>
<td>9</td>
</tr>
<tr>
<td>Food Science and Technology 340</td>
<td>3</td>
</tr>
<tr>
<td>Nutrition 100* or Animal Science 381</td>
<td>3</td>
</tr>
</tbody>
</table>

Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Science and Technology 301 or University Honors 117</td>
<td>1</td>
</tr>
<tr>
<td>Food Science and Technology 410-419 and 430</td>
<td>7</td>
</tr>
<tr>
<td>4Cultures and Civilizations Elective*</td>
<td>6</td>
</tr>
<tr>
<td>5Directed Technology/Business Electives</td>
<td>9</td>
</tr>
<tr>
<td>Communicating Orally Elective*</td>
<td>1-3</td>
</tr>
<tr>
<td>Electives</td>
<td>3-5</td>
</tr>
</tbody>
</table>

Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Science and Technology 401</td>
<td>1</td>
</tr>
<tr>
<td>Food Science and Technology 420-429</td>
<td>5</td>
</tr>
<tr>
<td>Food Science and Technology 445, 461, 490 and 495</td>
<td>13</td>
</tr>
<tr>
<td>5Directed Technology/Business Electives</td>
<td>6</td>
</tr>
<tr>
<td>Food Science and Technology 493</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>4</td>
</tr>
</tbody>
</table>

Total 124

* Meets University General Education Requirement.
1 Select either English 101 and 102 or English 118 and 102 (Students who obtain a grade of A or B in 118 may complete their freshman requirement with 102, 355, or with a 200-level course in the English Department. The 200-level course may, if so listed, also be used toward the Arts and Humanities (AH) requirement.)
2 Mathematics placement depends on high school courses and grades and ACT scores.
3 Choose from Biology 101, 102, 111, 112 or 130.
4 Choose from the University General Education lists. One of these courses must be a writing-intensive (WC) course.
5 Lists of appropriate courses are available at http://foodscience.utk.edu/academic/undergraduate/curriculum.html and should be selected in conference with academic advisor match student’s interests with concentrations needed in the food industry.

Minor in Food Science and Technology

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Science and Technology 140</td>
<td>3</td>
</tr>
<tr>
<td>Food Science and Technology 340</td>
<td>3</td>
</tr>
<tr>
<td>Food Science and Technology 410</td>
<td>3</td>
</tr>
<tr>
<td>Food Science and Technology 420</td>
<td>2</td>
</tr>
<tr>
<td>Food Science and Technology Electives</td>
<td>6</td>
</tr>
</tbody>
</table>

Total 17

DEPARTMENT OF FORESTRY, WILDLIFE AND FISHERIES
http://fwf.ag.utk.edu/
J. Larry Wilson, Interim Head

Professors
Buehler, D.A., PhD .......................................... Virginia Tech
Bozelli, B.L., PhD .......................................... Colorado State
Fly, J.M., PhD ............................................... Michigan
Hodges, D.G., PhD .......................................... Georgia
Houston, A.T., PhD .......................................... Tennessee
Ostermeier, D.M., PhD ...................................... Syracuse
Rials, T.G., PhD ........................................... Virginia Tech
Schlarbaum, S.E., PhD ...................................... Colorado State
Speer, C.A., PhD ........................................... Utah State
Strange, R.J., PhD .......................................... Oregon State
Wilson, J.L., PhD ........................................... Tennessee

Associate Professors
Buckley, D.S., PhD .......................................... Michigan Tech
Bozelli, J.J., PhD .......................................... Colorado State
Clatterbuck, W.W., PhD ..................................... Mississippi State
Harper, C.A., PhD ........................................... Clemson
Hickling, G.J., PhD .......................................... Western Ontario (Canada)
Muller, L.I., PhD ........................................... Georgia
Young, T.M., MS ........................................... Tennessee

Assistant Professors
Eda, S., PhD ................................................ Japan
Franklin, J.A., PhD .......................................... Alberta (Canada)
Gray, M.I., PhD ............................................ Texas Tech
Harper, D.P., PhD ........................................... Washington State
Labbe, N., PhD ........................................... Bordeaux (France)
Taylor, M.M., PhD .......................................... Oregon State
Wang, S., PhD ............................................. Nanjing Forestry (China)

Instructors
Minser, W.G., MS ........................................... Tennessee
Moschler, W., MS ........................................... Virginia Tech

Adjunct Faculty
Albert, R., PhD ........................................... Southern Illinois
Clark, J.D., PhD ........................................... Arkansas
Franzreb, K., PhD ......................................... Arizona State
Lannom, K.O., PhD ......................................... Michigan Tech
Peine, J., PhD ............................................... Arizona
Reams, G.A., PhD ........................................... Maine
Van Manen, F., PhD ......................................... Tennessee

Adjunct Faculty
Buckner, E.R., PhD ......................................... North Carolina State
Dimmock, R.W., PhD ......................................... Wyoming
Hill, Sr., T.K., PhD .......................................... Auburn
Pelton, M.R., PhD ........................................... Georgia

Adjunct Faculty
The mission of the Department of Forestry, Wildlife and Fisheries is to advance the management, utilization, and appreciation of natural resources in Tennessee, the region, and beyond through programs in teaching, research, and extension. The department offers two majors. The major in forestry leads to the Bachelor of Science in Forestry and the major in wildlife and fisheries science leads to the Bachelor of Science in Wildlife and Fisheries Science. The forestry major has concentrations in forest resources management and wilderness recreation. The wildlife and fisheries science major has concentrations in wildlife and fisheries management and wildlife health.

Enrollment Management Plan

All majors in the Department of Forestry, Wildlife and Fisheries must submit an application for progression with relevant career goals, names of three references, work experience (both volunteer and paid positions) related to natural resources and service and professional activities, and a transcript before registering for junior classes.

To be considered for progression into the upper division of the program, applicants must have submitted all required documents (application form, resume, and transcript) by a March 15 deadline late in the spring semester.

Those students who have met all preliminary requirements for progression, including having relevant career goals, will be ranked based on the combined score of their cumulative grade point average (GPA) and GPA in core courses. The combined score will be the cumulative GPA (minimum 2.2) and 50% of the core GPA. The highest scores will be accepted into the programs. The number of applicants accepted into each program will be determined based on resources available. Applicants will be notified of their acceptance by the start of registration for summer semester.

Applicants who are not accepted into the program and who believe that extenuating circumstances prevented their acceptance into the program may appeal the decision to a faculty committee (i.e., S.A.C.C.). A written statement in which the case is made for acceptance is required for all applicants. It must be submitted within one week of the rejection notice.

Appellants receiving a positive response from the appeals committee will be accepted into programs on a provisional basis through the Admission Committee. Those students who have met all preliminary requirements for progression into upper-division courses. They will also need the prerequisites to the individual upper-division courses.

WILDFIRE ADVICE

The profession of forestry is the science, the art, and the practice of managing and using for human benefit the natural resources that occur on and in association with forest lands. Benefits are derived from the multiple resources of the forest—wood, water, wildlife, recreation, forage, and environmental amenities. Foresters are managers of these resources. Thus, our principal instructional objective is to provide the broad education needed to deal effectively with the complex of forest resources.

FOREST RESOURCES MANAGEMENT CONCENTRATION

The forest resources management concentration provides an opportunity to obtain an education related to the management of the broad spectrum of wildland resources. In addition to the core of required courses, there are about 18 elective credit hours for broad studies or specialized training in one or more areas of forestry. These areas and examples of related fields of study are forest biology including plant physiology and morphology, ecology, genetics, tree nutrition, forage, soils; forest resource management including economics, accounting, finance, marketing, management science; forest economics including economics, business administration, social science; forest inventory including mathematics, statistics, computer science; forest recreation including natural and social sciences; and wildlife management including ecology and botany.

The university has over 21,000 acres of forest land available for teaching, research, and demonstration. The Tennessee Valley Authority, Great Smoky Mountains National Park, and Cherokee National Forest provide additional land and facilities available to the teaching program. Contained within these areas is a wide variety of tree species and forest types ranging from elements of the boreal forest to southern pines and hardwoods. Lumber, pulp and paper, and other wood-using industries cooperate in conducting tours and demonstrating industrial processes.

Requirements for the Bachelor of Science in Forestry

Forestry Major • Forest Resources Management Concentration

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101-102*</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 125*</td>
<td>3</td>
</tr>
<tr>
<td>Biology 111-112*</td>
<td>8</td>
</tr>
<tr>
<td>Forestry 100</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry 100*</td>
<td>4</td>
</tr>
<tr>
<td>1Social Science Elective*</td>
<td>3</td>
</tr>
<tr>
<td>2Electives</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economics 201*</td>
<td>4</td>
</tr>
<tr>
<td>Statistics 201*</td>
<td>3</td>
</tr>
<tr>
<td>Agriculture and Natural Resources 290 or Biosystems Engineering Technology 326 or Geography 411</td>
<td>3</td>
</tr>
<tr>
<td>Forestry, Wildlife and Fisheries 212</td>
<td>3</td>
</tr>
<tr>
<td>Forestry 214, 215</td>
<td>6</td>
</tr>
<tr>
<td>Communication Studies 210* or 240*</td>
<td>3</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 210</td>
<td>4</td>
</tr>
<tr>
<td>3Cultures and Civilizations Elective*</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestry, Wildlife and Fisheries 312*, 313, 317</td>
<td>8</td>
</tr>
<tr>
<td>3Arts and Humanities Elective*</td>
<td>3</td>
</tr>
</tbody>
</table>
WILDLAND RECREATION CONCENTRATION

The wildland recreation concentration is an interdisciplinary program that prepares students to work in natural resource based recreation settings on private and public lands, including local, state, and national parks, and other state and federal agencies and private or non-profit organizations providing outdoor recreational opportunities.

Students prepare for professional positions in the planning, development, interpretation, and management of private and public lands for recreational purposes. Students also learn the basic philosophy and principles associated with the use of leisure time and the relationship of natural resources to the constructive use of leisure time.

Elective credits may be used to obtain specializations in complementary areas such as education, cultural and natural history interpretation, forestry, wildlife, fisheries, communication and public relations, agricultural extension education, ornamental horticulture and landscape design, business and public administration; and the natural sciences, including ecology, and geology, as well as recreation and leisure studies.

Ten weeks of professional internship experience (6 credits) are required during the final 45 hours of credit in the program. The internship is a highly structured field experience guided by specific learning objectives pre-approved by the instructor and the field supervisor. The student receives one credit per two weeks of full-time field experience. Preparations for the internship should be made well in advance of actual placement. Summer employment or volunteer work in a related field prior to the internship is highly encouraged.

Requirements for the Bachelor of Science in Forestry

• Forestry Major • Wildland Recreation Concentration

First Year

Forestry, Wildlife and Fisheries 410, 412, 416 ............................... 9
Forestry 331, 332, 420, 422 .................................................. 8
2Ethics Elective ................................................................. 3
3Cultures and Civilizations Elective* ....................................... 3
3Arts and Humanities Elective* ............................................. 3
2Communications Elective .................................................. 3
2Electives ................................................................. 2

Total 120

* Meets University General Education Requirement.
1 Choose from Anthropology 130*, Political Science 102*, Psychology 110* or 117*, Sociology 110*, 117*, or 120*.
2 Electives are chosen in conference with advisor.
3 General Education Electives. Choose two courses from the Cultures and Civilizations list and two from the Arts and Humanities list for a total of 12 credit hours. Forestry, Wildlife and Fisheries 312 meets the General Education Requirement for Communicating through Writing.

Second Year

Forestry, Wildlife and Fisheries 212 ............................................. 3
Forestry 214, 215 ................................................................ 6
Economics 201* .................................................................. 4
Statistics 201* ................................................................. 3
Communication Studies 210* or 240* .................................... 3
Environmental and Soil Sciences 210 ..................................... 4
Select two from: Art Media Arts 231, 236; Communication Studies 220, 270, 310, 320, 330, 420; English 295*, Journalism and Electronic Media 201*, 290, 412, 450*, 451*, 488 ............................................ 3
1Cultures and Civilizations* or Arts and Humanities* Elective ............................................ 6

Third Year

Forestry, Wildlife and Fisheries 312*, 313, 317 ............................... 8
Forestry 321, 423 ................................................................. 2
Forestry 314; Political Science 440, 441; Plant Sciences 427; or Management 440 ........................................ 2-3
Recreation 310, 410, 415, 430, 470 ........................................ 3
Biosystems Engineering Technology 212, 326; Geography 310, 410, 411, 413, Political Science 403; Agriculture and Natural Resources 290 ........................................ 3
Select one course from Sociology 345, 360, 370, 464, 465; Philosophy 245*; Geography 320, 323, 345 ........................................ 3
Select one course from Plant Sciences 280, 350, 370, 421, 437 ........................................ 2-3
1Cultures and Civilizations* or Arts and Humanities* Elective ............................................ 3

Fourth Year

Forestry 422, 495 ................................................................ 3
Forestry, Wildlife and Fisheries 412, 416 .................................... 6
Select one from Forestry, Wildlife and Fisheries 410; Wildlife and Fisheries Science 443, 444, 445 ........................................ 3
2Electives ................................................................. 5-7

Total 120

* Meets University General Education Requirement.
1 General Education Electives. Choose two courses from the Cultures and Civilizations list and two from the Arts and Humanities list for a total of 12 credit hours. Forestry, Wildlife and Fisheries 312 meets the General Education Requirement for Communicating through Writing.
2 Electives are chosen in conference with advisor.

Minor in Forestry

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestry, Wildlife and Fisheries 211 or 250</td>
<td>3</td>
</tr>
<tr>
<td>Forestry, Wildlife and Fisheries 212, 312, 313, 412, 416</td>
<td>14</td>
</tr>
</tbody>
</table>

Total 17

NOTE: Prerequisites will not be waived.

WILDLIFE AND FISHERIES SCIENCE MAJOR

Wildlife and fisheries management is the science and art of maintaining populations of wild animals at levels consistent with the best interests of wild species and of the public. Management goals may be aesthetic, economic or ecological. Success depends upon wildlife and fisheries biologists providing assistance; scholarly application of scientific information and methods to these goals; ecological perspective; and execution of programs to maintain past successes, to prevent repetition of past failures, and to prepare for future needs.

Requirements for the Bachelor of Science in Wildlife and Fisheries Science • Wildlife and Fisheries Science Management Concentration

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestry, Wildlife and Fisheries 211 or 250</td>
<td>3</td>
</tr>
<tr>
<td>English 101*–102*</td>
<td>6</td>
</tr>
<tr>
<td>Biology 111+112*</td>
<td>8</td>
</tr>
<tr>
<td>Psychology 110*, Sociology 120*, Political Science 102*, Sociology 110*, or Anthropology 130*</td>
<td>3</td>
</tr>
<tr>
<td>1Cultures and Civilizations* or Arts and Humanities* Elective</td>
<td>3</td>
</tr>
<tr>
<td>2Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestry, Wildlife and Fisheries 212</td>
<td>3</td>
</tr>
<tr>
<td>Economics 201*</td>
<td>4</td>
</tr>
<tr>
<td>Statistics 201*</td>
<td>3</td>
</tr>
<tr>
<td>Communication Studies 210* or 240*</td>
<td>3</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 210</td>
<td>4</td>
</tr>
<tr>
<td>Select two from: Art Media Arts 231, 236; Communication Studies 220, 270, 310, 320, 330, 420; English 295*, Journalism and Electronic Media 201*, 290, 412, 450*, 451*, 488</td>
<td>3</td>
</tr>
<tr>
<td>1Cultures and Civilizations* or Arts and Humanities* Elective</td>
<td>6</td>
</tr>
</tbody>
</table>
Fourth Year
Forestry, Wildlife and Fisheries 410, 416 .......................... 6
Wildlife and Fisheries Science 443, 444, 445 .......................... 9
Ecology and Evolutionary Biology 474 .......................... 4
Forestry, Wildlife and Fisheries 412 or Forestry 321*, 422 .......................... 3
1Science Electives .......................... 6
1Social Science Elective* .......................... 3

Total 125-127

* Meets University General Education Requirement.
1 General Education Electives. Choose two courses from the Cultures and Civilizations list and two from the Arts and Humanities list for a total of 12 credit hours. Forestry, Wildlife and Fisheries 312 meets the General Education Requirement for Communicating through Writing.
2 300-level and above from Animal Science; Biochemistry and Cellular and Molecular Biology; Biosystems Engineering Technology; Ecology and Evolutionary Biology; Entomology and Plant Pathology; Environmental and Soil Sciences; Forestry; Forestry, Wildlife and Fisheries; Plant Sciences; Wildlife and Fisheries Science; and Geography 410, 411, 412, 413, 436.

Requirements for the Bachelor of Science in Wildlife and Fisheries Science • Wildlife and Fisheries Science Major

• Wildlife Health Concentration

First Year
Forestry, Wildlife and Fisheries Science 101 .................................................... 1
Forestry, Wildlife and Fisheries 211 or 250* .................................................... 6
English 101*–102* .................................................... 6
Biology 130*–140* .................................................... 8
Chemistry 120*–130* .................................................... 6
Statistics 201* .................................................... 3
Mathematics 125* .................................................... 3

Second Year
Wildlife and Fisheries Science 201 .................................................... 1
Biology 240, 250 .................................................... 8
Chemistry 350, 360, 369 .................................................... 8
Physics 221*–222* .................................................... 8
Microbiology 310, 319 .................................................... 5

Third Year
Forestry, Wildlife and Fisheries 317 .................................................... 3
Communications Studies 210* or 240* .................................................... 3
Wildlife and Fisheries Science 301 .................................................... 3
Biochemistry and Cellular and Molecular Biology 440 .................................................... 3
Ecology and Evolutionary Biology 350 .................................................... 4
Animal Science 380 .................................................... 3
Microbiology 420 or 430 .................................................... 3
Economics 221* .................................................... 4

Fourth Year
Forestry, Wildlife and Fisheries 410 .................................................... 3
Wildlife and Fisheries Science 443, 444, 445 .................................................... 9
Microbiology 470 or 4Wildlife and Fisheries 496 .................................................... 3
Biochemistry and Cellular and Molecular Biology 410 .................................................... 4
1Social Science Elective* .................................................... 3
1Cultures and Civilizations* or Arts and Humanities Elective* .................................................... 6

Total 122

* Meets University General Education Requirement.
1 General Education Electives. Choose two courses from the Cultures and Civilizations list, two courses from the Arts and Humanities list, one from the Social Sciences list for a total of 15 credit hours. One of the Cultures and Civilizations or Arts and Humanities or Social Science courses must be writing-intensive (WC).
2 Must be a department-approved internship.

Minor in Wildlife and Fisheries Science

Hours Credit
Forestry, Wildlife and Fisheries 211 or 250 .................................................... 3
Forestry, Wildlife and Fisheries 317 .................................................... 3
Select three from: Forestry, Wildlife and Fisheries 410, 416; Wildlife and Fisheries Science 443, 444, 445 .................................................... 9

Total 15

Academic programs in the Department of Plant Sciences span the art, science and technology of plant use in society. Students receive preparation for careers in horticulture and agronomy within four concentrations — landscape design and construction; plant science; biotechnology and horticulture; public horticulture; turfgrass science and management. With increasing emphasis placed on plants in urban areas, extensive training in landscape horticulture (planning, implementation and management for landscapes, turf and gardens) is offered. Comprehensive programs in plant biotechnology and plant production are also offered.

Upon entering the department, each student is assigned a faculty advisor for guidance in selection of career specialties and elective courses. The curriculum builds upon the University General Education Requirement with critical courses in botany, soils, and business and adds a set of required departmental courses specific to each concentration. Students are able to customize their program by selecting electives. Students in all concentrations are trained to work knowledgeably in general plant culture.
Students are encouraged to earn a minor in a supportive field to further enhance their academic training and professional competitiveness. While firmly grounding students in the knowledge and skills of the plant sciences and arts, our curricula emphasize critical thinking and creative activity. Our students also gain the theoretical education necessary for continuing on for advanced degrees in plant related fields.

Students should declare a concentration early in their undergraduate program and strictly follow the curriculum described for the concentration. Students who transfer into plant sciences from other colleges or programs must meet the same requirements as those entering the department as freshmen.

Internship or undergraduate research participation is required for each concentration. Full-time summer internships are available at selected local, regional, and national companies or institutions. Part-time summer or semester internships and research experiences are available from the Department of Plant Sciences, other university departments and laboratories, and local commercial firms.

Our graduates find employment in a wide variety of professions. In working for others or within their own businesses, graduates of the landscape concentration design residential landscapes, select proper woody and herbaceous plant materials for specific sites, restore native landscapes, specify specialty components dealing with landscape construction (irrigation, lighting, water features), prepare materials lists and cost estimates for landscape installations, and manage landscape crews. Turf majors have career opportunities in the industries involved with lawn management, athletic fields, golf courses, sales, and park and grounds maintenance. The public horticulture concentration prepares students for careers in botanic gardens, zoos and national parks; professional writing, television and radio; urban forestry; teaching; and municipal and university horticulture. Graduates in plant science, biotechnology and horticulture find employment in education, consulting, sales, agricultural extension, and research and development.

Core Courses
The core courses for the plant sciences concentrations which are required for entry into upper-division courses are as follows.

**LANDSCAPE DESIGN CONCENTRATION**
Two courses in English composition (English 101 and 102 or equivalent); Mathematics 113 or 123 or 151 or equivalent; Computer Sciences 100 or 102 or equivalent; general chemistry (Chemistry 100 or 120 or equivalent); two courses in general botany (Biology 111 and 112 or equivalent); soil science (Environmental and Soil Sciences 210 or equivalent); Basic Landscape Plants (Plant Sciences 220 or equivalent); Fundamentals of Landscape Design (Plant Sciences 280 or equivalent).

**PLANT SCIENCE, BIOTECHNOLOGY AND HORTICULTURE CONCENTRATION**
Two courses in English composition (English 101 and 102 or equivalent); two courses in mathematics (Mathematics 123 and 125 or Mathematics 151 and 152 or equivalent); two courses in general chemistry (Chemistry 100 and 110 or 120 or equivalent); two courses in general botany (Biology 111 and 112 or equivalent); soil science (Environmental and Soil Sciences 210 or equivalent); Computer Applications to Problem Solving (Agriculture and Natural Resources 290 or equivalent).

**PUBLIC HORTICULTURE CONCENTRATION**
Two courses in English composition (English 101 and 102 or equivalent); Mathematics 113 or 123 or 151 or equivalent; Computer Sciences 100 or 102 or equivalent; general chemistry (Chemistry 100 or 120 or equivalent); two courses in general botany (Biology 111 and 112 or equivalent); soil science (Environmental and Soil Sciences 210 or equivalent); Computer Applications to Problem Solving (Agriculture and Natural Resources 290 or equivalent).

**TURFGRASS SCIENCE AND MANAGEMENT CONCENTRATION**
Two courses in English composition (English 101 and 102 or equivalent); two courses in mathematics (Mathematics 123 and 125 or equivalent); two courses in general chemistry (Chemistry 100 and 110 or 120 and 130 or equivalent); two courses in general botany (Biology 111 and 112 or equivalent); soil science (Environmental and Soil Sciences 210 or equivalent); Turfgrass Management (Plant Sciences 240 or equivalent); Computer Applications to Problem Solving (Agriculture and Natural Resources 290 or equivalent).

**PLANT SCIENCES MAJOR**

**LANDSCAPE DESIGN AND CONSTRUCTION CONCENTRATION**
Landscape designers create aesthetic concepts and practical designs for improved outdoor living. Students study fundamental and advanced landscape design, landscape design graphics, computer-aided landscape design, surveying, art, socio-economic impact of plants, field botany, professional practices, contracting, basic woody plant identification, landscape construction and maintenance methods. The development of comprehensive design projects helps students prepare for careers in landscape design or advanced studies in landscape architecture. Graduates in design and construction are prepared for employment in several professions in ornamental horticulture. Careful selection of departmental courses and other electives in consultation with the assigned academic advisor will allow graduates to pursue suitable career paths.

**Technical Electives**

**LANDSCAPE DESIGN AND CONSTRUCTION CONCENTRATION**
Architecture 111, 180, 211, 232, 421; Art 101, 103, 191, 259; Art Drawing 211, 212; Art Media Arts 231, 331; Art Painting 213, 214, 215, 216; Biochemistry and Cellular and Molecular Biology 306; Biology 250; Biosystems Engineering Technology 202, 212; Ecology and Evolutionary Biology 304, 330, 433; Communication Studies 230, 310; English 360*; Entomology and Plant Pathology 201, 306, 313, 321, 410; Environmental and Soil Science 324, 334; Forestry 321; Forestry Wildlife and Fisheries 211, 250, 311; Geography 365, 366; Geology 201, 202, 203; Philosophy 243*, 244, 245*; Political Science 402, 403, 446; Spanish 211, 212.

**PLANT SCIENCES, BIOTECHNOLOGY AND HORTICULTURE CONCENTRATION**
Agricultural Economics 330, 342, 350, 412; Accounting 200; Biochemistry and Cellular and Molecular Biology 310, 330, 401, 402, 404; Biology 240; Biosystems Engineering Technology 202; Business Administration 201; Chemistry 350; Ecology and Evolutionary Biology 304, 410, 414, 433; English 360*; Entomology and Plant Pathology 451; Environmental and Soil Sciences 355, 442; Finance 301; Management 300; Marketing 300; Microbiology 210.

**PUBLIC HORTICULTURE CONCENTRATION**
Accounting 415; Art 481; Agriculture and Extension Education 346; Communication Studies 440; Ecology and Evolutionary Biology 309, 330, 433; Educational Administration and Policy Studies 200; Educational Psychology 210; English 360*; Human Resource Development 562; Philosophy 245*; Public Relations 270, 470; Recreation and Leisure Studies 201, 430.

**TURFGRASS SCIENCE AND MANAGEMENT CONCENTRATION**
Agricultural Economics 212; Biosystems Engineering Technology 202, 212, 452, 462; Entomology and Plant Pathology 321, 410; Environmental and Soil Science 324.

Courses marked with an * meet the University General Education Requirement.

**Requirements for the Bachelor of Science in Plant Sciences • Plant Sciences Major • Landscape Design and Construction Concentration**

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology 111*, 112*</td>
<td>8</td>
</tr>
<tr>
<td>Chemistry 100* or 120*</td>
<td>4</td>
</tr>
<tr>
<td>Computer Science 100* or 102*</td>
<td>3</td>
</tr>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 113*, 123* or 151*</td>
<td>3</td>
</tr>
<tr>
<td>Plant Sciences 120</td>
<td>3</td>
</tr>
<tr>
<td>Social Sciences Elective*</td>
<td>3</td>
</tr>
</tbody>
</table>
**PLANT SCIENCE, BIOTECHNOLOGY AND HORTICULTURE CONCENTRATION**

The plant science, biotechnology and horticulture concentration is designed for students desiring to pursue professions in biotechnology or commercial production of agronomic and horticultural crops. This concentration also prepares students for graduate studies in plant sciences. Careful selection of departmental courses and other electives in consultation with the assigned academic advisor will prepare graduates for the career of their choice. The concentration consists of two tracks of study – emphasis in production horticulture and emphasis in science and biotechnology.

### Requirements for the Bachelor of Science in Plant Sciences • Plant Sciences Major • Plant Science, Biotechnology and Horticulture Concentration

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology 111*, 112*</td>
<td>8</td>
</tr>
<tr>
<td>Chemistry 100 and 110*, or 120* and 130*</td>
<td>8</td>
</tr>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 151*, 152*</td>
<td>6</td>
</tr>
<tr>
<td>Plant Sciences 120</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture and Natural Resources 290</td>
<td>3</td>
</tr>
<tr>
<td>Agricultural Economics 212</td>
<td>3</td>
</tr>
<tr>
<td>Biology 111*, 112*</td>
<td>3</td>
</tr>
<tr>
<td>Communication Studies 210* or 240*</td>
<td>3</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 210</td>
<td>3</td>
</tr>
<tr>
<td>Economics 201*</td>
<td>4</td>
</tr>
<tr>
<td>Plant Sciences 210</td>
<td>2</td>
</tr>
<tr>
<td>Social Sciences Elective*</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture Economics 310</td>
<td>1</td>
</tr>
<tr>
<td>Biochemistry and Cellular and Molecular Biology 321 or Forestry 414</td>
<td>4</td>
</tr>
<tr>
<td>Cultures and Civilizations Elective*</td>
<td>3</td>
</tr>
</tbody>
</table>

* Meets University General Education Requirement.

1 Choose from the University General Education lists. Selection should be made in conference with academic advisor.

1 Arts and Humanities Elective*

* Meets University General Education Requirement.

Public Horticulture Concentration

The public horticulture concentration is intended for students interested in professional careers that promote horticulture and emphasize people, their education and their enjoyment of plants. Such careers include director of a botanical garden or park; city or urban horticulturist; extension agent, teacher, educational director, or program coordinator; professional garden writer/editor or publication manager; horticulture therapist; public garden curator; and plant collections manager. Technical electives allow students to concentrate in specialties of their interest while encouraging the development of strong communication skills. Students are encouraged to earn a minor degree in a supportive field such as education, communications or journalism, or earn a Non-Profit Management Certificate.

### Requirements for the Bachelor of Science in Plant Sciences • Plant Sciences Major • Public Horticulture Concentration

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture and Natural Resources 290</td>
<td>3</td>
</tr>
<tr>
<td>Agricultural Economics 212</td>
<td>3</td>
</tr>
<tr>
<td>Biology 111*, 112*</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry 100* or 120*</td>
<td>4</td>
</tr>
<tr>
<td>Computer Science 100* or 102*</td>
<td>3</td>
</tr>
<tr>
<td>English 101*, 102*</td>
<td>3</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 210</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics 113*, 123*, or 151*</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture and Natural Resources 290</td>
<td>3</td>
</tr>
<tr>
<td>Agricultural Economics 212</td>
<td>3</td>
</tr>
<tr>
<td>Biology 111*, 112*</td>
<td>3</td>
</tr>
<tr>
<td>Communication Studies 210* or 240*</td>
<td>3</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 210</td>
<td>3</td>
</tr>
<tr>
<td>Economics 201*</td>
<td>4</td>
</tr>
<tr>
<td>Plant Sciences 210</td>
<td>2</td>
</tr>
<tr>
<td>Social Sciences Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Technical Electives</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture and Natural Resources 290</td>
<td>3</td>
</tr>
<tr>
<td>Agricultural Economics 212</td>
<td>3</td>
</tr>
<tr>
<td>Biology 111*, 112*</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry 100* or 120*</td>
<td>4</td>
</tr>
<tr>
<td>Computer Science 100* or 102*</td>
<td>3</td>
</tr>
<tr>
<td>English 101*, 102*</td>
<td>3</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 210</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics 113*, 123*, or 151*</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total 124**
TURFGRASS SCIENCE AND MANAGEMENT CONCENTRATION

The turfgrass science and management concentration is designed for the student desiring to pursue professions that include growing and managing turfgrasses used for golf courses, parks, athletic fields, sports complexes, and residential and commercial lawns. This concentration also prepares students for graduate studies in turfgrass science. Students are encouraged to earn a minor degree in a supportive field such as agricultural economics or environmental and soil sciences. Careful selection of departmental courses and other electives in consultation with the assigned academic advisor will prepare graduates for the career of their choice.

Requirements for the Bachelor of Science in Plant Sciences • Plant Sciences Major • Turfgrass Science and Management Concentration

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Arts and Humanities Elective</em></td>
<td>3</td>
</tr>
<tr>
<td>Chemistry 100* and 110*, or 120* and 130*</td>
<td>8</td>
</tr>
<tr>
<td><em>Cultures and Civilizations Elective</em></td>
<td>3</td>
</tr>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 123* and 125*, or 151* and 152*</td>
<td>6</td>
</tr>
<tr>
<td><em>Social Sciences Elective</em></td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture and Natural Resources 290</td>
<td>3</td>
</tr>
<tr>
<td>Biology 111*, 112*</td>
<td>8</td>
</tr>
<tr>
<td>Communication Studies 210* or 240*</td>
<td>3</td>
</tr>
<tr>
<td>Economics 201*</td>
<td>4</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 210</td>
<td>4</td>
</tr>
<tr>
<td>Plant Sciences 240, 241</td>
<td>3</td>
</tr>
<tr>
<td>Plant Sciences 210, 220, 280 or 290</td>
<td>2-3</td>
</tr>
<tr>
<td>Unrestricted Electives</td>
<td>3-4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Cultures and Civilizations Elective</em></td>
<td>3</td>
</tr>
<tr>
<td>Plant Sciences 210, 220, 280 or 290</td>
<td>2-3</td>
</tr>
<tr>
<td>Plant Sciences 330, 331, 341, 343, 348, 442, and 457-458</td>
<td>13</td>
</tr>
<tr>
<td>Technical Electives</td>
<td>3</td>
</tr>
<tr>
<td>Unrestricted Electives</td>
<td>9-10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year – Summer</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant Sciences 492</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Arts and Humanities Elective</em></td>
<td>3</td>
</tr>
<tr>
<td>Biology 250 or Biochemistry and Cellular and Molecular Biology 321</td>
<td>4</td>
</tr>
<tr>
<td>Entomology and Plant Pathology 313</td>
<td>3</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 334</td>
<td>3</td>
</tr>
<tr>
<td>Select from Plant Sciences 353, 360, 410, 421, 427, 429, 430, 434, 435, 436, 437, 446, 448*, 451, 461 or 494</td>
<td>5</td>
</tr>
<tr>
<td>Plant Sciences 441, 470</td>
<td>5</td>
</tr>
<tr>
<td>Technical Electives</td>
<td>6</td>
</tr>
</tbody>
</table>

* Meets University General Education Requirement.
1 Choose from the University General Education lists. Selection should be made in conference with academic advisor.

Students must meet the University General Education Requirement Communicating through Writing by selecting a course with a (WC) designation. This course may be in the major or from another discipline. Plant Sciences 448 satisfies the Communicating through Writing requirement.

Minor in Plant Sciences

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>A minimum of 18 semester hours of upper-division plant sciences courses</td>
<td>18</td>
</tr>
</tbody>
</table>

Total 18
To See and Understand.
To Envision and Create.

The mission of the College of Architecture and Design is the education of future design professionals. A professional education is characterized by integrity and responsibility, and informed by knowledge and orientation.

Our college is brought together to promote and sustain the built and natural environments through the development of design skills and the pursuit of knowledge.

We are committed to the development of individuals with creative imagination, intellectual curiosity, and technical knowledge.

We educate students in the design disciplines who can form independent judgment grounded in the broader contexts of intellectual traditions.

The students and staff of the College of Architecture and Design strive to make the college a community of inquiry, energy, and excellence, integrating research, creative activity, public service, teaching, and learning.

Professional Accreditation

The College of Architecture and Design includes three basic, professionally accredited programs of study at the undergraduate and graduate level.

Bachelor of Architecture
A professionally accredited five-year undergraduate first professional degree program of study.

Bachelor of Science in Interior Design
A professionally accredited four-year undergraduate program of study.

Master of Architecture
A professionally accredited first professional degree for students from any academic background. This three-year course of study is described in the Graduate Catalog.

Accreditation

Architecture
In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes two types of degrees – the Bachelor of Architecture and the Master of Architecture. A program may be granted a six-year, three-year, or two-year term of accreditation, depending on its degree of conformance with established educational standards.

Master’s degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree, which, when earned sequentially, comprise an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree. The University of Tennessee, Knoxville, offers both the five-year Bachelor of Architecture and a three-year Master of Architecture for students with an unrelated bachelor’s degree.

The four year pre-professional degree, where offered, or other architectural technology degrees are not accredited by NAAB. The pre-professional degree is useful for those wishing a foundation in the field of architecture, as preparation for either continued education in a professional degree program or for employment options in architecturally related areas.

Interior Design

Most states require that an individual intending to become a licensed interior designer hold a professionally accredited degree. The University of Tennessee, Knoxville, offers a four-year Bachelor of Science in Interior Design. It is professionally accredited by the Foundation for Interior Design Education and Research (FIDER), the sole agency authorized to accredit U.S. professional degree programs in interior design.

Admission

Due to the limited size of the design studios and college resources, admission to the College of Architecture and Design is highly selective, based on test scores, high school record, student application, and portfolio. In making its decisions, the college also requires a portfolio from applicants (see information below). Applicants will be informed of their status by April 15 of each year.

Required Portfolio

All applicants must submit a portfolio of personally produced graphic or visual work. The purpose of the portfolio is to demonstrate visual talent and abilities.

Aim for quality rather than quantity in selecting work. An ideal number would be eight to ten examples of personal work. All work shall be neatly assembled in an 8½ x 11 portfolio or organized folder/notebook. Submittals not adhering to this size require-
ment will not be reviewed. The portfolio must include at least three items:

- A freehand drawing of a stair.
- A freehand drawing of a collection of leaves.
- A freehand drawing of a bicycle.

The following guidelines have been established to assist applicants in selecting additional samples of personal work for the portfolio:

- Include other examples of drawings, artwork, photography, or anything else which may demonstrate visual abilities. Graphically, architectural or industrial design work may also be included.
- Include work for course assignments (if any), as well as work completed independently.
- Avoid extensive submissions of mechanically-drafted drawings or computer drawings, unless these are illustrative of a design project.
- Submission of the original item is not necessary. Inexpensively reproduced drawings, photographs, reductions, and photocopies are acceptable. Digital design work must be submitted as a hard copy. (No slides or disks.)
- Label all work with name, date when work was executed, and media.
- The cover or cover page of the portfolio should include the student name, address, phone number, social security number, and the program to which the application is made (Architecture or Interior Design).

The 8½ x 11 portfolio should be sent, with the application, to the Office of Admissions. It will be reviewed by members of the College Admissions Committee. In addition, include a self-addressed stamped mailer for the return of the portfolio. Otherwise, portfolios will not be held nor returned.

Advice to High School Students

High school students are encouraged to take physics, art, and calculus. Students enrolled in Advanced Placement courses should take the national AP exam. Extensive drafting, mechanical drawing or architecture courses based on drafting are not recommended.

Transfer Students

It should be noted that due to the strong sequential character of the curriculum, entry in any semester other than fall may be difficult. A course of summer study is usually offered which would allow transfer students to proceed to the second year course of study for the fall. Transfer students are required to submit a portfolio and to have at least a 2.3 grade point average to be considered. The average grade point average has been 3.5 for students accepted in recent years. Transfer students should apply by February 1, and should discuss their options with the Director of Student Services.

Academic Policies

Advising

Students must plan their schedule in consultation with the college’s Advising Center. In addition, entering architecture and interior design students will be assigned to an upper-class student who will serve as a peer advisor. The Director of Student Services is available to answer additional questions and to oversee questions related to admissions, advising, and career placement.

All academic policies of the College of Architecture and Design are summarized in the Student Handbook, published each year by the college and on the Web site.

Course Load

The average course load in any semester is 17 credit hours. The minimum which may be taken by full-time students is 12 hours. The maximum which may be taken without approval of the dean is 19 hours.

Satisfactory/No Credit Courses

Courses that are a part of the specific requirements of the college cannot be taken as Satisfactory/No Credit.

Credit hours over and above the specific graduation requirements may be taken Satisfactory/No Credit. A student who desires to take a course Satisfactory/No Credit should indicate this at the start of registration. Courses evaluated as Satisfactory will count as hours toward graduation but will not be calculated in the student’s GPA.

SCHOOL OF ARCHITECTURE

Professors

Davis, M.K., MArch .......................................................... Harvard
Kelso, R.M., PhD .............................................................. Loughborough
Kinzy, S.A., PhD .............................................................. State University of New York (Buffalo)
McRae, J.M., MArch ......................................................... Rice
Rabun, J.S., PhD .............................................................. York
Robinson, M.A., MArch .................................................... Pennsylvania
Shell, W.S., MSArch .......................................................... Columbia

Associate Professors

Davis, T.K., MArch ............................................................ Cornell
DeKay, M., MArch ............................................................. Oregon
Debelius, C.A., MArch ....................................................... Harvard
Dodds, G., PhD ................................................................. Pennsylvania
Faxon, D., MArch ............................................................... Cranbrook Academy of Art
Kleinhammer, B., Dipl-Ing ................................................... RWTH (Aachen)
Martella, W.E., BArch ......................................................... California (Berkeley)
Moir-McClean, T., MArch .................................................... Michigan
Schimmenti, M., MArch ...................................................... Florida
Stach, E., Dipl-Ing ................................................................. RWTH (Aachen)

Assistant Professor

Ambroziak, B., MArch ......................................................... Princeton

Architecture involves the study and transformation of the built environment, from the scale of furniture to the scale of the city. The goal of an architectural education is to develop a synthetic thought process of critical thinking and creative problem solving. Creative thinkers must address all aspects of the built environment, in its cultural, social, and ethical context. As a professional discipline, architecture spans both the arts and the sciences. Students must have an understanding of the arts and humanities, as well as a technical understanding of structures and construction. Skills in communication, both visual and verbal, are essential. While knowledge and skills must be developed, the school strongly emphasizes a process of critical thinking and creative activity.

Progression

Students must maintain an overall 2.3 grade point average by the end of 32 hours in order to maintain “full status” in the program. Delinquent students will be put on “temporary status” for one semester. These students will have one semester to raise the overall GPA to a 2.3. If the GPA is not brought up to 2.3, the student will be dropped from the architecture program.

Students may advance to second year design (271) with satisfactory completion of the first year program (including mathematics) with a grade point average of 2.3. Students may advance to third year design (371) with the completion of all first and second year courses. For 371 and all subsequent design courses, students must maintain a design grade point average of 2.3. Students must repeat the previous level design course(s) until the average is raised to 2.3. Electives on the 300- and 400-level are open to all students who have the necessary prerequisites at any time.

Exceptions to academic policies may be made through petition, reviewed by the school’s Academic Standards Committee.

Special Programs in Architecture

The School of Architecture is committed to providing a variety of meaningful learning opportunities beyond the classroom itself. Lectures, panel discussions, films, symposia, and exhibits are all important components of a lively academic environment. Within the regular course of study, students have an opportunity to explore diverse aspects of architecture related to urbanism, historic preservation, and community service. Since its founding, the school has always sponsored a foreign studies opportunity.
Exhibits
The Ewing Gallery in the Art and Architecture Building hosts numerous exhibits related to art and architecture. Adjacent to the Commons Space is an Exhibition Wall for more informal exhibits of students, faculty, and visiting artists and architects. In the Commons itself are more spontaneous exhibits of current student work.

Field Trips
Throughout the year, various field trips are organized by the school. The purpose of the field trips is to expose students to major cities with important architecture and to works of architecture that may not normally be open to the general public.

Lectures, Films, and Videos
The Robert B. Church Memorial Lecture Series is an annual endowed gift in memory of a former dean of the school. Over the years, the Church Lecture Series has allowed the school to bring prominent architects to Tennessee. The regular lecture series features architects, artists, theorists, planners, and historians who discuss their work and ideas. Films and videos also introduce students to a wide range of issues related to architecture, art, urbanism, and culture. Every spring, General Shale Corporation hosts a lecture as part of The Annual Architecture Spring Thing (TAAST), a traditional series of events organized by students.

Special Topic Design Studios
For many years, the school has provided opportunities for students to participate in off-campus design studios located in urban areas of the state. These studios combine creative work with community service to make an exceptional learning experience for advanced students.

During the summer, students may elect to participate in different programs sponsored by the University of Tennessee College of Architecture and Design. Furthermore, students may also participate in summer programs sponsored by other accredited architecture schools. Students will receive appropriate college credit, which may lead to advancing through the program.

Opportunities for Foreign Study
Students in their fourth year of study may elect to spend one semester studying abroad in a program organized either by the University of Tennessee, Knoxville, or by other accredited architecture programs. Since 1988, the school has had a very successful exchange agreement with the University of Krakow in Poland.

In cooperation with Danish International Studies, a program is regularly offered in Copenhagen which attracts architecture students from around the world. The University of Tennessee, Knoxville, is involved in a recently established International Studies at the Bauhaus University in Weimar. The university also has an exchange agreement with the Royal Melbourne Institute of Architecture in Melbourne, Australia, with Chongqing Institute of Architecture and Engineering in Sichuan Province, China, and with the University of Frankfurt in Germany.

During the summer, many different summer programs abroad sponsored by other architecture schools are available to UT Knoxville students for transfer credit. Students are encouraged to seek new educational experiences.

The Profession’s Participation in the School
As the only accredited architecture program in the state, the School of Architecture tries to maintain a close relationship with the architectural community of the city, state, and region. Professionals regularly come to the school to attend and respond to student presentations, to conduct workshops, to participate in School events, and to interview graduating students. Every spring, the architecture community of Knoxville attends an exhibit of graduating students’ work, where students have the opportunity to discuss their designs with practicing architects.

Architecture, a broad field of study with many diverse ways for individuals to become involved in the profession. The profession itself is diversifying and changing rapidly due to changing financial structures, increasing specialization, expanding liability, and evolving electronic technology. Students are strongly urged to visit and work in different architectural offices in order to acquire a better sense of the profession and career commitment.

**BACHELOR OF ARCHITECTURE**

The curriculum for the Bachelor of Architecture degree includes a combination of required and elective courses offering the student both a solid professional program of study and a sound general education. While the majority of courses are designated as required, students may use the available architecture and general electives to broaden their education and to expand their knowledge in areas of personal interest.

All students studying for a Bachelor of Architecture degree will complete the following requirements in their course of study. For any additional specialized requirements, the student should refer to the *Student Handbook* of the School of Architecture and the student’s faculty advisor.

**Requirements for the Bachelor of Architecture**

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture 101, 102</td>
<td>5</td>
</tr>
<tr>
<td>Architecture 121, 122</td>
<td>4</td>
</tr>
<tr>
<td>Architecture 171, 172</td>
<td>7</td>
</tr>
<tr>
<td>Architecture 211*, 213*</td>
<td>6</td>
</tr>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 125*</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture 212*, 213*</td>
<td>6</td>
</tr>
<tr>
<td>Architecture 231</td>
<td>3</td>
</tr>
<tr>
<td>Architecture 232</td>
<td>3</td>
</tr>
<tr>
<td>Architecture 271, 272</td>
<td>12</td>
</tr>
<tr>
<td>Physics 161*</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture 312</td>
<td>3</td>
</tr>
<tr>
<td>Architecture 331*, 332</td>
<td>8</td>
</tr>
<tr>
<td>Architecture 341, 342</td>
<td>8</td>
</tr>
<tr>
<td>Architecture 371, 372</td>
<td>12</td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture 431</td>
<td>3</td>
</tr>
<tr>
<td>Architecture 471, 472</td>
<td>12</td>
</tr>
<tr>
<td>Electives</td>
<td>18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fifth Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture 482</td>
<td>4</td>
</tr>
<tr>
<td>Design Course Option</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>12</td>
</tr>
<tr>
<td>Electives</td>
<td>15</td>
</tr>
</tbody>
</table>

Total 171

* Meets University General Education Requirement.
1 Students are not allowed to enroll simultaneously in two of these design courses.
2 Students are exempt from Mathematics 125 with a score of 25 or higher on the calculus readiness test. Students exempt from Mathematics 125 must take a higher level Quantitative Reasoning elective to meet the University General Education Requirement.
3 Elective distribution: two courses from the Social Sciences (SS) list; two courses from the Cultures and Civilizations (CC) list (which includes intermediate-level foreign languages); 12 hours of architecture electives; 15 hours of non-architecture electives, which must include one course from the Natural Sciences (NS) list with a laboratory and one course from the Communicating Orally (OC) list; 12 hours of free electives.
4 Two courses from Architecture 481, 482, 483, 484, 485, 486, or 489. Architecture 472 may be taken at any time in the last three semesters.
INTERIOR DESIGN PROGRAM

Professors
DeLong, A., PhD ........................................ Pennsylvania State
Rabun, J., PhD ........................................... Tennessee

Associate Professor
Robinson, M.B., M5 ...................................... Massachusetts

Assistant Professor
Tan, M., MFA ............................................... Iowa State

Interior design involves the study and transformation of the environment at the human scale. Interior designers understand how the design of furnishings, function, and space can improve the quality of life. As licensed professionals, interior designers analyze complex design challenges involving interior construction and technical considerations related to issues such as lighting, acoustics and mechanical systems. Their designs must meet code issues involving fire, electricity, structure, occupancy and materials. Interior design is broader than interior decorating, which focuses primarily on furniture and finishes.

In designing the micro-environment for specific functions or programs, interior designers are knowledgeable about how users experience space. Interior designers understand how each detail of a design affects the overall concept.

The goal of an education in interior design is to develop a synthetic thought process of critical thinking and creative problem solving while building technical knowledge and an understanding of the human environment. Creative thinkers, in architecture and interior design, must address all aspects of the built environment in its cultural, social, and ethical context.

The interior design program is professionally accredited by the Foundation of Interior Design Education Research (FIDER). All graduates, with sufficient internship experience after graduation, are eligible to take the National Council for Interior Design Qualification (NCIDQ) exam.

Progression and Retention

Upon admission to the University of Tennessee, Knoxville, and the college, students may begin the interior design major. Progression into third year occurs after completion of Interior Design 272.

For progression into third year, students must meet the following criteria:

• Cumulative grade point average of 2.3 or greater.
• Cumulative grade point average in the major of 3.0 or greater in the following interior design courses – 141, 171, 200, 221, 271, 272, 231, 261, with no grade below a C.
• Portfolio Review accepted by faculty.
• Successful interview following completion of Interior Design 272.

For retention, student must meet the following criteria.

• Before enrolling in any interior design course, a grade of C or better must be made in each prerequisite required interior design course.
• Cumulative grade point average of 2.3 or greater.
• Grade of I must be removed before registration for next interior design course.

For graduation from the interior design program, students must meet the following criteria.

• Grade of C or better in all interior design courses.

Special Programs in Interior Design

Required Summer Internship

All interior design students are required to have a professionally based summer internship. The faculty will help students find appropriate placement, as well as monitor the student's progress in the internship.

Professional Community’s Involvement

As the oldest accredited interior design program in the state, the interior design program tries to maintain a close relationship with the interior design community of the city, state, and region. Professionals regularly come to the school to attend and respond to student presentations, to conduct workshops, to participate in school events, and to interview graduating students.

Field Trips

All interior design students regularly participate in a variety of field trips to important works of design as well as to interior design conventions and product shows.

Opportunities for Foreign Study

Students in their fourth year of study may elect to spend one semester studying abroad in a program, organized either by the University of Tennessee, Knoxville, or by other accredited architecture programs. In cooperation with the Danish International Studies, a program is regularly offered in Copenhagen that attracts interior design students from around the world.

BACHELOR OF SCIENCE IN INTERIOR DESIGN

The interior design curriculum is a rigorous course of study which combines technical courses, design studio courses, humanities, and a wide choice of electives. Through coursework and field study experiences, students develop specialized problem solving skills and knowledge for the analysis, planning and design of interior architectural environments. They apply the use of lighting, color, mechanical systems, and furnishings as they design spaces for both residential and commercial settings.

Beyond the professional core, students are encouraged to pursue interests related to horticulture, theater design, historic preservation, business, or other personal interests.

Requirements for the Bachelor of Science in Interior Design

First Year

Architecture 121, 171, 172 ................................... 9
Interior Design 141, 171, 172................................. 8
1Mathematics 123 or 125* .................................... 3
2English 101*, 102* ......................................... 6
3Social Sciences Elective* ..................................... 3
4Natural Sciences Elective (must have a lab)* ............ 4

Second Year

Interior Design 200, 221, 261, 271, 272 ................. 19
Architecture 231 ........................................... 3
Art History 172*, 173* ....................................... 6
Physics 161* ................................................ 3
Communicating Orally Elective* ......................... 3

Third Year

Interior Design 311, 312, 331, 371, 372, 360, 460* ....... 27
Materials Science and Engineering 220 ................. 3
5Communicating Orally Elective* ......................... 3

Summer (ID 420) ............................................. 3

Fourth Year

Interior Design 471, 472, 480 .............................. 16
5Elective (Art Studio) ....................................... 3
6Elective (Professional) .................................... 3
5Cultures and Civilizations Electives* ....... 6
3Social Sciences Elective* .................................. 3
Elective ...................................................... 3

Total 137

* Meets University General Education Requirement.
1 Select Mathematics 123 or 125 (required) and Interior Design 460 (required).
2 Select 101, 102 (required) and one other writing-intensive course (WC).
3 Select 6 hours from Anthropology 130; Psychology 110; Sociology 110, 120; Economics 201 (if you plan to minor in business administration); Women’s Studies 230; or other approved course (SS) designated.
4 Select Physics 161 (required) and one other designated Natural Science (NS) such as Astronomy 161, Biology 101, Biology 111, Chemistry 120, Geology 101
5 Select 3 hours from Communication Studies 210 or 240.
6 Select any Art, Art Ceramics, Art Design/Graphic, Art Drawing, Art Media Arts, Art Painting, Art Printmaking, or Art Sculpture.
7 Select from interior design or approved architecture courses not required for graduation.
8 Select 6 hours from Classics 201; Asian Studies 101, 102; any designated history course (CC); Medieval Studies 201; Religious Studies 101, 102; or two foreign language (CC) designated.
The College of Arts and Sciences is home to a wide array of academic disciplines and interdisciplinary programs. Such diverse areas of study as computer science and classics, anthropology, women's studies and Latin American studies are represented among the 26 departments and schools and 13 special programs that compose the college.

The faculty of the college are committed to providing both comprehensive general education and concentrated study in a particular field to all students enrolled at the University of Tennessee, Knoxville. General education offers opportunities to master the basic learning skills necessary to understand a specialized area of study and is essential for the continuation of learning throughout life.

Arts and Sciences faculty are also committed to educating students in a discipline. Education with a disciplinary focus prepares students for further study at the graduate level and for careers in business, public service, or any other endeavor. As our world becomes both more specialized and more changeable, the need to find the right balance between general and specialized knowledge becomes essential.

The central purposes of a liberal education include the encouragement of intellectual tolerance, a dedication to the quest for knowledge as a worthwhile goal in and of itself, and the cultivation of a responsible, creative, individual mind. These qualities enable one to develop an ability to reason and to express oneself clearly, an incentive to absorb emerging knowledge, and a competence to confront the uncertainties of human experience. For the student whose interests and talents lead into research, scholarship, and teaching, a liberal education provides an invaluable foundation. For the individual who enters business, industry, the professions, or government service, it furnishes a broadly useful and well-rounded educational background. For all, it offers the opportunity to share in a rich intellectual heritage, in the adventures of the mind, and in the life of the educated imagination. A liberally educated person is identified not so much by specific knowledge as by quality of mind and by creative response to the challenges of the times.

The great universities of the world are so labeled because their faculties have earned the reputation of being renowned scholars. The University of Tennessee, Knoxville, has earned such a reputation because of the quality of the research and creative activity of its faculty. The student who studies in the College of Arts and Sciences has joined a community of scholars. To study with such a talented faculty is to experience the best education possible.

The faculty of the College of Arts and Sciences provide to all students a general education and to thousands of students a year a more specialized education in any one of twenty-six disciplines and thirteen or more interdisciplinary programs. The college's faculty help their students prepare for any and all careers. Faculty research and creative activity are the foundations on which education in this college is built. As a result of that faculty endeavor, the lives of students are enriched and the world's body of knowledge grows. That is the basic mission of the College of Arts and Sciences faculty in a research university.

Programs of Study

Seeking the broad, general goals of a liberal education, students come into the college also with a wide variety of specific educational and vocational objectives. Recognizing this diversity, the college offers a number of different programs of study leading to the baccalaureate degree and also several pre-professional curricula which prepare students for advanced study but do not lead to a degree from this college.

Bachelor of Arts

The Bachelor of Arts represents the attainment of a broad knowledge of the arts and sciences as well as a comprehensive understanding of one or more areas of special interest. Three programs leading to this degree are open to the student.

Basic Program

The program appropriate for most Bachelor of Arts students is developed around the basic skills and distribution requirements plus intensive study in one or more of the specified departmental or interdepartmental major fields described below.

Individualized Program

Designed for students whose educational goals are best met by a program tailored to their particular needs, it is the same as the basic program in broad area requirements but permits the student to develop an individual concentration incorporating work in two or more departments.

College Scholars Program

Intended for a limited number of students who are especially
qualified and motivated and who have been selected to under-
take this honors program, the College Scholars Program permits
the students maximum freedom to design a curriculum to meet
particular interests and goals.

Bachelor of Science
The Bachelor of Science degree, offered in selected depart-
ments and programs, is designed for students who wish to pur-
sue a more scientifically or professionally oriented program of
study. Three programs leading to this degree are offered.

Basic Program
The basic program for the Bachelor of Science degree con-
tains basic skills and distribution requirements similar to the basic
program for the Bachelor of Arts as well as a unique set of
requirements for the major including additional study in math-
ematics, statistics, or laboratory sciences.

Pre-Professional Program
The pre-professional program is offered for those who wish to
participate in the cooperative 3+1 curricula in the health sciences
(medicine, dentistry, pharmacy, veterinary medicine, or nuclear
medicine technology). Students taking one of the health sciences
curricula proceed directly to specialized training in the chosen
area after the third year of Arts and Sciences study and complete
the first year of professional study in lieu of satisfying the require-
ments for the Bachelor of Science degree with a major concen-
tration in the college.

Bachelor of Science in Chemistry
See Department of Chemistry.

Bachelor of Fine Arts
See School of Art.

Bachelor of Music
See School of Music.

Requirements for Degrees
To earn a Bachelor of Arts or Bachelor of Science degree,
these requirements must be completed.

- All university degree requirements as described in the
  section, Academic Policies and Procedures – General
  Requirements for a Bachelor’s Degree.
- A minimum of 120 credit hours.
- At least 42 credit hours in courses numbered 300 or
  above.
- Appropriate work to satisfy basic skill and distribution
  requirements, counting no course in more than one area.
  (This is not a requirement in the College Scholars Pro-
  gram.)
- Completion of at least one major (24-40 credits at 200
  level or above for Bachelor of Science majors and 24-37
  credits at 200 level or above for Bachelor of Arts majors);
  up to 6 hours in the major may be used, where listed, to
  satisfy basic skills or divisional distribution requirements.
  Courses used for the major may not be used to satisfy
  upper level distribution requirements.
  Students may choose to develop one or more minors (mini-
  mum 15 hours at the 200-level and above).
- Students may take up to 20 hours of courses graded Satisfac-
tory/No Credit in an area outside the major or minor, basic skills
  or distribution requirements.

Satisfactory/No Credit
A few courses in the college are offered only on a Satisfac-
tory/No Credit (S/NC) basis and students may elect to take others
on this basis, except in areas where the option is specifically pro-
hibited. Such courses, if successfully completed, will count as
hours for graduation although neither S nor NC grades will be
calculated in the student’s grade point average. Satisfactory is
defined as C or better work on the traditional grading scale and
No Credit is defined as less than C. The following regulations apply.

- S/NC courses, except those offered only on this basis,
  may not count for basic skills or distribution requirements
  or major and minor requirements unless specifically per-
  mitted by petition. This restriction applies also to major or
  minor prerequisites or corequisites.
- The maximum number of S/NC elective hours which may
  be counted toward graduation is 20, exclusive of courses
  offered only S/NC, physical education courses, and/or sat-
  isfactory hours earned by examination, military service, etc.
- A transfer student with S/NC or equivalent credit earned
  prior to admission to the University of Tennessee,
  Knoxville, in a course which satisfies a basic skills or dis-
  tribution requirement may count it for that purpose. In the
  case of a course which satisfies a major or minor require-
  ment, statement 1 (above) applies.

The option of taking courses on a S/NC basis is provided to
encourage the able student to venture beyond the limits of those
courses in which the student does well and, motivated by intel-
lectual curiosity, to explore subject matter in which performance
may be somewhat less outstanding than work in preferred sub-
ject fields.

Note: Students planning to seek admission to graduate or
professional schools (especially in the health sciences) should
discuss with their advisors possible limitations on exercise of the
S/NC option before registering for courses on this basis.

Basic Skills and Distribution Requirements
The Bachelor of Arts and the Bachelor of Science degrees
share the same program of basic skills and distribution require-
ments (except where noted otherwise).

Basic Skills
All students who earn a degree in the College of Arts and Sci-
ences must have demonstrated skill in the use of the English lan-
guage, the ability to acquire another language, and the ability to
use the tools of quantitative analysis or formal logic. The specif-
ric requirements are as follows.

English Composition
Skills necessary to write persuasive, logical and coherent
essays in English; to read critically texts from a variety of media;
to evaluate and cite sources in research; and to be aware of how
to write for different audiences and purposes.

Students may meet this requirement in one of two ways.

- By completing 6 hours in English writing courses – either
  English 101 and 102; or English 118 and English 102; or
  English 131 and 132. Students who obtain a grade of A or
  B in 118 may complete their freshman requirement with
  102, or with a sophomore literature course in the English
  Department, or English 355. The sophomore literature
  course may, if so listed, also be used toward the humani-
ties distribution requirement.
- By earning a score of 4 or 5 on the College Board
  Advanced Placement Test in Literature and Composition.
  Credit in English 101 is earned with a score of 4 or 5 on
  the Advanced Placement Test in Language and Composi-

Placement Information
Eligibility for English 118 will be determined by ACT or SAT
scores and a placement exam. Selected students will be placed
in English 103 based on ACT or SAT scores and may not drop
this course without departmental approval. Details are available
from the English Department.

A student must complete the English composition requirement
prior to enrolling in English courses numbered 200 or higher.
Communicating through Writing

To fulfill the University General Education Requirement, all students must complete the first year composition sequence described above, and, upon completion of English 101 and 102 or their equivalent, take one other course designated as (WC) in the Undergraduate Catalog. The WC course may or may not be within the student's major. WC courses may also satisfy college distribution requirements.

Communicating Orally

The ability to communicate one's ideas orally is as important as the ability to express them in writing. All students must fulfill the University General Education Requirement by completing one course with an (OC) designation. The OC course may or may not be within the student's major. OC courses may also satisfy college distribution requirements.

Foreign Language

Skills necessary to learn the basic structures and vocabulary of a foreign language; to read, write, understand, and, for modern languages, speak a foreign language; to understand how to learn another language; to better understand one's own native language; and to complement the study of other cultures or civilizations.

Students may meet this requirement in one of three ways:

- Completion of the intermediate-level sequence of a foreign language. Any one of the following sequences will satisfy the requirement – Asian Languages 231-232 or 251-252; Asian Studies 221-222, 241-242, or 261-262; French 211-212 or 217-218; German 201-202; Classics (Greek) 261 and 264; Classics (Latin) 251 and 252; Italian 211-212; Portuguese 211-212; Russian 201-202; Spanish 211-212 or 217-218.

- Demonstration of competence on a departmental placement or proficiency examination or by AP or CLEP credit.

- Students whose native language is not English may satisfy the requirement with English 131 and 132 and any two courses from List A: Literature under the Humanities Distribution Requirement.

Placement Information

All students who wish to enroll in a French, German, Latin, or Spanish course, who have completed at least two years of this language in high school, and who have not yet taken a college course in the language must take a placement examination before enrolling. Placement in the appropriate course will be determined by the score on the examination. Examinations will be given during summer orientation and at designated times during the fall, spring, and summer. Students who place into 200-level courses will receive 6 hours of elementary language credit, provided that they do not subsequently enroll and receive credit for any 100-level course in the same language. If they do, elementary placement credit is forfeited and removed from the student's transcript. Students who place into 300-level courses will receive 6 hours of intermediate language credit. Under no circumstances may any student earn more than 6 hours of language placement examination credit. Students who feel they have been inappropriately placed should consult the appropriate language section.

Mathematics and Quantitative Reasoning

Skills in mathematics, quantitative reasoning, and computing required for estimation and calculation, understanding logical processes, critical analysis, problem solving and decision making. Students may meet this requirement by completion of two of the following courses, or one of the following courses and Computer Science 100 or 102.

- Statistics 201, 207.

Distribution Requirements

All of these requirements are designed to enhance the skills of thinking critically and analytically, and of effective communication and writing through study and use of different kinds of human knowledge. The distribution requirements are in two parts. Part A: Divisional Distribution Requirements, which require students to take courses in the various divisions of the college, and Part B: Upper-Level Distribution Requirements.

Part A: Divisional Distribution Requirements

Natural Science

A two-course laboratory sequence and an additional course that will introduce students to the increasingly important role of science and technology in all aspects of modern life. This requirement will introduce students to the basic discoveries, knowledge and logical organization of scientific disciplines and to development and testing of hypotheses. Laboratory courses will develop skills in experimental tests of hypotheses; lectures will introduce students to the role of scientific methodology and problem-solving in society.

Students may meet this requirement by completion of a two-course sequence from list A and an additional course from List A or List B.

List A

- Astronomy 161-162, 217-218; Biology 101-102, 111-112; Chemistry 100-110, 120-130, 128-138; Geography 131-132; two from Geology 101, 102, 103; Geology 107-108 (students who earn an A in 101 or a B or better in 107 may take 108); Physics 135-136, 137-138, 221-222.

List B

- Anthropology 110, 304; Astronomy 151; 152; Biochemistry and Cellular and Molecular Biology 230, 306 (same as Anthropology 304); Biology 130, 157; Chemistry 150, 160; Computer Science 140, 160; Ecology and Evolutionary Biology 309, 330, 410; Geology 201, 202, 203, 205; Mathematics 231; Microbiology 210; Physics 101, 102.

Social Science

Courses that will introduce students to the idea of individuals in societies, to perspectives and methods used by social scientists, and to the uses of these perspectives and methods in thinking about current social, economic and political issues and problems.

Bachelor of Arts students may meet this requirement by completion of four courses from at least two departments listed below. To meet the University General Education Requirement, two of the courses selected must be from List A. The other courses can be chosen from List A or List B. Bachelor of Science students must complete two courses from different departments. To meet the university's general education requirement, both courses must be selected from List A.

List A

- Africana Studies 201, 202; Anthropology 130; Economics 201, 207; Geography 101, 102; Political Science 102; Psychology 110, 117; Sociology 110, 117, 120, 127.

List B

- Africana Studies 310; Anthropology 120, 362; Audiology and Speech Pathology 320; Communication Studies 201, 220, 260, 330; Ecology and Evolutionary Biology 304; Educational Psychology 210; Geography 320, 340; Global Studies 250; Linguistics 200; Musicology 290, 310; Political Science 101, 107; Psychology 220, 360; Religious Studies 232, 301; Sociology 232, 250, 260, 344, 370; Women's Studies 220.

Humanities

Courses that will provide skills to appreciate and interpret literary, philosophical, or religious texts, and to participate as an appreciative observer or artist in a discipline within the visual, spatial, musical, theatrical, or written arts.
To meet the University General Education Requirement, students must choose two courses identified by an asterisk (*) from the list of courses below.

Bachelor of Arts students must complete three courses. At least two of the three courses must be chosen from those indicated by asterisks (*). In addition, one course must be selected from List A, one from List B, and one from List A, B, or C. Bachelor of Science students must complete two courses. Both courses must be chosen from those indicated by asterisks (*). One course must be selected from List A or B.

Writing-emphasis courses require at least 2,000 words, normally comprising one sustained essay or report of at least 1,000 words plus additional writing assignments such as in-class essay exams, journals, book reviews, etc. The purpose of the requirement is to help students learn course materials through writing; develop critical thinking skills; demonstrate the ability to sustain an argument; and strengthen existing writing skills.

List A – Literature


List B – Philosophical and Religious Thought


List C – Study or Practice of the Arts


Non-U.S. History

A two-course sequence to enhance appreciation of the diversity of the world's societies, their cultures, and histories. This requirement will develop understanding of how the past shapes individuals and communities in practical decisions and in understanding of self and world; will contribute to skills in explaining change and continuity of human society and the interpretation of people, events and trends in context of the ideas, values, social and political conditions that affect them.

Students may meet this requirement by completion of one of the following sequences. All courses are writing-emphasis courses.


Part B: Upper Level Distribution Requirements

Courses that use skills and knowledge acquired in the basic skills and divisional distribution areas to understand and analyze a highly interdependent world system and to make informed comparisons among contemporary cultures. These courses develop understanding of United States society, of national and international diversity, and of critical issues of the modern world.

Bachelor of Arts students may meet this requirement by completion of two courses from one list and one course from the other list. Bachelor of Science students must complete one course from each list. All courses are writing-emphasis courses.

List A – United States Studies

Africana Studies 315, 331, 333, 343, 352, 429, 445, 446, 480, 484; American Studies 310, 312, 334, 343, 355, 423, 469; Anthropology 305, 310, 312, 315, 320, 321, 360, 363; Art History 471, 472, 473, 483; Cinema Studies 312, 334, 469; Communication Studies 450, 466, 469, 476; Ecology and Evolutionary Biology 305; Economics 331, 333, 361, 362, 371, 413, 435, 472; English 311, 332, 333, 334; Geography 361, 363, 366, 423, 441, 443; Geology 381; History 350, 351, 445, 446, 451, 453; Legal Studies 330, 340, 455, 469; Philosophy 390; Political Science 311, 312, 330, 374; Psychology 434; Religious Studies 351, 352, 355; Sociology 310, 340, 434, 455; Women's Studies 310, 332, 340, 434, 453, 466, 469, 476, 484.

List B – Foreign Studies

This list is subdivided by geographic area and topic. If Western Civilization (History 241-242) or Medieval Civilization (Medieval Studies 201-202) is used to satisfy the non-United States history divisional requirement, courses from the European concentration may not be used to satisfy this requirement.

In addition to the courses listed here, this requirement may be satisfied by literature courses taught in Chinese, French, German, Greek, Hebrew, Italian, Japanese, Latin, Portuguese, Russian, Sanskrit, or Spanish. Literature courses in English translation will not meet this requirement.

Africa

Africana Studies 371, 372, 373, 379, 381, 421, 452, 461, 462, 463; Anthropology 373; Art History 461, 462, 463; Geography 379; History 371, 372, 381; Political Science 452; Religious Studies 373.

Asia

Art History 411, 415, 416, 419, 464; Asian Languages 315, 413; Cinema Studies 315; History 389, 390, 391, 392; Japanese 413; Philosophy 374, 376, 379; Political Science 454; Religious Studies 374, 376, 379, 383, 474.

Europe

Anthropology 436, 462; Art History 425, 431, 441, 442, 451, 452, 453, 454, 475, 476; Cinema Studies 323, 325, 420, 421; Classics 381, 382, 383, 436; English 301, 302, 321, 401, 422; French 420, 431, 432; Geography 371; German 323, 350, 363; History 319, 320, 323, 429, 432, 490; Italian 414, 421; Judaic Studies 322, 350, 425, 431; Linguistics 321; Medieval Studies 322, 403, 405, 431, 441, 442, 451; Philosophy 320, 322, 324, 326; Political Science 361, 459; Russian 325, 371, 372; Women's Studies 383, 422, 432.

Latin America

Africana Studies 319; Anthropology 313, 316, 319; Cinema Studies 316, 434, 465; Geography 373; History 360, 361, 460, 461, 462, 463, 465, 475; Latin American Studies 313, 314, 316, 319, 331, 360, 361, 372, 373, 401, 456, 460, 461, 462, 463, 475; Political Science 456; Portuguese 316; Spanish 331, 401, 434, 465, 489.

Middle East


Critical Issues in Foreign Studies

Africana Studies 442; Cinema Studies 482, Economics 322; Geography 345, 351; Global Studies 482; History 374, 375, 395, 484; Judaic Studies 395, 484; Mathematics 400; Modern Foreign Languages and Literatures 482; Political Science 350, 365; Sociology 360, 442, 446, 465; Women's Studies 360.

 Majors

Requirements for specific majors vary by program and are discussed under each department or program. A major consists of at least 24-40 credit hours in courses numbered 200 or above as specified by the department or program. Courses taken to sat-
Elective Courses

At least one-fourth of each student’s curriculum in the basic program will be made up of courses selected according to the individual’s interests to supplement and support the work being done in the major and basic skills and distribution requirements. This dimension of the student’s experience at the university represents that freedom within which total education may be rounded out and enriched. Elective courses should be chosen with care so that they will truly enhance the student’s total program and help in the achievement of well thought-out educational objectives.

Some of the choices which the student might make in selecting the elective courses are additional courses in the major field; a related minor; an area in the arts; an off-campus semester.

Only the student’s imagination and initiative and the willingness to conceive and develop a meaningful academic program limit the choices of supplementary elective courses.

Program for Prospective K-12 Teachers

Student planning careers in K-12 teaching must complete an Arts and Sciences major in a department, in one of the interdisciplinary programs, or, if eligible, in the College Scholars Program. Prospective secondary teachers must fulfill the requirements of appropriate content majors; prospective elementary teachers may choose any major in the College of Arts and Sciences.

To be licensed for teaching, students must also gain formal admission to the Teacher Education Program in the College of Education, Health, and Human Sciences. The process involves successful completion of a series of requirements including presentation of satisfactory scores on certain tests, completing professional courses in the College of Education, Health, and Human Sciences, maintenance of a 2.7 or higher GPA, and completing a fifth year program emphasizing practical application. For details, see the College of Education, Health, and Human Sciences section of this catalog and contact the Advising Center, Claxton Complex 332.

COLLEGE SCHOLARS PROGRAM

A limited number of freshmen and sophomores, entering transfer students with fewer than 42 credit hours, and resident students with fewer than 62 credit hours are invited each year to enter this distinguished honors curriculum. Selection is based on previous academic record, test scores, recommendations, a written essay, and a personal interview. Admission is provisional for two semesters; continuation depends upon maintenance of a satisfactory record (normally 3.25 or above) and evidence of ongoing motivation and interest.

The College Scholars Program affords the highest degree of freedom to the student in developing a meaningful curriculum. Each program is worked out individually with a special advisor (mentor) who under ordinary circumstances continues to advise the student throughout the college career. Together they determine what kinds of course work and/or other learning experiences will best fulfill the student’s objectives, while at the same time achieving the kind of liberal education the college believes is important for every student. In the final two years of the program, students will be heavily involved in independent study or research required of all college scholars. When college scholars fulfill departmental requirements for additional majors or minors, these will be recorded on the scholars’ transcripts. Scholars will not be required to meet Basic Skills or Distribution requirements in order to have such majors or minors officially recognized, but will be required to meet the University General Education Requirement. Further information and applications may be obtained from Arts and Sciences Advising Services.

INDIVIDUALIZED PROGRAM

Existing Arts and Sciences majors will satisfy the needs of most students entering the university. Some, however, come with particular strengths in their preparation or with special interests which do not coincide with traditional departmental or interdisciplinary majors. For these students, the individualized program has been established as a means of attaining a closer correlation between student needs and academic programs.

Students in the individualized program will satisfy all the basic skills and distribution requirements. Individualization takes place in the area of concentration. The quantitative aspect of the area
of concentration is the same as for most majors in the basic program (i.e., a minimum of 24 hours in courses numbered above 200), and at least two-thirds of the courses must be selected from disciplines within the College of Arts and Sciences. The student may design a program in consultation with an advisor and submit it for consideration to the Committee on the Individualized Program. The proposed courses of study must have some clear central purpose, usually implemented through intensive work in two or three departments; an undirected scattering of courses will not be approved. Students must submit their proposals for review by the committee prior to the completion of 75 hours of coursework. For further information contact Arts and Sciences Advising Services.

**MEDICAL TECHNOLOGY MAJOR**

Students who complete the medical technology curriculum receive the Bachelor of Science degree with a major in medical technology from the College of Arts and Sciences. The curriculum requires a minimum of 90 hours of credit which includes the Basic Skills and Distribution requirements of the college and the University General Education Requirement prior to application for admission to a final year of study at the University of Tennessee Medical Center, Knoxville (UTMCK). After the course of study is completed, UTMCK awards the student a Certificate of Laboratory Training. Students are then eligible for examination by the Board of Registry of the American Society of Clinical Pathologists to earn certification as registered medical technologists. Admission to the clinical year is at the discretion of the admissions committee of the medical technology program at the UT Medical Center. Admission to and successful completion of the program below does not assure admission to the clinical phase of the medical technology program.

**Requirements for the Bachelor of Science • Medical Technology Major**

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*-102*</td>
<td>.6</td>
</tr>
<tr>
<td>1 Biology 130</td>
<td>.4</td>
</tr>
<tr>
<td>Biology 140</td>
<td>.4</td>
</tr>
<tr>
<td>Chemistry 120*-130*</td>
<td>.8</td>
</tr>
<tr>
<td>2 Foreign Language – Intermediate Level*</td>
<td>.6</td>
</tr>
<tr>
<td>3 Mathematics*</td>
<td>.6</td>
</tr>
<tr>
<td>Communicating Orally (OC) course*</td>
<td>.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Chemistry 110</td>
</tr>
<tr>
<td>Biochemistry and Cellular and Molecular Biology 230</td>
</tr>
<tr>
<td>Biology 240</td>
</tr>
<tr>
<td>Microbiology 310-319</td>
</tr>
<tr>
<td>Humanities* (one course from List A or B)</td>
</tr>
<tr>
<td>Non-US History*</td>
</tr>
<tr>
<td>Communicating through Writing (WC) course*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 310-319</td>
</tr>
<tr>
<td>4 Biochemistry and Cellular and Molecular Biology 310</td>
</tr>
<tr>
<td>Microbiology 420-429</td>
</tr>
<tr>
<td>Microbiology 430</td>
</tr>
<tr>
<td>5 Social Sciences*</td>
</tr>
<tr>
<td>Humanities* (one course from List A, B, or C)</td>
</tr>
<tr>
<td>Upper-Level Distribution (one course from List A and one course from List B)</td>
</tr>
<tr>
<td>Elective</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Technology course of study at UT Medical Center in Knoxville (12-month program)</td>
</tr>
</tbody>
</table>

Total 120 (minimum)

* Meets University General Education Requirement.
1 Students who have previously completed Biology 101 and 102 for their lab science requirement may substitute these two courses for Biology 130.
2 This plan assumes a student has had enough language background in high school to begin the intermediate language sequence at UTK.

3 Math 115-125, Math 123-125, Math 151-152, or Math 141-142 are required for pre-medical technology students. Math placement depends on high school courses and grades, ACT scores, and BA/BS requirements.
4 Students who have completed Chemistry 350-360, 369 may substitute it for Biochemistry 310 and Chemistry 110.
5 BS students must complete a minimum of 2 courses from the University General Education Requirement in Social Sciences. The courses must be from two departments.
6 Classics 273 Medical and Scientific Terminology is a highly recommended elective. One year of U.S. history must have been completed in high school or college prior to graduation from the medical technology program.

**PRE-PROFESSIONAL PROGRAMS MAJOR**

**NUCLEAR MEDICINE TECHNOLOGY CONCENTRATION**

The nuclear medicine technology curriculum requires a minimum of 90 hours credit, including the college’s Basic Skills and Distribution requirements and the University General Education Requirement, prior to application for admission to a final year of study at the University of Tennessee Medical Center, Knoxville. Students who complete the nuclear medicine technology program at UTMCK receive the Bachelor of Science degree with a major in pre-professional programs with a concentration in nuclear medicine technology from the College of Arts and Sciences.

Admission to the nuclear medicine technology program at UTMCK is at the discretion of the admissions committee of that department; successful completion of the three-year curriculum noted below does not assure admission to the program.

**Requirements for the Bachelor of Science • Pre-Professional Programs Major • Nuclear Medicine Technology Concentration**

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*-102*; or equivalent</td>
<td>.6</td>
</tr>
<tr>
<td>Chemistry 120*-130*</td>
<td>.8</td>
</tr>
<tr>
<td>Mathematics*</td>
<td>.8</td>
</tr>
<tr>
<td>Biology 130</td>
<td>.4</td>
</tr>
<tr>
<td>Biology 140</td>
<td>.4</td>
</tr>
<tr>
<td>Communication Studies 210*</td>
<td>.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 350-360, 369</td>
</tr>
<tr>
<td>Foreign Language - Intermediate Level*</td>
</tr>
<tr>
<td>Social Sciences*</td>
</tr>
<tr>
<td>Humanities* (one course from List A or B)</td>
</tr>
<tr>
<td>Computer Science 100 or 102</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biochemistry and Cellular and Molecular Biology 230</td>
</tr>
<tr>
<td>Ecology and Evolutionary Biology 240</td>
</tr>
<tr>
<td>Physics 221-222</td>
</tr>
<tr>
<td>Humanities* (one course from List A, B, or C)</td>
</tr>
<tr>
<td>Upper-Level Distribution (one course from List A and one course from List B)</td>
</tr>
<tr>
<td>Communicating through Writing (WC) course*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completion of Nuclear Medicine Technology program at the University of Tennessee Medical Center, Knoxville UTMCK (12 month program) or completion of major program and Bachelor of Arts or Bachelor of Science requirements.</td>
</tr>
</tbody>
</table>

**Fall Semester**

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>410 Physics for Nuclear Medicine I</td>
</tr>
<tr>
<td>411 Nuclear Instrumentation</td>
</tr>
<tr>
<td>412 Radiopharmacy</td>
</tr>
<tr>
<td>420 Clinical Nuclear Medicine I</td>
</tr>
<tr>
<td>460 Clinical Practicum I</td>
</tr>
</tbody>
</table>

**Spring Semester**

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>415 Physics for Nuclear Medicine II</td>
</tr>
<tr>
<td>425 Computer Applications in Nuclear Medicine</td>
</tr>
<tr>
<td>430 Clinical Nuclear Medicine II</td>
</tr>
<tr>
<td>460 Clinical Practicum II</td>
</tr>
</tbody>
</table>
### Summer Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>475 Nuclear Medicine Registry Review</td>
<td>2</td>
</tr>
<tr>
<td>440 Clinical Nuclear Medicine III</td>
<td>4</td>
</tr>
<tr>
<td>470 Clinical Practicum III</td>
<td>6</td>
</tr>
</tbody>
</table>

Clinical Year Total 44

* Meets University General Education Requirement.
1 Math placement depends on high school courses and grades, ACT scores, and BA/BS requirements. All students must complete the Mathematics and Quantitative Reasoning Basic Skills requirement as outlined in the Arts and Sciences Curriculum Guide. Math 130 or any calculus course is a pre-requisite to Physics.
2 Students who have previously completed Biology 101 and 102 may substitute these two courses for Biology 130.
3 This plan assumes a student has had enough language background in high school to begin an intermediate language sequence at UT-Knoxville.
4 Bachelor of Science students must complete a minimum of 6 credits from at least two departments for the Social Science requirement. The two courses must satisfy the University General Education Requirement in Social Sciences.

### PRE-DENTAL CONCENTRATION

The college offers a three-year program leading to a Bachelor of Science degree and a four-year program leading to a Bachelor of Arts or Science degree for students preparing for the study of dentistry at UT Health Science Center, Memphis. The Doctor of Dental Surgery (DDS) degree is conferred by the College of Dentistry upon completion of four years of professional study at Memphis after completing either of the two programs options. Bulletins describing the pre-dental program options in detail may be obtained from Arts and Sciences Advising Services.

The three-year program leading to a Bachelor of Science degree with a major in pre-professional programs from the University of Tennessee, Knoxville, is based upon the program outlined below. In the three-year program, the student must complete at least 90 prescribed credit hours while enrolled in the College of Arts and Sciences, and the Bachelor of Science degree is granted upon satisfactory completion of the first year of study in Memphis. The requirement for a major is waived for those taking their fourth year at the University of Tennessee Health Science Center, Memphis. Students must complete the last 30 hours of credit in residence at the University of Tennessee, Knoxville, before enrolling in the College of Dentistry. Admission to the College of Dentistry is at the discretion of that college; admission to and successful completion of the program below does not assure admission to the College of Dentistry. Although the Bachelor of Arts/Bachelor of Science is not required for admission to the College of Dentistry, most students accepted into the study of dentistry have the baccalaureate degree before admission. Therefore, pre-dental students are encouraged to plan to complete all requirements for the degree before enrolling in the College of Dentistry.

**Requirements for the Bachelor of Science**

- **Pre-Professional Programs Major**
- **Pre-Dental Concentration**

<table>
<thead>
<tr>
<th>Year</th>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year</td>
<td>English 101*-102*</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Biology 130</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Biology 140</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Chemistry 120*-130</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Mathematics* * BA/BS requirements. All students</td>
<td>6-8*</td>
</tr>
<tr>
<td></td>
<td>Electives</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second Year</td>
<td>Chemistry 350-360, 369</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Physics 221-222</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 Foreign Language Intermediate Level*</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>4 Humanities*</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Non-US History*</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Communicating Orally (OC) course*</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Fourth Year

Completion of one year at the University of Tennessee Health Science Center in Memphis:

<table>
<thead>
<tr>
<th>Year</th>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total 90 minimum</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Meets University General Education Requirement.
1 Pre-dentistry students who have previously completed Biology 101 and 102 may substitute this sequence for Biology 130.
2 Mathematics placement depends on high school courses and grades, ACT scores, the Mathematics placement exam, and BA/BS requirements. Mathematics 130 or any calculus course is a prerequisite to physics. At least two courses must satisfy the University General Education Requirement in Quantitative Reasoning.
3 This plan assumes a student has had enough language background in high school to begin an intermediate language sequence at UT-Knoxville.
4 BS students must complete a minimum of two courses from the three lists under the humanities requirement; not more than one course may be taken from List C. The two courses must satisfy the University General Education Requirement in Arts and Humanities.
5 BS students must complete a minimum of two courses from two departments. The two courses must satisfy the University General Education Requirement in Social Sciences.
6 BS students must complete one course from List A and one from List B.
7 Recommended electives include Biology 240; Microbiology 310-319; BCMB 230, 330-331, 421; EEB 350; Anthropology 480, 485. Courses such as economics, philosophy, psychology, social science, and other arts and sciences courses are also recommended to provide the applicant with a well-rounded education.

### PRE-MEDICAL CONCENTRATION

The college offers a three-year program leading to the Bachelor of Science degree and a four-year program leading to a Bachelor of Arts or Science degree for students preparing for the study of medicine at UT Health Science Center, Memphis. The Doctor of Medicine (MD) degree is conferred by the College of Medicine upon completion of four years of professional study at Memphis after completing either of the two programs options. Bulletins describing the pre-medical program options in detail may be obtained from Arts and Sciences Advising Services.

The three-year program leading to a Bachelor of Science degree with a major in pre-professional programs from the University of Tennessee, Knoxville, is based upon the program outlined below. In the three-year program, the student must complete at least 90 prescribed credit hours while enrolled in the College of Arts and Sciences, and the Bachelor of Science degree is granted upon satisfactory completion of the first year of study in Memphis. The requirement for a major is waived for those taking their fourth year at the University of Tennessee Health Science Center, Memphis. Students must complete the last 30 hours of credit in residence at the University of Tennessee, Knoxville, before enrolling in the College of Medicine. Admission to the College of Medicine is at the discretion of that college; admission to and successful completion of the program below does not assure admission to the College of Medicine. Although the Bachelor of Arts/Bachelor of Science is not required for admission to the College of Medicine, most students accepted into the study of medicine have the baccalaureate degree before admission. Therefore, pre-medical students are encouraged to plan to complete all requirements for the degree before enrolling in the College of Medicine.
Requirements for the Bachelor of Science
• Pre-Professional Programs Major • Pre-Medical Concentration

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101* - 102*</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Biology 130</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Biology 140</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Chemistry 120* - 130*</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Mathematics*</td>
<td></td>
<td>6-8</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Second Year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemistry 350-360, 369</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Physics 221-222</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Foreign Language Intermediate Level*</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Humanities*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Non-US History</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Communicating Orally (OC) course*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Third Year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humanities* (see Note 4)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Communicating through Writing (WC) course*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Social Sciences*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Upper Level Distribution</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>0-10</td>
</tr>
<tr>
<td><strong>Fourth Year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Completion of one year at the University of Tennessee Health Science Center in Memphis.</td>
<td></td>
<td>Total 120</td>
</tr>
</tbody>
</table>

* Meets University General Education Requirement.

Pre-medical students who have previously completed Biology 101 and 102 may substitute this sequence for Biology 130.

Mathematics placement depends on high school courses and grades, ACT scores, the Mathematics placement exam, and BA/BS requirements. Math 130 or any calculus course is a prerequisite to physics. At least two courses must satisfy the University General Education Requirement in Quantitative Reasoning.

This plan assumes a student has had enough language background in high school to begin an intermediate language sequence at UTK.

BS students must complete a minimum of two courses from the three lists under the humanities requirement; not more than one course may be taken from List C. The two courses must satisfy the University General Education Requirement in Arts and Humanities.

BS students must complete a minimum of two courses from two departments. The two courses must satisfy the University General Education Requirement in Social Sciences.

BS students must complete one course from List A and one from List B.

Although not specifically required, Biology 240 and Microbiology 310-319 are recommended as preparation for the MCAT. Additional recommended courses include – BCMB 330-331, 401-402, 421, 440.

PRE-PHARMACY CONCENTRATION

The college offers three program options for preparing students for the study of pharmacy at UT Health Science Center, Memphis. The Doctor of Pharmacy (PharmD) degree is conferred by the College of Pharmacy upon completion of four years of professional study at Memphis after completing any of the three programs options. Bulletins describing the pre-pharmacy program options in detail may be obtained from Arts and Sciences Advising Services.

The three-year program leading to a Bachelor of Science degree with a major in pre-professional programs from the University of Tennessee, Knoxville, is based upon the program outlined below. In the three-year program, the student must complete at least 90 prescribed credit hours while enrolled in the College of Arts and Sciences, and the Bachelor of Science degree is granted upon satisfactory completion of the first year of study in Memphis. The requirement for a major is waived for those taking their fourth year at the University of Tennessee Health Science Center, Memphis. Students must complete the last 30 hours of credit in residence at the University of Tennessee, Knoxville, before enrolling in the College of Pharmacy. Admission to the College of Pharmacy is at the discretion of that college; admission to and successful completion of the program below does not assure admission to the College of Pharmacy.

Requirements for the Bachelor of Science
• Pre-Professional Programs Major • Pre-Pharmacy Concentration

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101* - 102*</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Chemistry 120* - 130*</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Mathematics*</td>
<td></td>
<td>6-8</td>
</tr>
<tr>
<td><strong>Second Year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemistry 350-360, 369</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Physics 221-222</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Foreign Language Intermediate Level*</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Humanities*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Non-US History</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Communicating Orally (OC) course*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Third Year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humanities* (see Note 4)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Communicating through Writing (WC) course*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Social Sciences*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Upper Level Distribution</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>0-10</td>
</tr>
<tr>
<td><strong>Fourth Year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Completion of one year at the University of Tennessee Health Science Center in Memphis.</td>
<td></td>
<td>Total 120</td>
</tr>
</tbody>
</table>

* Meets University General Education Requirement.

Pre-pharmacy students who have previously completed Biology 101 and 102 may substitute this sequence for Biology 130.

Mathematics placement depends on high school courses and grades, ACT scores, and BA/BS requirements. Mathematics 130 or any calculus course is a prerequisite to Physics. At least two courses must satisfy the University General Education Requirement in Quantitative Reasoning.

This plan assumes a student has had enough language background in high school to begin an intermediate language sequence at UTK.

BS students must complete a minimum of two courses from at least two departments chosen from the following list – Anthropology 130; Economics 201; Political Science 102; Psychology 110; Sociology 110, 120.

BS students must complete a minimum of two courses from at least two departments chosen from the following list – Anthropology 130; Economics 201; Political Science 102; Psychology 110; Sociology 110, 120.

BS students must complete one course from List A and one from List B.

Microbiology 310 has a prerequisite of Biology 140 and a corequisite of Biology 240.

PRE-VETERINARY MEDICINE CONCENTRATION

The following program is designed for students who wish to pursue an arts and sciences degree while preparing for the study of veterinary medicine. Students in this program must complete at least 93 credit hours while enrolled in the College of Arts and Sciences, must satisfy the Basic Skills and Distribution requirements, and must complete the last 30 hours in residence at the University of Tennessee, Knoxville, before enrolling in the College of Veterinary Medicine. A departmental major is not required. Upon successful completion of the first year (two semesters) of the professional veterinary medicine curriculum, the Bachelor of Science degree will be conferred by the College of Arts and Sciences.

Admission to the College of Veterinary Medicine is at the discretion of the Admissions Committee of that College; admission
to and successful completion of this program does not assure admission to the College of Veterinary Medicine.

**Requirements for the Bachelor of Science**

*Pre-Professional Programs Major* + Pre-Veterinary Medicine Concentration

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*–102*</td>
<td>6</td>
</tr>
<tr>
<td>Chemistry 120*–130*</td>
<td>6</td>
</tr>
<tr>
<td>Biology 130</td>
<td>8</td>
</tr>
<tr>
<td>Biology 140</td>
<td>8</td>
</tr>
<tr>
<td>Mathematics*</td>
<td>6–8</td>
</tr>
<tr>
<td>Foreign Language – Intermediate Level Sequence*</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 350-360, 369</td>
<td>8</td>
</tr>
<tr>
<td>Physics 221-222</td>
<td>8</td>
</tr>
<tr>
<td>Biology 240</td>
<td>4</td>
</tr>
<tr>
<td>Non-U.S. History</td>
<td>6</td>
</tr>
<tr>
<td>Social Science*</td>
<td>3</td>
</tr>
<tr>
<td>Communicating Orally (OC) course</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biochemistry and Cellular and Molecular Biology 401 and 402</td>
<td>8</td>
</tr>
<tr>
<td>Social Science*</td>
<td>3</td>
</tr>
<tr>
<td>Humanities*</td>
<td>6</td>
</tr>
<tr>
<td>Upper Level Distribution</td>
<td>6</td>
</tr>
<tr>
<td>Biology Elective</td>
<td>4</td>
</tr>
<tr>
<td>Communicating through Writing (WC) course*</td>
<td>0.3–3</td>
</tr>
</tbody>
</table>

Total 93 minimum

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completion of one year at the University of Tennessee College of Veterinary Medicine.</td>
<td></td>
</tr>
</tbody>
</table>

Total 120 minimum

* Meets University General Education Requirement
1 Students who have previously completed Biology 101 and 102 may substitute these two courses for Biology 130.
2 Math placement depends on high school courses and grades, ACT scores, and BA/BS requirements. Mathematics 130 or any calculus course is a prerequisite for physics. At least two courses must satisfy the University General Education Requirement in Quantitative Reasoning.
3 This plan assumes a student has had enough language background in high school to begin an intermediate language sequence at UTK.
4 BS students must complete a minimum of two courses from two departments. Both courses must satisfy the University General Education Requirement in Social Science.
5 BS students must complete a minimum of two courses from the three lists under the humanities requirement; not more than one course may be taken from List C. Both courses must satisfy the University General Education Requirement in Social Science.
6 BS students must complete one course from List A and one from List B.
7 Upper-division biology courses are preferred.
8 If a course taken for the humanities requirement also appears on the Communicating through Writing (WC) General Education approved list, no additional course is required here.

---

**DEPARTMENT OF ANTHROPOLOGY**

[http://web.utm.edu/~anthrop/](http://web.utm.edu/~anthrop/)

Andrew Kramer, Head

**Professors**

Bass, W.M. (Alumni Distinguished Service Professor), PhD Pennsylvania

Howell, B.J., PhD Kentucky

Jantz, R.L., PhD Kansas

Klippe, W.E., PhD Missouri

Koningsberg, L., PhD Northwestern

Logan, M.H., PhD Penn State

Schroedl, G.F., PhD Washington State

Simek, J.F. (Distinguished Professor), PhD State University of New York (Binghamton)

**Associate Professors**

Anderson, D.G., PhD Michigan

Kramer, A., PhD Michigan

Marks, M., PhD Tennessee

**Assistant Professor**

Harper, J.L., PhD Michigan

**Research Director**

Driskell, B.N., PhD Kentucky

**Research Associate Director**

Sherwood, S., PhD Tennessee

**Research Associate Professor**

Chapman, J. (Director, F.H. McClung Museum), PhD North Carolina

**Research Assistant Professor and Curator**

Frankenberg, S., PhD Northwestern

**Research Assistant Professors**

Ahman, T.M., PhD Boston

Goodwin, C.M., PhD Tennessee

Herrmann, N.P., PhD Tennessee

Hollenbach, K.R., PhD North Carolina

Sichler, J.A., PhD Tennessee

Vass, A.A., PhD Tennessee

**Lecturer and Coordinator, Forensic Center**

Jantz, L.M., PhD Tennessee

Pendry, D.A., PhD Texas

Qirko, H.N., PhD Tennessee

**Adjunct Professors**

Bogard, J.S., PhD Texas (Austin)

Dunnell, R., PhD Yale

Harrison, F.V., PhD Stanford

McComisk, W.F., MD Tennessee

Smith, F.H., PhD Michigan

Stein, J.K., PhD Minnesota

**Adjunct Associate Professors**

Dessel, J.P., PhD Arizona

Goldberg, P., PhD Michigan

Sullivan, L.P., PhD Wisconsin (Milwaukee)

**Adjunct Assistant Professors**

Crites, G.D., PhD Tennessee

Dyer, J.P., PhD Arizona

Douglas, J.C., PhD Houston

Jacobson, J.A., PhD Pennsylvania

Klenk, R.M., PhD Washington

Lev-Tov, J., PhD Tennessee

Polhemus, R.R., PhD Tennessee

Simms, S.A., PhD Tennessee

van de Moortel, A., PhD Bryn Mawr

**Post-Doctoral Research Associate**

Weinand, D.C., PhD Tennessee

**Research Associate Professor**

Crites, G.D., PhD Tennessee

**Research Assistant Professor**

Dyer, J.P., PhD Arizona

Douglas, J.C., PhD Houston

Jacobson, J.A., PhD Pennsylvania

Klenk, R.M., PhD Washington

Lev-Tov, J., PhD Tennessee

Polhemus, R.R., PhD Tennessee

Simms, S.A., PhD Tennessee

van de Moortel, A., PhD Bryn Mawr

**Post-Doctoral Research Associate**

Weinand, D.C., PhD Tennessee

Anthropology (literally the study of humans) is a broad and diverse field concerned with all aspects of the human condition – past, present and future. An undergraduate majoring in anthropology at the University of Tennessee, Knoxville, learns of this breadth and diversity by taking courses in cultural, biological and archaeological anthropology. The major is designed so that all students are trained in these primary subfields, but the curriculum also allows the student to concentrate in those aspects of anthropology that she/he finds most interesting. The undergraduate who earns a Bachelor of Arts with a major in anthropology from UT Knoxville is prepared to enter careers in a variety of fields such as health, education, government, law, social work, and human services. If the student is interested in a career as a professional anthropologist, graduate training is a necessity. The excellence of the faculty and the relevance of available courses in the department afford future anthropologists the undergraduate background necessary to pursue advanced degrees.

**Progression Requirements**

Progression into the anthropology major is based on performance in the three prerequisite courses – 110, 120, and 130. Students must maintain a grade point average of at least 3.0 for the three introductory courses with none of the three grades below a C. Upon satisfactory completion of the prerequisites, the student may apply for progression into the anthropology major by completing a formal application for progression in the Anthropology Department and including with that application an Academic His-
tory demonstrating satisfactory completion of the progression requirements. The Undergraduate Committee of the Anthropology Department will meet regularly to determine the status of these applications. Upon progression to the major, a department advisor will be assigned in consultation with the student.

ANTHROPOLOGY MAJOR

The anthropology major consists of 30 hours including 450 or 357 and 27 additional hours of upper-division coursework in anthropology. This core work shall be distributed as follows.

Archaeological method and theory
One course from 361, 362, 440, 464.

Archaeological area
One course from 360, 363, 462, 463.

Cultural area
One course from 310, 311, 312, 313, 315, 316, 319, 320, 322.

Cultural method and theory
One course from 410, 411, 412, 413, 414, 415, 416, 431.

Biological anthropology
Two courses from 480, 485, 490, 494, 495, 496.

Remaining hours
From any upper-division anthropology courses.

Students with senior standing are encouraged to substitute appropriate 500-level courses (with permission of the instructor of the course and approval of the department head) for any portion of the above.

Continuation in the anthropology major requires maintenance of a 2.5 GPA or better in all anthropology courses. Students failing to meet this standard will be notified in writing that they are on probation and their records will be reviewed. Those who continue in probationary status for two consecutive semesters will be dropped from the major.

HONORS CONCENTRATION

The Department of Anthropology offers honors seminars for juniors and seniors, leading to an honors concentration. The honors concentration consists of 357 and 457 plus 24 additional hours of upper-division coursework in anthropology distributed as specified above for the major.

Minor in Anthropology

Anthropology 110, 120, 130 are prerequisite to a minor in anthropology consisting of 15 hours of upper-division anthropology courses (chosen in consultation with an anthropology advisor).

SCHOOL OF ART

http://art.utk.edu
Paul Lee, Director
Suzanne Wright, Associate Director

Professors
Brake, M., MFA ............................................. Yale
Goldenstein, M.B., MFA ............................... Nebraska
Habel, D.M., PhD ............................................ Michigan
Lee, B., MFA ............................................. Yale
Lee, P., MFA ............................................. Cranbrook
Leland, W.E., MFA ...................................... Tennessee
Lyons, B., MFA ............................................ Arizona State
Magden, N., PhD ......................................... Case Western Reserve
Riesing, T.J., MFA ......................................... Nebraska
Staples, C., MFA ........................................... Michigan State
Wilson, D., MFA .......................................... Wisconsin
Yates, S.A., MFA ......................................... North Carolina (Greensboro)

Assistant Professors
Boylan, A.L., PhD ......................................... Rutgers
Brown, J., MFA ............................................. Rhode Island School of Design
Lough, W., MFA ............................................. Temple
Lowe, S., MGD ................................................ North Carolina State
Martin, F., MFA ............................................. Cranbrook
Shmerler, D., MFA .......................................... Virginia Commonwealth
Sprecher, J.B., MFA ........................................ Iowa

The following core courses must be completed before students can progress into the program as majors and before further art classes may be taken.

• Art 101
• Art 103
• Art History 162, 172, 173, or 183 (choose one)

Those applying will be admitted into the program in rank order of cumulative average as space allows. The overall record will be evaluated for quality and seriousness of purpose. Excessive absences, withdrawals, incompletes or repeated courses may result in denial of progression. Progression into the School of Art does not guarantee progression into a chosen concentration. Progression into a concentration will follow successful completion of a concentration Portfolio Review.

BACHELOR OF FINE ARTS • STUDIO ART MAJOR

The Bachelor of Fine Arts with a major in studio art is a professionally-oriented degree especially intended for those students planning careers or graduate study in the visual arts. All students seeking studio degrees (Bachelor of Arts and Bachelor of Fine Arts) must present and pass the appropriate Portfolio Review for their area of study in order to be admitted into advanced courses. Contact specific program area faculty for review of schedules and details. It should not be assumed that a high grade point average in the major itself assures passing Portfolio Review. The Portfolio Review is recommended in the sophomore year and is intended to provide students with an overview assessment of their potential for success in the intended area of study early enough to allow a student to make a program change should that be advisable. Before choosing a concentration, students should contact their intended area to see what options are offered in the event they do not pass Portfolio Review. All studio courses require 3 hours per week attendance for each credit hour earned. Completing the Bachelor of Fine Arts program may take more than eight semesters. Students are urged to seek departmental advice each semester to ensure proper scheduling. Students seeking the Bachelor of Fine Arts should also consider pursuing a minor in art history.

Transfer students are advised that a minimum of 21 hours in studio courses, and 6 upper-division hours in art history, must be earned at the University of Tennessee, Knoxville. Transfer students must have a minimum overall GPA of 3.00 in art and art history courses and may be required to present a portfolio. Those students who have not taken any art courses must take the sequence of courses required of freshmen (Progression Requirements). Students should be cautioned that art courses taken at another institution may not apply toward their concentration. Art Design 252, Art Drawing 212, and Art Painting 214 must be taken at the University of Tennessee, Knoxville. Courses not accepted for application toward a concentration may be counted toward studio electives.

No grade below C in art courses may be applied to the Bachelor of Fine Arts major. A minimum of 42 credit hours, 300 level
or above, must be earned prior to graduation.

Students may be accepted into advanced media concentrations in ceramics, drawing, painting, media arts, printmaking, sculpture, and watercolor after passing the appropriate portfolio course.

### Major in Studio Art and Additional Courses in Art Education

The School of Art recommends the Bachelor of Fine Arts for those students pursuing licensure to teach art in schools K-12. These students must also contact the College of Education, Health, and Human Sciences for further requirements. Twelve- to thirteen hours of art education courses may be used as studio electives for those pursuing the BFA and licensure to teach.

#### CERAMICS CONCENTRATION

**Requirements for the Bachelor of Fine Arts • Studio Art Major • Ceramics Concentration**

<table>
<thead>
<tr>
<th>Core</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art 101, 103</td>
<td>6</td>
</tr>
<tr>
<td>Art 295</td>
<td>3</td>
</tr>
<tr>
<td>Art History 172* and 173* and 162* or 183*</td>
<td>3</td>
</tr>
<tr>
<td>Art History Electives</td>
<td>6</td>
</tr>
</tbody>
</table>

One course from each of the following 6 areas:

- Art Ceramics, Art Drawing, Art Media Arts, Art Painting/Art Sculpture
- Art 295
- Art 296
- Art 297
- Art 298
- Art 299

**Concentration**

- Ceramics 221 or 222
- Art Ceramics Portfolio Review 320
  - (Satisfactory/No Credit Grading) 0
- Ceramics 321, 322 (prerequisite for all 400-level courses) 8
- Ceramics 421, 422 12
- Approved Concentration Electives 9
- 9 hours from the following – Art Ceramics 424, 429;
- Art Drawing 212; Art Sculpture 241, 242, 243, 245, 246;
- Art Printmaking 262, 263; Art Painting 213, 214, 215 9

1**Studio Electives**

Additional hours in studio courses to be completed in the School of Art or our affiliated facility, Arrowmont School of Arts and Crafts. Students may also apply a maximum of 6 hours of approved studio courses from architecture, art education, computer science, journalism and electronic media, interior design or theatre 15

**General Curriculum (consult University General Education Requirement for appropriate choices within each category)**

| English 101*, 102* or their equivalent | 6 |
| Quantitative Reasoning (2 courses)* | 6 |
| Natural Sciences (2 courses; at least one with laboratory)* | 7 |
| Social Sciences (2 courses)* | 6 |
| Cultures and Civilizations (2 courses)* | 6 |
| Communicating through Writing* | 0-3 |
| Communicating Orally* | 0-3 |

**Total 120-126**

* Meets University General Education Requirement.

1 Students electing an additional major in Art Education and licensure to teach in schools K-12 may apply 13 hours in undergraduate art education courses.

---

### DRAWING CONCENTRATION

**Requirements for the Bachelor of Fine Arts • Studio Art Major • Drawing Concentration**

<table>
<thead>
<tr>
<th>Core</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art 101, 103</td>
<td>6</td>
</tr>
<tr>
<td>Art 295</td>
<td>3</td>
</tr>
<tr>
<td>Art History 172* and 173* and 162* or 183*</td>
<td>9</td>
</tr>
<tr>
<td>Art History Electives</td>
<td>6</td>
</tr>
</tbody>
</table>

One course from each of the following 6 areas – Art Ceramics, Art Drawing, Art Media Arts, Art Painting/Art Sculpture 18

**Concentration**

- Art Drawing 212 (may be repeated) 3
- Art Drawing 312 (Portfolio Review) (Satisfactory/No Credit Grading) 0
- Art Drawing 311 (for two semesters) 8
- Art Drawing 411 (for two semesters) 12

**Approved Concentration Electives:**

9 hours from the following – Art Drawing 219/419 (maximum 6 hours);
- Art Painting 213, 214, 215, 216; Art Media Arts 231; Art Printmaking 262, 263 9

1**Studio Electives**

Additional hours in studio courses to be completed in the School of Art or our affiliated facility, Arrowmont School of Arts and Crafts. Students may also apply a maximum of 6 hours of approved studio courses from architecture, art education, computer science, journalism and electronic media, interior design, theatre 15

**General Curriculum (consult University General Education Requirement for appropriate choices within each category)**

| English 101*, 102* or their equivalent | 6 |
| Quantitative Reasoning (2 courses)* | 6 |
| Natural Sciences (2 courses; at least one with laboratory)* | 7 |
| Social Sciences (2 courses)* | 6 |
| Cultures and Civilizations (2 courses)* | 6 |
| Communicating through Writing* | 0-3 |
| Communicating Orally* | 0-3 |

**Total 120-126**

* Meets University General Education Requirement.

1 Students electing an additional major in Art Education and licensure to teach in schools K-12 may apply 13 hours in undergraduate art education courses.

---

### MEDIA ARTS CONCENTRATION

**Requirements for the Bachelor of Fine Arts • Studio Art Major • Media Arts Concentration**

<table>
<thead>
<tr>
<th>Core</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art 101, 103</td>
<td>6</td>
</tr>
<tr>
<td>Art 295</td>
<td>3</td>
</tr>
<tr>
<td>Art History 172* and 173* and 162* or 183*</td>
<td>9</td>
</tr>
<tr>
<td>Art History Electives</td>
<td>3</td>
</tr>
</tbody>
</table>

One course from each of the following 5 areas – Art Ceramics, Art Drawing, Art Painting/Art Sculpture 15

**Concentration**

- Art Media Arts 330 (Portfolio Review) (Prerequisite to 300- and 400-level courses) (Satisfactory/No Credit Grading) 0
- Art Media Arts 343 3
- Art Media Arts 435 and/or 436 8
- Art Media Arts photography courses (300 and 400 level) 8
- Art Media Arts 450 4
- 300- and 400-level electives in Media Arts 9

1**Studio Electives**

Additional hours in studio courses to be completed in the School of Art or our affiliated facility, Arrowmont School of Arts and Crafts. Students may also apply a maximum of 6 hours of approved studio courses from architecture, art education, computer science, journalism and electronic media, interior design, theatre 12
General Curriculum (consult University General Education Requirement for appropriate choices within each category)

- English 101*, 102* or their equivalent: 6 credits
- Quantitative Reasoning (2 courses): 6 credits
- Natural Sciences (2 courses; at least one with laboratory): 7 credits
- Social Sciences (2 courses): 6 credits
- Cultures and Civilizations (2 courses): 6 credits
- Communicating through Writing: 0-3 credits
- Communicating Orally*: 0-3 credits

Total 120-126

* Meets University General Education Requirement.

1 Students electing an additional major in art education and licensure to teach in schools K-12 may apply 12 hours in undergraduate art education courses.

**PAINTING CONCENTRATION**

Requirements for the Bachelor of Fine Arts • Studio Art Major • Painting Concentration

<table>
<thead>
<tr>
<th>Core</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art 101, 103</td>
<td>6</td>
</tr>
<tr>
<td>Art 295</td>
<td>3</td>
</tr>
<tr>
<td>Art History 172* and 173* and 162* or 183*</td>
<td>9</td>
</tr>
<tr>
<td>One course from each of the following 6 areas – Art Ceramics, Art Drawing, Art Media Arts, Art Painting/Watercolor, Art Printmaking, and Art Sculpture</td>
<td>18</td>
</tr>
</tbody>
</table>

**Concentration**

- Painting 214 (may be repeated): 3 credits
- Art Painting 314 (Portfolio Review) (Satisfactory/No Credit Grading): 0 credits
- Painting 313 (for two semesters): 8 credits
- Painting 413 (for two semesters): 12 credits

Approved Concentration Electives: 9 hours from the following – Art Ceramics, Art Drawing, Art Media Arts, Art Painting/Watercolor, Art Printmaking, and Art Sculpture.

**Studio Electives**

Additional hours in studio courses to be completed in the School of Art or our affiliated facility, Arrowmont School of Arts and Crafts. Students may also apply a maximum of 6 hours of approved studio courses from architecture, art education, computer science, journalism and electronic media, interior design or theatre.

**Total 120-126**

1 Students electing an additional major in art education and licensure to teach in schools K-12 may apply 13 hours in undergraduate art education courses.

**PRINTMAKING CONCENTRATION**

Requirements for the Bachelor of Fine Arts • Studio Art Major • Printmaking Concentration

<table>
<thead>
<tr>
<th>Core</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art 101, 103</td>
<td>6</td>
</tr>
<tr>
<td>Art 295</td>
<td>3</td>
</tr>
<tr>
<td>Art History 172* and 173* and 162* or 183*</td>
<td>9</td>
</tr>
<tr>
<td>One course from each of the following 6 areas – Art Ceramics, Art Drawing, Art Media Arts, Art Painting/Watercolor, Art Printmaking, and Art Sculpture</td>
<td>18</td>
</tr>
</tbody>
</table>

**Concentration**

- Printmaking 200-level course: 3 credits
- Art Printmaking 360 (Portfolio Review) (Satisfactory/No Credit Grading): 0 credits
- Printmaking 300- and 400-level courses: 20 credits

**Total 120-126**

* Meets University General Education Requirement.

1 Students electing an additional major in art education and licensure to teach in schools K-12 may apply 13 hours in undergraduate art education courses.

**WATERCOLOR CONCENTRATION**

Requirements for the Bachelor of Fine Arts • Studio Art Major • Watercolor Concentration

<table>
<thead>
<tr>
<th>Core</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art 101, 103</td>
<td>6</td>
</tr>
<tr>
<td>Art 295</td>
<td>3</td>
</tr>
<tr>
<td>Art History 172* and 173* and 162* or 183*</td>
<td>9</td>
</tr>
<tr>
<td>One course from each of the following 6 areas – Art Ceramics, Art Drawing, Art Media Arts, Art Painting/Watercolor, Art Printmaking, and Art Sculpture</td>
<td>18</td>
</tr>
</tbody>
</table>

**Total 120-126**

* Meets University General Education Requirement.

1 Students electing an additional major in art education and licensure to teach in schools K-12 may apply 13 hours in undergraduate art education courses.
Concentration
Painting 216 (may be repeated) ........................................... 3
Art Painting 316 (Portfolio Review) ................................... 3
Art Graphic Design 251, 252, 351, 352, 356, 451, 452, 455  . . . . 9
Art Graphic Design 459 .................................................. 3
Art History 172*, 173* ................................................... 6
Art Printmaking 254, 256, 259, 354, 396, 405, 453, 454, 459  (choose one) .................................................. 3
Required Studio
Art Drawing 212; Art Painting 213 (or 215); Art Media Arts 231 ... 9
Art History
Electives (one course must be writing emphasis) ................. 6

Studio Electives
Additional hours in studio courses to be completed in the School
of Art or our affiliated facility, Arrowmont School of Arts and Crafts.
Students may also apply a maximum of 6 hours of approved studio
courses from architecture, art education, computer science,
journalism and electronic media, interior design or theatre. ........... 15

General Curriculum (consult University General Education
Requirement for appropriate choices within each category)
English 101*, 102* or their equivalent .................................. 6
Quantitative Reasoning (2 courses)* .................................. 6
Natural Sciences (2 courses; at least one with laboratory)* ........ 7
Social Sciences (2 courses)* ............................................ 6
Cultures and Civilizations (2 courses)* ................................. 6
Communicating through Writing*....................................... 0-3
Communicating Orally* .................................................. 0-3
Total 120-126

* Meets University General Education Requirement.
1 Students electing an additional major in art education and licensure to
    teach in schools K-12 may apply 13 hours in undergraduate art edu-
    cation courses.

BACHELOR OF FINE ARTS • GRAPHIC
DESIGN MAJOR

The graphic design major is specifically designed to provide the
basic visual education for students who wish to pursue careers in
graphic design-related fields such as advertising, art direction,
three-dimensional design, publications, or electronic media.

Transfer students are advised that a minimum of 21
hours in studio courses and 6 upper-division hours in art history
must be earned at the University of Tennessee, Knoxville,
as well as Art Design 252. Transfer students who
expect to enroll in 300 (junior level) courses must present a
portfolio of 10-15 works, the majority of which must be in
graphic design.

No grade below C in art courses may be applied to the Bach-
elor of Fine Arts degree. A minimum of 42 credit hours, 300 level
or above, must be earned prior to graduation.

A minimum of 120 hours are required. Students are advised
that courses in graphic design must be taken in sequence, and
that successful completion of Portfolio Review (350) is prerequi-
site to all upper-division courses.

Students must complete 351 and 356 with a grade of C or bet-
ter by the end of the second fall semester following successful
completion of Portfolio Review (350). If 351 and 356 are not successful-
ly completed in this time, the student must resubmit a portfolio to
regain entrance into the junior program. Resubmission of the por-
tfolio must occur during the scheduled spring Portfolio Review.

Requirements for the Bachelor of Fine Arts • Graphic
Design Major
Art Core Hours Credit
Art 101, 103, 295 .................................................. 3
Art History 172* .................................................. 3
Art Drawing 211 .................................................. 3
Graphic Design
Art Graphic Design 251, 252, 351, 352, 356, 451, 452, 455  (in sequence) .................................................. 24
Art Graphic Design 350 (Portfolio Review)  (Satisfactory/No Credit grading) ................................. 0
Art Graphic Design 444 (maximum 6 hours) and/or 456 . . . . 8

Required Design and Professional
Art Graphic Design 405 .................................................. 3
Art Graphic Design 459 .................................................. 3
Art Graphic Design 450 .................................................. 3
Art Graphic Design 254, 256, 259, 354, 396, 405, 453, 454, 459
    (choose one) .................................................. 3

* Meets University General Education Requirement.

ART HISTORY MAJOR

Requirements for the Bachelor of Arts • Art History Major
Prerequisites Hours Credit
Art History 172, 173, and 162 or 183
(or their Honors equivalents) with a grade of C or better .......... 9

Major
Art History courses numbered 300 and above ...................... 18

One course in four of the following areas.

Medieval/Early Renaissance
Art History 425, 431, 441, 451

Renaissance/Baroque
Art History 442, 452, 453, 454

American
Art History 471, 472, 473, 483

19th/20th Century
Art History 403, 472, 474, 475,476; Art Media Arts 433

Non-Western
Art History 411, 415, 416, 419, 461, 462, 463, 464

Six Art History elective hours or from courses in the Departments of
Classics, Religious Studies, or School of Architecture in consultation
with departmental advisor.

Art 481 .................................................. 3
Art History 376 .................................................. 3

Studio courses numbered 200 and above ......................... 3

Total 36


Undergraduate work in art history is enhanced by knowledge of
at least one foreign language and by additional studio art
experience. Graduate work normally requires reading knowledge of
German, French, and any other language appropriate to an area specialization.

Students anticipating possible careers in the museum or
gallery field are advised that elective hours in Art 482, Museum
Studies II, should be considered.

Minor in Art History
Prerequisites Hours Credit
Art History 172, 173, and 162 or 183
(or their Honors equivalents) with a grade of C or better .......... 9

Minor
Art History courses numbered 200 and above ...................... 15

Total 24
STUDIO ART MAJOR
Requirements for the Bachelor of Arts • Studio Art Major
Prerequisites

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art 101, 103, 295</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Art History 162, 172, 173, 183 (any 2 with a grade of C or better) and 3 additional hours</td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>

Major

Studio courses numbered 200 and above, including a minimum of 15 hours in 300-400 level courses 24

Total 42

Minor in Studio Art
Prerequisites

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art 101,103, 295</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Art History 172, 173, 162, 183 (or their Honors equivalents) (any 2, one of which must be 172 or 173)</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

Minor

Studio courses which include a minimum of 8 additional upper-division hours 15

Total 30

DEPARTMENT OF AUDIOLGY AND SPEECH PATHOLOGY
http://web.utk.edu/~aspweb/
Ilsa Schwarz, Head

Professor
Schwarz, I., PhD ................................................. Oregon

Associate Professors
Erickson, H., MA ............................................ Southern California
Hedrick, M., PhD ........................................... Vanderbilt
Swanson, L., PhD ........................................... Purdue
Theinl, J., PhD ............................................ Iowa

Assistant Professors
Flipsen, P., PhD ............................................ Wisconsin
Harkrider, A., PhD ........................................ Texas
Horton-Ikard, R., PhD ...................................... Wisconsin
Karow, C., PhD ........................................... Texas
Munoz, M., PhD ........................................... Texas
Plyler, P., PhD ........................................... Tennessee
Saltuklaroglu, T., PhD ..................................... East Carolina
Von Hapsburg, D., PhD ................................... Texas

Instructor
Singletary, T., MS ........................................ Colorado State

Clinical Director
Michael, A., PhD ........................................... Vanderbilt

Clinical Faculty
Arp, D., MA ................................................. Tennessee
Barnes, V., MA ............................................. Tennessee
Beeler, J., MA ............................................. Tennessee
Buehler, V., MA ............................................ Tennessee
Campbell, J., AuD ......................................... Arizona School of Health Sciences
Cutler, M., PhD ........................................... Georgia
Donels, E., MA ............................................. Tennessee
DeGennaro, A., MA ......................................... Case Western
Donels, E., MA ............................................. Tennessee
Gehrlein, B., MA ............................................ Washington (St. Louis)
Gibson, K., MA ............................................ Arizona State
Humphrey, E., AuD ......................................... Tennessee
Hume, S., PhD ........................................... Tennessee
Jenkins, K., MA ........................................... Tennessee
Mintz, B., MA ............................................. Penn State
Noss, E., MA ................................................. Tennessee
Pemberton, S., MA ......................................... Tennessee
Plyler, E., AuD ........................................... Arizona School of Health Sciences
Powers, H., MA ........................................... Tennessee
Schay, N., AuD ........................................... Tennessee
Searfoss, M., MA ........................................... Tennessee
Sheridan, C., MA ........................................ Tennessee
Thomason, T., MA ........................................ Tennessee
Valentine, D., PhD ....................................... Tennessee
Vantrease, C., MA ........................................ Tennessee
Vaughn, T., MS ........................................... Eastern Kentucky

The Department of Audiology and Speech Pathology offers course work in the scientific study of human communication sciences and disorders. The two undergraduate majors (audiology and speech pathology) are preparatory to graduate work and to professional certification in some aspect of speech, language, and hearing disorders. The master’s degree or Doctor of Audiology is required for professional certificates and employment positions. Information about the audiology and speech pathology programs may be obtained from the departmental office, South Stadium Hall, and students are strongly encouraged to consult with the graduate advisor in the department as early as possible in their programs. Suggested elective courses for students not majoring in audiology or speech pathology include 300, 302, 303, 305, 306, 320, and 473.

Applicants for enrollment in clinical practice must submit an application to the departmental Clinical Director. Requirements for enrollment in practicum courses (434 for speech pathology or 445 for audiology) include a minimum cumulative GPA of 2.7 (or 3.0 in the last 30 hours of enrollments), a minimum of C in all courses taken within the department, successful completion of 433, and a minimum GPA of 2.75 within the major.

Students who fail to satisfy the above prerequisites for clinical practicum experience may graduate with a degree from the department, but will not be recommended for graduate study at the University of Tennessee, Knoxville. Requests for exceptions to this rule may be submitted to the departmental Admissions Committee.

Additional requirements for professional certification in audiology and speech pathology include at least 6 semester hours in each of the following areas: biological sciences, physical sciences, and mathematics. Students majoring in both audiology and speech pathology are strongly encouraged to consult with the department undergraduate advisor before selecting elective courses.

AUDIOLGY MAJOR

Admission to the major requires a minimum cumulative GPA of 3.0 after completion of at least 60 credit hours. Admission to the major does not guarantee admission to the graduate program.

The audiology major consists of 31 hours in audiology and speech pathology courses including 300, 302, 303, 305, 306, 320, 433, 435, 461, 473, and 494.

SPEECH PATHOLOGY MAJOR

Admission to the major requires a minimum cumulative GPA of 3.0 after completion of at least 60 credit hours. Admission to the major does not guarantee admission to the graduate program.

The speech pathology major consists of 34 hours including audiology and speech pathology courses 300, 302, 303, 305, 306, 320, 433, 435, 461, 473, and 494; and one course from the following – Linguistics 371, 372, 411, 425, 429, 431, 435, 471, 472, 474, 475, 476, or 477.
DEPARTMENT OF BIOCHEMISTRY AND CELLULAR AND MOLECULAR BIOLOGY

http://web.bio.utk.edu/bcmb/
Bruce D. McKee, Head

Professors
- Ganguly, R., PhD, Nebraska
- Hickok, L., PhD, Massachusetts
- Howell, E., PhD, Lehigh
- Joy, D. (Distinguished Scientist), DPhil, Oxford (UK)
- Koontz, J., PhD, Kentucky
- McKee, B., PhD, Michigan State
- Mullin, B., PhD, North Carolina State
- Peterson, C., PhD, Louisiana State
- Roberts, D., PhD, California (Davis)
- Sergersu, E., PhD, Hacettepe

Associate Professors
- Bruce, B., PhD, California (Berkeley)
- Dealwis, C., PhD, London
- Hall, J., PhD, Illinois
- Prosser, R., PhD, Illinois

Assistant Professors
- Fernandez, E., PhD, Loyola
- Guo, H., PhD, Harvard
- Jain, N., PhD, Brandeis
- Kilazono, A., PhD, Nagasaki (Japan)
- Labrador, M., PhD, Madrid (Spain)
- Nebenführ, A., PhD, Oregon State
- Park, J., PhD, Texas
- Venkatachalam, S., PhD, Ohio State
- von Anim, A., PhD, East Anglia (UK)

Adjoint and Research Faculty
- Allison, D., MS, Tennessee
- Georgiev, S., PhD, Manchester
- Hartman, F., PhD, Tennessee
- Klebig, M., PhD, Tennessee
- Liu, Yie, PhD, Sweden
- Mazur, P., PhD, Harvard
- O’Neill, H., PhD, Dublin (Ireland)
- Rinchik, G., PhD, Duke
- Wetzel, R., PhD, California (Berkeley)

Biochemistry, cell biology, and molecular biology study the function of cells and organisms at the molecular level. The concentration includes the study of the structure and function of proteins, lipids, carbohydrates, DNA and RNA, as well as how these and other molecules control cellular and organismal function. The curriculum prepares students for a variety of careers in biological research, biotechnology, the health professions or education.

Students wishing to emphasize study in this area elect to major in biological sciences with a concentration in biochemistry and cellular and molecular biology. See the description of the major and concentration under Division of Biology for requirements.

DIVISION OF BIOLOGY

http://web.bio.utk.edu/division/

John Koontz, Interim Director

Interim Coordinator
- Brewton, R., PhD, Tennessee

Lecturer
- Guffey, S., PhD, Tennessee

The Division of Biology consists of the following departments: Biochemistry and Cellular and Molecular Biology (BCMB), Ecology and Evolutionary Biology (EEB), and Microbiology. Each offers a separate concentration within a common Bachelor of Science major, biological sciences, followed by the concentration name. (Honors options are described after each concentration.)

BIOLOGICAL SCIENCES MAJOR

The biological sciences major offers concentrations in: biochemistry and cellular and molecular biology; ecology and evolutionary biology; microbiology; and plant biology. An honors option is available in all four concentrations.

Prerequisites to all Concentrations

Chemistry 120-130; Physics 221-222; Mathematics 141-142 or 151-152; Biology 111-112 or 130, Biology 140-240-250.

Progression Requirements

Students may declare a biological sciences major after completing the prerequisites Chemistry 120-130, and Biology 111-112 or 130 courses with at least a 2.5 GPA in those courses. A cumulative 2.5 GPA is required to declare and to continue in the major.

Students wishing to declare a major in biological sciences will be assigned a faculty advisor in one of the biological sciences departments in consultation with the student. Declaration of a biological sciences major should occur as soon as the student decides on this course of study, but not later than three semesters before the expected graduation date in order to ensure that requirements can be met in a timely manner.

BIOCHEMISTRY AND CELLULAR AND MOLECULAR BIOLOGY CONCENTRATION

The concentration consists of 32 hours including Chemistry 350-360-369, Biochemistry and Cellular and Molecular Biology 401-402, and

- At least 16 additional credit hours selected from biochemistry and cellular and molecular biology courses numbered 300 or above (except Biochemistry and Cellular and Molecular Biology 310, 457) or from the following courses in other departments: Microbiology 310-319, 410, 411, 420-429, 430, 440; Ecology and Evolutionary Biology 350, 360, 460.
- At least two of the 16 credit hours must be selected from the following laboratory courses: Biochemistry and Cellular and Molecular Biology 403, 416, 419, 429 and 452, and Biology 401.
- At least three of the 16 credit hours must be selected from the following physiology courses: Biochemistry and Cellular and Molecular Biology 321, 440, and Microbiology 310. No more than 9 of the 16 credit hours may be in non-Biochemistry and Cellular and Molecular Biology courses.

Honors Option

An honors option is offered to students with a cumulative GPA in biological sciences prerequisite courses of 3.5 or above and who have completed Biology 130-140-240-250. The honors option also requires a substantive research project carried out under the supervision of a biochemistry and cellular and molecular biology faculty member and a thesis describing the results of that project. The thesis must be approved by the faculty supervisor.

ECOLOGY AND EVOLUTIONARY BIOLOGY CONCENTRATION

The concentration consists of 33 hours.

- Chemistry 350.

While not required, Chemistry 360-369 is recommended for students that plan to pursue medical professions and the following disciplines within ecology and evolutionary biology: physiological ecology, chemical ecology, environmental toxicology and molecular evolution and systematics. Chemistry 360-369 can be applied to the Ecology and Evolutionary Biology upper-division requirements and are listed under the Physiology/Chemical Ecology category below.
• Quantitative Requirement – Statistics 201 or Statistics 251 and one course from the following (note prerequisites in parentheses)
  Mathematics 231 (Prereq: Mathematics 141-142); Mathematics 251 (Prereq: Mathematics 141-142); Mathematics 405 (Prereq: Mathematics 141-142 or 151-152); Statistics 320 (Prereq: Statistics 201); Statistics 330 (Prereq: Statistics 201). Mathematics 141-142 or 151-152 can be used to satisfy Ecology and Evolutionary Biology requirements. However, Mathematics 141-142 is recommended for students with a strong interest in quantitative ecology and is prerequisite to several courses that satisfy the Ecology and Evolutionary Biology Quantitative Requirement.

• Upper-Division courses – A total of 24 additional hours is required at the 300 level or above to include at least 15 hours from Ecology and Evolutionary Biology, and at least one course from each of the following categories.
  Evolution – Ecology and Evolutionary Biology 410, 460, 465*, 495*.
  Ecology – Ecology and Evolutionary Biology 433*, 446*, 470*, 484; Microbiology 470.
  Physiology/Chemical Ecology – Biochemistry and Cellular and Molecular Biology 310, 321, 415, 416*, 419*, 440; Chemistry 360, 369*; Microbiology 310, 319*.

*Courses with lab or field component.

• The remaining hours for the ecology and evolutionary biology concentration can include any of the remaining ecology and evolutionary biology courses on the above lists, other upper-division ecology and evolutionary biology courses, or appropriate upper-division courses offered by the following departments: Anthropology; Earth and Planetary Sciences; Forestry, Wildlife and Fisheries; Geography; Microbiology; Plant Sciences. A list of approved appropriate courses may be obtained from the office of either the Division of Biology or Ecology and Evolutionary Biology or from the Department of Ecology and Evolutionary Biology’s Web page. Other courses, related to the student’s determined interests, may be approved by petition to the department and the division. Courses applied to the major must include at least 4 hours at the 400-level and one laboratory or field course.

Honors Option
Requirements for the honors option are

• Completion of requirements for the biological sciences major – ecology and evolutionary biology concentration.
• A GPA of 3.5 in all the 300-level and above courses from the concentration and an overall GPA of 3.2.
• A minimum of 4 hours of Ecology and Evolutionary Biology 400, Undergraduate Research, during the junior and senior years.
• Ecology and Evolutionary Biology 407, Senior Thesis.
• Ecology and Evolutionary Biology 490, Undergraduate Seminar.

MICROBIOLOGY CONCENTRATION

The concentration consists of 34 hours including Chemistry 350-360-369, Biochemistry and Cellular and Molecular Biology 401, Microbiology 310-319, 320-329, and 12 additional hours of 400-level microbiology courses.

Honors Option
An honors option is offered to selected students who have completed the required 300-level microbiology courses with a minimum grade point average of 3.5 in microbiology courses and 3.2 for all courses. In addition to these 300-level courses, an honors option requires successful completion of 15 additional hours of 400-level microbiology courses, including 401 and 402.

PLANT BIOLOGY CONCENTRATION

The plant biology concentration consists of 29-34 hours including

• Chemistry 350-360-369 or 350, 310-319 or 310-319 and Biochemistry and Cellular and Molecular Biology 310.
• Biochemistry and Cellular and Molecular Biology 321; Ecology and Evolutionary Biology 330, 400 (1-4 hours), 410, 490 (1-2 hours); plus 9 additional hours of other upper-division courses offered by life science departments (except Biochemistry and Cellular and Molecular Biology 306, Ecology and Evolutionary Biology 304, 309).

A list of approved courses from other life science departments is available in the Division of Biology office.

Honors Option
Requirements for an honors option are

• A GPA of 3.5 in all the 300-level and above courses from the concentration and an overall GPA of 3.2.
• A minimum of 4 hours of Ecology and Evolutionary Biology 400 (undergraduate research) during the junior and senior year.
• A senior thesis that is acceptable to the student’s committee.

Students interested in pursuing an honors option should contact the Division of Biology office for details.

Minor in Biological Sciences

A minor in the Biological Sciences consists of 16 hours. Prerequisites are Biology 111-112 or 130, 140; and Chemistry 120-120. Requirements are Biology 240 and 250; and at least 8 hours chosen from 300- and 400-level courses in Biochemistry, Cellular and Molecular Biology; Ecology and Evolutionary Biology; Plant Biology. In meeting the upper-division minimum requirement no more than 6 hours may be credited from any one biological science department, and not more than 3 hours of undergraduate research may be credited.

DEPARTMENT OF CHEMISTRY

http://www.chem.utk.edu
Craig E. Barnes, Interim Head

Professors

Adcock, J.L., PhD ................................................. Texas
Baker, D.C., PhD ................................................ Ohio State
Barnes, C.E., PhD ............................................. Stanford
Bartmess, J.E., PhD ............................................. Northwestern
Compton, R.N., PhD .......................................... Tennessee
Cook, K.D., PhD ................................................. Wisconsin
Feigert, C.S., PhD ................................................ Colorado
Guiochon, G.A. (Distinguished Scientist, Science Alliance
  Center of Excellence), PhD ......................... Université de Paris (France)
Kabalka G.W. (Robert H. Cole Professor,
  Alumni Distinguished Service Professor), PhD ......... Purdue
Kovac, J.D., PhD ................................................. Yale
Larese, R.J. PhD ................................................ Wesleyan
Magid, L.J., PhD .............................................. Tennessee
Magid, R.M., PhD .............................................. Yale
Mays, J.W. (Distinguished Scientist, Science Alliance Center of
  Excellence), PhD ................................................. Akron
Pagni, R.M., PhD ................................................. Wisconsin
Schweitzer, G.K. (Alumni Distinguished Service Professor), PhD ... Illinois
Sepaniak, M.J., PhD .......................................... Iowa State
Williams, T.F. (Alumni Distinguished Service Professor),
  PhD ................................................................. London (UK)
Woods, III, C., (Vice Chancellor for Research) PhD ... North Carolina State
Xue, Z., PhD ..................................................... UCLA

Associate Professors

Damyan, M.D., PhD ........................................ Massachusetts
Hinde, R.J., PhD .............................................. Chicago
Musfeldt, J.L., PhD ............................................. Florida
Schell, F.M., PhD ................................................. Indiana
Further information will be supplied on request.

should make application to the head of the department at least four later than the end of the freshman year. Interested students required to have at least a 2.5 average to enter and remain in the program. Four work semesters and eight school semesters. Students are strongly urged to take the latter sequence. Courses 100 and 110 emphasize organic and biochemistry, and may not be used as prerequisite for other chemistry courses. Chemistry 150 and 160 are designed to increase the chemistry literacy and consumer knowledge of students and may not be used as prerequisites for any other chemistry course.

It is possible to move from one sequence to another if permission for substitution is obtained in advance. For example, a student who finds a need to complete the 120-130 series after having completed 100 may substitute 100 for 120 with approval of the Department of Chemistry and may then take 130. Credit may be received for only one of the courses 100, 120, or 128.

In any chemistry course above the freshman level which has Chemistry 130 as a prerequisite, 110 may be used as a prerequisite with approval of the Department of Chemistry.

Chemistry 128-138 is an honors course designed for the student who has already made considerable progress in science. Class size is limited to promote faculty-student interaction. Selection is based on ACT scores, high school chemistry grade, and, if necessary, performance on a placement examination to be given during the first class meeting. A student receiving a passing grade below B in 128 will complete the year’s work by taking 130.

Beginning students who have had high school chemistry and who have had additional experience (e.g., summer institute study, special research projects, home laboratory) are invited to apply during the summer to the head of the department for permission to take a proficiency examination in one or more semesters of general chemistry. If a satisfactory grade is made on the examination, credit will be awarded for the semester (or course) for which the exam was taken. The Department of Chemistry gives credit in general chemistry to students who present satisfactory scores on the Chemistry Advanced Placement Examination.

Cooperative Program

A cooperative program is available to students who are chemistry majors. After the freshman year, the student alternates a semester in school with a semester in a job in the chemical industry. The program normally requires five years and involves a total of four work semesters and eight school semesters. Students are required to have at least a 2.5 average to enter and remain in the program. Some opportunity exists for students to enter the program later than the end of the freshman year. Interested students should make application to the head of the department at least one semester in advance of the beginning of the first work period. Further information will be supplied on request.

### BACHELOR OF SCIENCE IN CHEMISTRY

#### • CHEMISTRY MAJOR

The Bachelor of Science in Chemistry is approved by the Committee on Professional Training of the American Chemical Society. It is designed to train students to go directly into positions in the chemical industry or to enter graduate study leading to positions in research and college teaching. A student in the Bachelor of Science in Chemistry program should, at the earliest opportunity, ask the Arts and Sciences Advising Center for assignment of a faculty advisor in the Department of Chemistry. For further information, contact the Head of Department of Chemistry, 552 Buehler Hall.

### Requirements for the Bachelor of Science in Chemistry

#### • Chemistry Major

Although not reflected in the showcase, students are required to meet the University General Education Requirement as stated in this catalog. Consult the College of Arts and Sciences Advising Services for updated information.

#### First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 120-130 or (preferably) 128-138</td>
<td>8</td>
</tr>
<tr>
<td>Mathematics 141-142</td>
<td>8</td>
</tr>
<tr>
<td>English Composition</td>
<td>6</td>
</tr>
<tr>
<td>1Foreign Language (intermediate level sequence)</td>
<td>6-10</td>
</tr>
<tr>
<td>2Distribution</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 240</td>
<td>2</td>
</tr>
<tr>
<td>Chemistry 230</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry 350-360</td>
<td>6</td>
</tr>
<tr>
<td>Chemistry 369</td>
<td>2</td>
</tr>
<tr>
<td>Mathematics 241 and either 231 or 251</td>
<td>7</td>
</tr>
<tr>
<td>Physics 135-136 or 137-138</td>
<td>8-10</td>
</tr>
<tr>
<td>2Distribution</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 310-320</td>
<td>6</td>
</tr>
<tr>
<td>Chemistry 319-329</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry 473-483</td>
<td>6</td>
</tr>
<tr>
<td>Chemistry 479-489</td>
<td>4</td>
</tr>
<tr>
<td>2Distribution</td>
<td>9</td>
</tr>
<tr>
<td>3Electives</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 430</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry 439</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry 406</td>
<td>1</td>
</tr>
<tr>
<td>Chemistry 400</td>
<td>3</td>
</tr>
<tr>
<td>Biochemistry and Cellular and Molecular Biology 401</td>
<td>4</td>
</tr>
<tr>
<td>4Chemistry Electives</td>
<td>3</td>
</tr>
<tr>
<td>2Distribution</td>
<td>9</td>
</tr>
<tr>
<td>3Electives</td>
<td>9</td>
</tr>
</tbody>
</table>

Total 126-132

---

1 Preferably chosen from German, French, Russian or Japanese; the College of Arts and Sciences requires that a student demonstrate intermediate-level competence in whatever foreign language is chosen.

2 The Distribution requirements of the College of Arts and Sciences are satisfied by taking: Non-U. S. History (6 hours), Social Science (6 hours), Humanities (6 hours), and Upper Level Distribution (3 hours in U.S. Studies and 3 hours in Foreign Studies). The number of credit hours shown in each year of the curriculum are merely intended as guidelines.

3 It is recommended that a portion of these elective hours be applied to advanced courses in biochemistry and cellular and molecular biology, mathematics, physics, or chemical, metallurgical, and polymer engineering.

4 To be chosen from Chemistry 400, 401, 408, 420, 450, and 490.
BACHELOR OF SCIENCE • CHEMISTRY MAJOR

The Bachelor of Science degree is available to students who desire a more flexible program. Prerequisites to the major are Chemistry 120-130 or 128-138 and Mathematics 141-142 or 151-152. Corequisites to the major are Physics 221-222, 135-136, or 137-138.

The major consists of Chemistry 240, 310, 319, 350-360, 369, 471-481 or 473-483, 479 and 10 hours of additional work in chemistry numbered above 200 that includes at least one laboratory course or lecture/laboratory course; up to 4 hours of Biochemistry and Cellular and Molecular Biology 401-402 or Geology 480 may be applied to the 10-hour requirement.

For students planning careers in chemistry, the recommended courses (from the list above) are Mathematics 141-142, Physics 135-136 or 137-138, and Chemistry 473-483; although not required, certain additional courses are strongly suggested for students planning to become chemists: Mathematics 241 and Chemistry 230, 320, 329, and 406. Because professional chemists need a reading knowledge of foreign languages, intermediate level competency should be acquired in German, French, Russian or Japanese. Students who are undecided about their career goals should consult the head of the department at the earliest opportunity. Unlike the Bachelor of Science in Chemistry, the regular Bachelor of Science degree is not approved by the Committee on Professional Training of the American Chemical Society.

HONORS CONCENTRATION

Candidates for the honors concentration in chemistry must fulfill all of the requirements for either the Bachelor of Science in Chemistry or the regular Bachelor of Science degree and must also satisfy the following stipulations: they must complete with grades of C or better Mathematics 141-142, Physics 135-136 or 137-138, and Chemistry 473-483, 400, and 408; and they must have an overall university GPA of at least 3.0 with a GPA in chemistry courses of at least 3.3.

Minor in Chemistry

A minor in chemistry consists of 15 hours of chemistry courses numbered above 200 including 310, 319 (4 hours) and at least one of the following sequences: 350-360, 369 (8 hours); or 471-481, 479 (8 hours), or 473-483, 479 (8 hours).

DEPARTMENT OF CLASSICS

http://web.utk.edu/~classics/

David W. Tandy, Head

Professors

Craig, G.P. (Lindsay Young Professor), PhD ............... North Carolina
Martin, S.D. (Associate Vice Chancellor), PhD .............. Michigan
Tandy, D.W. (Distinguished Professor of Humanities), PhD ........ Yale

Associate Professor

Sutherland, E.H., PhD ....................................... California (Berkeley)

Assistant Professors

Graninger, C.D., PhD ........................................ Cornell
Skenar, R.J., PhD ........................................ Michigan
Van de Moortel, A., PhD ................................ Bryn Mawr

Research Professors

Gesell, G.C., PhD ........................................ North Carolina
Langdon, M.K., PhD ........................................ Pennsylvania

Adjunct Faculty

Dessel, J.P., PhD ........................................ Arizona
Dzon, M., PhD ........................................ Toronto (Canada)
Fitzgerald, J.L., PhD ........................................ Chicago
Jones, D.W., PhD ........................................ Chicago
Kulikowski, M., PhD ........................................ Toronto (Canada)
Shepardson, C., PhD ...................................... Duke
Stiebert, J., PhD ........................................ Glasgow (UK)

The department's programs are designed to allow students to understand the foundations of the western cultural tradition. This is done through a focus on the classical languages and literatures, archaeology, art, mythology and religion, political and social history. Through these studies, students develop skills in critical thinking, reading, writing and speaking. They also develop a sense of the ways in which both shared traditions and personal creativity inform one's choices, and of the opportunities for good citizenship in a complex world.

CLASSICS MAJOR

CLASSICAL CIVILIZATION CONCENTRATION

The concentration in classical civilization consists of 27 hours. The required core of the major is Classics 201 plus any 9 hours from Classics 221-222, 232, 253. The remaining 15 hours may be from Classics 261-264, 251-252, any Classics course numbered 300 or above, History 366, or Philosophy 320. Students are encouraged to satisfy the foreign language requirement with Greek or Latin.

HONORS CLASSICAL CIVILIZATION CONCENTRATION

The honors classical civilization concentration consists of 29 hours. The required core of the concentration is Classics 201 plus 9 hours from the following – Classics 221-222, 232, 253. Fifteen hours must include Classics 251-252 or 261-264 with the remaining 9 hours from any Classics course numbered 300 or above, History 366, or Philosophy 320. The student must pass Classics 201 with a 3.5 or better and the final course in the intermediate Latin or Greek sequence (252 or 264) with a B+ or better. To graduate with honors, the student must maintain a GPA of at least 3.5 in classics courses and a minimum cumulative GPA of 3.0. The student must also present an honors thesis, for which 2 hours of independent study credit may be earned.

GREEK CONCENTRATION

The concentration in Greek consists of 27 hours including 18 hours of Greek language courses numbered above 200 plus 9 hours to be from any course in the Classics Department (other than Classics 121-122, 150, 201, or 273).

HONORS GREEK CONCENTRATION

The honors Greek concentration consists of 29 hours. Eighteen hours of Greek language courses numbered above 200 are required, plus 9 hours from the following – any courses in the Classics Department (other than 121-122, 201, 273). The student must maintain a minimum GPA of 3.5 in Greek language courses and a minimum cumulative GPA of 3.0. In addition, of the 9 hours described above, six must be in courses numbered 300 or higher. The student must also present an honors thesis, for which 2 hours of independent study credit may be earned.

LATIN CONCENTRATION

The concentration in Latin consists of 27 hours including 18 hours of Latin language courses numbered above 200 plus 9 hours to be from any course in the Classics Department (other than 111-112, 150, 201, or 273).

HONORS LATIN CONCENTRATION

The honors Latin concentration consists of 29 hours. Eighteen hours of Latin language courses numbered above 200 are required, plus 9 from the following – any courses in the Classics Department (other than 111-112, 150, 201, 273). The student must maintain a minimum GPA of 3.5 in Latin language courses and a minimum cumulative GPA of 3.0. In addition, of the 9 hours described above, 6 must be in courses numbered 300 or higher. The student must also present an honors thesis, for which 2 hours of independent study credit may be earned.
Placement Examination

Students who transfer to the University of Tennessee, Knoxville, from other colleges and students who enter with high school units in Latin should register for the courses in which they would normally be placed on the basis of such credits. During freshman orientation, a placement test will be given; and students will be advised if a change in registration is indicated by the results.

Proficiency Examinations

Students who have acquired a knowledge of Latin through private study or tutoring should request from the department a proficiency test. A student who earns a grade of B or better in this examination is eligible for credit toward graduation. A student who omits any course in a sequence may receive credit for it by passing the appropriate proficiency examination.

Minor in Classical Civilization

A minor in classical civilization consists of 18 hours including Classics 201 plus any 6 hours from Classics 221-222, 232, 253. The remaining 9 hours may be from Classics 261-264, 251-252, any Classics course numbered 300 or above, History 366, or Philosophy 320.

Minor in Greek

The Greek minor consists of 18 hours including 12 hours of Greek language courses numbered above 200, and 6 hours chosen from Classics 221-222, 436, 442.

Minor in Latin

The Latin minor consists of 18 hours including 12 hours of Latin language courses numbered above 200, and 6 hours from Classics 221-222, 436, 442.

COLLEGE SCHOLARS PROGRAM

Christopher P. Craig, Classics, Director

COLLEGE SCHOLARS MAJOR

College scholars is a major with selective admission. For details contact the director. All college scholars must enroll in one of the College Scholars Seminars 317-318 each term. They are encouraged to complete work in College Scholars Honors 491-492-493. Each student must complete a substantial piece of research, scholarship or creative imagination. College Scholars 498 is the appropriate course to use to receive credit for this work.

DEPARTMENT OF COMPUTER SCIENCE

http://www.cs.utk.edu/

Michael W. Berry, Interim Head

Professors

Berry, M.W., PhD ........................................ Illinois
Dongarra, J.J., PhD ........................................ New Mexico
Gregor, J., PhD ........................................... Aalborg (Denmark)
Langston, M.A., PhD ...................................... Texas A&M
Poore, J.H., PhD ........................................... Georgia Tech
Thomason, M.G., PhD .................................... Duke
Vander Zanden, B.T., PhD ................................ Cornell
Ward, R.C., PhD ........................................... Virginia

Associate Professors

Beck, M., PhD ............................................. Cornell
MacLennan, B.J., PhD .................................... Purdue
Parker, L.E., PhD .......................................... Massachusetts Institute of Technology
Plank, J.S., PhD .......................................... Princeton
Vose, M.D., PhD .......................................... Texas

Assistant Professors

Huang, J., PhD ........................................... Ohio State
Straight, D.W., PhD ...................................... Texas

Lecturer

Mayo, J.W., MS ........................................... Tennessee

The computer has achieved a position of great importance in modern life. It is a vital tool in business, science, communications, and health care. The Department of Computer Science offers education in the principles of computer science and training in the technology of computers. The program’s emphasis is divided among hardware, software, and theory, giving students a wide view of the discipline and enabling them to discover their areas of interest. Graduates of the program are prepared to help others make effective use of computers in their daily lives.

Progression Standards

Undergraduates are required to apply to the Department of Computer Science for progression into the computer science major. Progression is based on demonstrated academic ability. The overall record will be evaluated for quality and seriousness of purpose.

The requirements are subject to change. Current requirements can be determined by consulting an advisor in the Undergraduate Programs Office or by contacting the Computer Science Department. Students are expected to apply during the semester in which they are completing the last of Computer Science 140, 160, and Mathematics 141.

Students who have met the following criteria have been approved for progression into the major.

• Completed Computer Science 140, 160, and Mathematics 141 at the University of Tennessee, Knoxville, with a GPA of 3.0 or better in these three courses and a grade of C or better in each course. Transfer students’ course work will be evaluated individually.

• GPA of 2.5 or better in all computer science courses taken at the University of Tennessee, Knoxville, that apply to the major.

• Not been disciplined for academic dishonesty in a computer science course or for abuse of university computing privileges.

• No excessive absences, withdrawals, or incompletes.

Students who meet the criteria must fill out an application available in the Computer Science Department. A student who does not meet progression requirements will not be allowed to take any upper-division computer science course that can be applied to the major.

Students in other colleges or majors at the University of Tennessee, Knoxville, must apply for progression to the major at the earliest possible date but ideally prior to 75 hours. As a minimum, all students must be admitted to the computer science major for at least the last 30 hours of work.

Transfers from other institutions are generally handled the same as transfers from other University of Tennessee, Knoxville, programs. However, a prospective transfer student should consult with an advisor in the Computer Science Department to determine which courses can be accepted toward the computer science major. It should not be assumed that courses with similar names to University of Tennessee, Knoxville, courses can be accepted toward the major.

Appeals

Those students denied progression may appeal to the Undergraduate Committee of the Computer Science Department. Information on the appeals process can be obtained by calling the Computer Science Department, 974-5067, the Undergraduate Programs Office, 974-5096, or by contacting an advisor in that office.
COMPUTER SCIENCE MAJOR

Majors in computer science should prepare their programs in consultation with an advisor in the Computer Science Department. A student is not permitted to declare a computer science major until the department's progression requirements have been met.

The major in computer science consists of 39 hours. Prerequisites to the major include Computer Science 102, 140, 160, and Mathematics 141, 142, 241, 251, with a grade of C or better in each course; and a two-semester laboratory science (Physics 135-136 or biology or chemistry). The major consists of:

- Computer Science 302, 311, 360, 365, 380.
- One of the following – Computer Science 340, 370, Mathematics 371.
- Mathematics 300.
- Either English 355 or English 360.
- Either an additional 15 hours of upper division computer science or an additional 12 hours of upper-division computer science and either mathematics 231 or 323.

Minor in Computer Science

The prerequisites to an undergraduate minor are Computer Science 140, 160, and Mathematics 141 with a GPA of 3.0 or better in the three courses. The minor consists of 15 hours of upper-division computer science courses. Mathematics 371 may be substituted for three of those hours. A grade of C or better is required in all computer science courses applied to the minor, and a GPA not less than 2.5 must be maintained in these courses.

DEPARTMENT OF EARTH AND PLANETARY SCIENCES

http://geoweb.gg.utk.edu/
Claudia I. Mora, Head

Professors

Broadhead, T.W., PhD ..................................................... Iowa
Dunne, W.M. (Associate Dean), PhD .................................. Bristol
Hatcher, R.T. (UT Knoxville/ORNL Distinguished Scientist), PhD .............. Tennessee
Labotka, T.C., PhD .......................................................... California Institute of Technology
Mckay, L.D., PhD ............................................................ Waterloo
Mckinney, M.L., PhD ....................................................... Yale
McSween, H.Y. (Distinguished Professor of Science), PhD ....................... Harvard
Misra, K.C., PhD .............................................................. Western Ontario (Canada)
Mora, C.I. (Carden Professor), PhD ........................................ Wisconsin
Taylor, L.A., PhD ........................................................... Lehigh

Associate Professors

Clark, G.M., PhD .......................................................... Penn State
Perfect, E., PhD ............................................................. Cornell

Assistant Professors

Baker, G.S., PhD ............................................................ Kansas
Fedo, C.M., PhD ............................................................. Virginia Tech
Kah, L.C., PhD .............................................................. Harvard
Moersch, J.E., PhD .......................................................... Cornell

Lecturer

Sumrall, C.D., PhD .......................................................... Texas

The Department of Earth and Planetary Sciences emphasizes study of the Earth and of planetary systems at all scales of observation. Earth and Planetary Sciences strives to interpret the physical, chemical and biological processes operating over 4.5 billion years of Earth history, as well as those processes involved in the formation of terrestrial planetary bodies within our solar system.

GEOLOGY MAJOR

Progression to the Major
To progress into the major, students must take two courses from Geology 101-102-103, as well as Chemistry 120-130. Chemistry 130 may be taken concurrently with 300-level geology courses.

Corequisite Requirements
Corequisite requirements include Mathematics 141-142, and three courses from Biology 130-140 and Physics 135-136.

Major Requirements
Upper-division requirements include Geology 310-320-330-340-370-380 (24 hours), a minimum of 5 hours of an approved field camp, and 9 elective hours at the 400-level or above. Students are encouraged to participate in undergraduate research (Geology 493). A maximum of 3 hours of Geology 493 may count toward the major.

HONORS CONCENTRATION

Students with five completed upper-division geology courses and a cumulative GPA of at least 3.0 are encouraged to pursue an honors concentration, which includes completion of 3 hours of Geology 491, 492, or 493 beyond the normal major requirements, approval of a written thesis, and oral presentation of thesis results. A GPA of at least 3.0 must be maintained throughout matriculation. Interested students should consult their academic advisor for details.

Minor in Geology

A minor in geology consists of two courses from Geology 101-102-103, and an additional 16 hours at the 200-level or above. A maximum of 6 hours at the 200-level and 3 hours of Geology 493 may be counted toward the minor.

DEPARTMENT OF ECOLOGY AND EVOLUTIONARY BIOLOGY

http://eeb.bio.utk.edu/
Christine R.B. Boake, Head
Arthur C. Echnectacht, Associate Head

Professors

Boake, C.R.B., PhD .......................................................... Cornell
Burghardt, G.M., PhD ................................................... Chicago
Echnectacht, A.C., PhD ..................................................... Kansas
Etner, D.A., PhD ............................................................ Minnesota
Gavrelits, S., PhD .......................................................... Moscow State
Greenberg, N.B., PhD ..................................................... Rutgers
Gross, J.L., PhD ............................................................. Cornell
Harris, III, W.R., PhD ...................................................... Tennessee
Hallam, T.G., PhD .......................................................... Missouri
Hughes, K., PhD ............................................................. Utah
McCackren, G.R., PhD ...................................................... Indiana
Petersen, R. (Distinguished Professor), PhD .................................. Columbia
Riechert, S.E. (Distinguished Service Professor), PhD ....................... Wisconsin
Sayler, G.S., PhD ............................................................ Idaho
Schloss, E., PhD .............................................................. Cornell
Schultz, E., PhD ............................................................. Indiana
Simerbellof, D. (Gore Hunger Chair of Excellence), PhD ............... Harvard

Associate Professors

Drake, J.A., PhD ............................................................ Purdue
Small, R., PhD ............................................................. Iowa State
Smith, D., PhD ............................................................. Tennessee
Welch, J., PhD .............................................................. Arizona
Wofford, B.E. (Curator of Herbarium), PhD .................................. Tennessee

Assistant Professors

Butler, M., PhD ............................................................. Washington (St. Louis)
Fitzpatrick, B.M., PhD ...................................................... Davis
Fordyce, J.A., PhD .......................................................... Davis
Gilchrist, M.A., PhD ........................................................ Duke
Near, T.J., PhD .............................................................. Illinois
Sanderson, N.J., PhD ........................................................ Stanford
Williams, J., PhD ............................................................. Georgia
Research Professors
Cooper, L.W., PhD ................................. Alaska
Grebmeier, J.M., PhD ............................ Alaska

Research Assistant Professor
Classen, A.T., PhD ............................... Northern Arizona

Ecology and evolutionary biology deals with the interactions of organisms with one another and with their physical environment, and with the processes through which these interactions have developed and continue to change through time. The curriculum will provide students with an understanding of ecological interactions and evolutionary processes that are fundamental to the operation of the natural world. The scope of this program ranges from the molecular level, to individual organisms, to populations, communities, and ecosystems. The program offers career opportunities in academia, industry, governmental and non-governmental agencies that are concerned with the importance and integrity of natural systems, and in education at all levels.

Students wishing to emphasize study in this area elect to major in biological sciences with a concentration in ecology and evolutionary biology. See the description of the major and concentration under Division of Biology for requirements.

DEPARTMENT OF ECONOMICS

See faculty listing in the College of Business Administration.

The program in economics combines a broad liberal education with the rigorous study of important topics such as markets, employment, economic growth, business organization, wealth, inflation, health, environment, taxes, and the international economy.

Courses offered in the Department of Economics, housed in the College of Business Administration, provide an opportunity for a major or minor in economics in the College of Arts and Sciences.

In addition, certification to teach economics in secondary schools is available. Students with such interest should consult the College of Education, Health, and Human Sciences as early in their program as possible to determine the appropriate requirements.

ECONOMICS MAJOR

Prerequisites to the major are Economics 201 and Statistics 201, or their equivalent Honors courses (Economics 207 and/or Statistics 207).

The major consists of 27 upper-division hours in economics, and must include 311, 313, 499 and at least 9 hours in addition to 499 at the 400-level. Majors should satisfy the Mathematics and Quantitative Reasoning requirement with either Mathematics 125 or 141, and Statistics 201 (207). Students planning to pursue graduate study in economics should elect Mathematics 141, and are encouraged to take Mathematics 142 and 251 and Economics 381 and 482 as well.

HONORS CONCENTRATION

Admission is limited to students with an overall GPA of 3.2 who have earned a B or better in Economics 311, 313, and two other upper-division economics courses. Requirements are 311, 313, 498, and 18 additional upper-division hours in economics, with at least 9 hours in addition to 498 at the 400-level. Students will develop an undergraduate thesis topic with the guidance of their faculty advisor and complete the thesis while registered for Economics 498. Interested students should contact their advisor concerning details of participation.

Minor in Economics

A minor consists of Economics 201 (or 207) and 12 additional hours at the upper-division level. Upper-division economics courses must include 311, 313, and 3 or more hours at the 400-level.

DEPARTMENT OF ENGLISH

http://web.utk.edu/~english/

John Zomchick, Head

Professors
Atwill, J.M., PhD ................................. Purdue
Cox, D.R. (Associate Dean), PhD ........................ Missouri
Dumas, B.K., PhD ............................... Arkansas
Ensor, A.R., PhD ................................. Washington
Garner, Jr., S.B. (Young Professor), PhD ........................ Princeton
Goslee, D.F., PhD ............................... Yale
Goslee, N.M. (Alumni Distinguished Young Professor), PhD ........................ Yale
Heffner, T.J.A. (Curry Professor), PhD ........................ Cambridge
Kallet, M. (John C. Hodges Teaching Professor), PhD ........................ Rutgers
Larsen, W.B., PhD ............................... Texas
Lek, I., PhD ................................. Illinois
Lizzi, R.M., PhD ............................... Yale
Lofaro, M.A., PhD .............................. Maryland
Luprecht, M.A., PhD ............................ Florida
Maland, C., PhD ............................... Michigan
Papke, M.E. (Special Assistant to the Chancellor and
Associate Dean of Graduate Studies), PhD ........................ McGill (Canada)
Smith, A.E., PhD ................................. Houston
Stillman, R.E., PhD .............................. Pennsylvania
Wier, A., MFA ................................. Bowling Green
Zomchick, J.P., PhD ............................. Columbia

Associate Professors
Benson, M.G., PhD ............................... Vanderbilt
Elías, A.J., PhD ................................. Penn State
Hirschfeld, H.A., PhD ........................... Duke
Hirst, R., PhD ................................. Rensselaer Polytechnic
Howes, L.L., PhD ............................... Columbia
Jennings, L.D., PhD ............................. North Carolina
Knight, M., MFA ................................. Virginia
Reif, M.J., PhD ................................. Kansas

Assistant Professors
Abraham, M., PhD ............................... Purdue
Billone, A.C., PhD .............................. Princeton
Coleman, D.D., PhD .............................. Stanford
Dizon, M.C., PhD ............................... Toronto (Canada)
Fishman, J.M., PhD .............................. Stanford
Haddox, T.F., PhD ............................... Vanderbilt
Ikard, D., PhD ................................. Wisconsin
Schoenbach, L.M., PhD ........................ Virginia
Seshagiri, U., PhD ............................... Illinois
Thaggert, M., PhD ............................... California (Berkeley)

Lecturers
Aaj, M.P., PhD ................................. Alabama
Benson, M.G., PhD ............................... Iowa
Burton, J.C., PhD ............................... State University of New York (Stony Brook)
Capps, S.E., PhD ............................... Tennessee
Godward, M.R., PhD ............................ Tennessee
Hardig, W.J., PhD ............................... Florida
Harris, S.C., PhD ................................. Tennessee
Havens, K.L., PhD ............................... Tennessee
Hewitson, J.K., PhD ............................. Toronto (Canada)
Hussein, A., PhD ................................. Tennessee
Knoxf, L.A. ................................. Indiana
Larsen, W.B., PhD ............................... Tennessee
McKinstry, D.K., PhD ............................ Tennessee
Melton-Summer, S.E., PhD ........................ Tennessee
Meredith, E.G., MA ............................... Tennessee
Newman, H.T., PhD ............................. Illinois
Palmer, H.M., MA ............................... Tennessee
Pearson, F.M., MA ............................... Tennessee
Peavler, J.L., MA ............................... Tennessee
Pelletier, E.Y., PhD ............................. Toronto (Canada)
Prentice, N.H., PhD .............................. Tennessee
Rheen, M.M., Phd ............................... Tennessee
Rougeau-Vanderford, R.N., PhD ........................ Louisiana State
Senasi, D.M., PhD ............................... Alabama

DEPARTMENT OF ARTS AND SCIENCES
The English major provides students with the ability to analyze and interpret literary and other kinds of texts; to place those texts within historical, theoretical, and aesthetic contexts; to evaluate arguments according to their logical and rhetorical features; to develop the skills of written and oral communication. While developing these abilities, students are also urged to discover their own critical and artistic voices by gaining proficiency in organizing complex material, addressing multiple audiences, and understanding the medium of language. In the spirit of liberal education, the English major attempts to satisfy society's increasing need for a citizenry skilled in critical thought and communication.

Students planning to teach English in public schools should consult the College of Education, Health, and Human Sciences.

**ENGLISH MAJOR**

The English major consists of ten courses at the 300-400 level in one of the following concentrations.

**Prerequisites and Corequisites**

One two-semester sequence chosen from the following groups: English 201-202 (British Literature); 221-222 (Literature of the Western World); 231-232-233 (American Literature); 251-252-253 (Introduction to Literary Genres).

**CREATIVE WRITING CONCENTRATION**

The concentration requires a two-course sequence in creative writing; three other writing courses; four courses in literature, two of which must be before 1900, and at least one of those before 1800; one course in language, theory, cultural, ethnic, or gender studies; one or more courses from any of the department's offerings, including criticism, film, folklore, language, literature, rhetoric, and writing. Courses may count in more than one category.

**LITERATURE CONCENTRATION**

The concentration consists of English 376 (Colloquium in Literature), to be taken, if possible, near the beginning of the student's major program; four courses in literature before 1900, including at least two courses before 1800; one course in American literature; one course in twentieth-century literature; one course in language, theory, cultural, ethnic, or gender studies; two or more courses from any of the department's offerings, including criticism, film, folklore, language, literature, rhetoric, and writing. Courses may count in more than one category.

**RHETORIC AND WRITING CONCENTRATION**

The concentration requires a three-course package in rhetoric and writing; one other course in rhetoric or writing; four courses in literature, two of which must be before 1900, and at least one of those before 1800; one course in language, theo-

**TECHNICAL COMMUNICATIONS CONCENTRATION**

The concentration consists of a three-course package in technical communications; one other course in rhetoric or writing; four courses in literature, before 1900, and at least one of those before 1800; one course in language, theory, culture, ethnic, or gender studies; one course in twentieth-century literature; one course in American literature; one course in language, theory, cultural, ethnic, or gender studies; two or more courses from any of the department's offerings, including criticism, film, folklore, language, literature, rhetoric, and writing. Courses may count in more than one category.

**CONCENTRATION**

**TECHNICAL COMMUNICATIONS**

The concentration requires a three-course package in technical communication; one other course in rhetoric or writing; four courses in literature, two of which must be before 1900, and at least one of those before 1800; one course in language, theory, cultural, ethnic, or gender studies; one course in twentieth-century literature; one course in American literature; one course in language, theory, cultural, ethnic, or gender studies; two or more courses from any of the department's offerings, including criticism, film, folklore, language, literature, rhetoric, and writing. Courses may count in more than one category.

See the departmental brochure, *Undergraduate Study in English*, for a list of courses that satisfy the distribution, package, and sequence requirements for the various areas.

**INDIVIDUALIZED PROGRAM CONCENTRATION**

The Director of Undergraduate Studies is empowered to approve individualized programs developed by students in consultation with their advisors. These programs should be designed to achieve academically sound objectives that are not addressed by the above requirements.

**HONORS CONCENTRATION**

For students who qualify, the English Department offers specially designed courses at all levels. The first-year and second-year honors courses are enriched versions of regular sections in composition, and in American and British literatures. To be given honors in English on the transcript, a student must have achieved a 3.0 or better GPA, a 3.5 or better grade point in English courses, and grades of A or B in English 398 and 498.

An English minor consists of at least 15 semester hours of English courses at the 300-400 level.

An English minor with technical communication emphasis consists of at least 15 semester hours of English courses chosen from the following: at least three courses in technical communication (chosen from 360, 460, 462, 466, or any special topics course being offered in technical communication); one course in expository writing, argumentative writing, language, rhetoric, or another technical communication course (chosen from 355, 360, 371, 372, 455, 460, 462, 466, 470, 471, 472, 484, 485, 495, 496); and one other 300- or 400-level English course.

**DEPARTMENT OF GEOGRAPHY**

http://web.utk.edu/~utkgeog/

Bruce A. Ralston, Head

**Professors**

Althaus, C.S., PhD ......................................... Georgia
Bell, T.L., PhD .................................................. Iowa
Forest, R.A., PhD ............................................. Rutgers
Harden, C.P., PhD ............................................. Colorado
Horn, S.P., PhD ................................................. California (Berkeley)
Pulsipher, L.M., PhD ........................................ Southern Illinois
Raiton, B.A., PhD ............................................. Northwestern
Rehder, J.B., PhD ............................................ Louisiana State
Shaw, S.L., PhD ................................................. Ohio State

**Associate Professor**

Grisinno-Mayer, H., PhD ................................. Arizona
Orvis, K., PhD .................................................. California (Berkeley)

**Assistant Professors**

Drever, A., PhD ............................................... California (Los Angeles)

**Adjunct Faculty**

Griepshoven, M.M., PhD ................................. Tennessee
Liu, C., PhD .................................................. Tennessee
McKeown, R., PhD .......................................... Oregon
Tankersley, R.D., PhD ..................................... Tennessee
Zanetta, M.C., PhD ........................................... Ohio State

The Department of Geography provides a comprehensive program that reflects the discipline's three main areas: human geography, physical geography, and spatial analysis. The department's courses allow students to explore the linkages between human activities and natural systems. Students taking geography courses should develop factual knowledge, critical thinking, and
analytic skills. Training in geography allows students to know where things are located, why they are located where they are, how and why places differ, how human activity shapes and is shaped by the natural environment, and how to analyze human-environment interactions.

GEOGRAPHY MAJOR

Geography 131 and 132, and 101 or 102, are prerequisites to the major, which consists of 27 hours as follows: Geography 310 and 499; either 320, 421, or 423; either 340 or 351; one course from among 410, 411, 412, 413 or 415; one course from among 361, 363, 365, 371, 373, 375, or 379; and 9 additional credits, at least 6 of which must be taken at the 400 level. No more than 3 hours of Geography 490 may be counted toward the major.

Students who enter the major with more than 60 hours of credit, and who have completed a laboratory science sequence other than geography, may petition the department to substitute certain upper-division physical geography courses for 131 and/or 132. Students who enter the major with more than 60 hours of credit, and who have met the social science divisional requirements in departments other than geography, may petition the department to substitute certain upper-division human geography courses for 101 or 102.

HONORS CONCENTRATION

Students who have an overall GPA of 3.2 may elect to participate in an enrichment program that involves the successful completion of Geography 497 and 498 (Honors: Senior Thesis) under the direction of a faculty mentor. An approved written copy of the thesis must be submitted to the Department of Geography. Interested students should consult their advisor for details about participation.

Minor in Geography

The minor in geography consists of 15 hours of geography courses at the 300 level or above. Geography 490, 491, 492, 493 may not be counted toward the minor without departmental permission.

DEPARTMENT OF HISTORY

http://web.utk.edu/~history/

Todd A. Diacon, Head

Professors

Ash, S.V., PhD .................................................. Tennessee
Bohstedt, J., PhD ................................................. Harvard
Brummett, P., PhD .............................................. Chicago
Crabtree, L. (Chancellor), PhD ................................ Minnesota
Diacon, T.A., PhD ............................................... Wisconsin
Feller, D., PhD .................................................. Wisconsin
Norrell, R.J. (Bernadotte Schmitt Professor), PhD .......... Virginia

Associate Professors

Appier, J., PhD .................................................. California (Riverside)
Bast, R.J., PhD .................................................. Arizona
Burman, T.E., PhD .............................................. Toronto (Canada)
Dessel, J.P., PhD ................................................ Arizona
Fleming, G.G., PhD ........................................... Duke
Freeberg, E., PhD .............................................. Emory
Glover, L., PhD ................................................ Kentucky
Higgs, C.A., PhD ............................................... Yale
Kuikowski, M., PhD .......................................... Toronto (Canada)
Lulevicus, V.G., PhD ......................................... Pennsylvania
Piehl, G.K., PhD ............................................... Rutgers

Assistant Professors

DeWeerdt, H., PhD .......................................... Harvard
Liu, L., PhD ..................................................... California (San Diego)
McIntosh, J.L., PhD ......................................... Johns Hopkins
Phillips, D., PhD ............................................... Harvard
Sacco, L., PhD .................................................. Southern California
Tomkins, D., PhD ............................................. Columbia
White, G., PhD ................................................ Temple

The department’s program is designed to provide students with a knowledge of their cultural traditions and of their world, past and present, and thus to prepare them for the responsibilities of citizenship in today’s complex society. Students take history courses to develop their skills in thinking, reading, writing and speaking; to understand the links between past, present and future; and to assist them in their search for personal identity.

The department welcomes non-majors in its courses. Few history courses have formal prerequisites.

HISTORY MAJOR

Majors in history should prepare their programs in consultation with a departmental faculty advisor. A student may not declare a history major until he/she has completed both semesters, with a grade of C+ or better in each course, of a survey chosen from 221-222, 227-228, 241-242, 247-248, 261-262 or any two one-semester courses from any of these sequences. AP (with a score of 4 or 5) or transfer credit is acceptable to fulfill this requirement. History 241-242 (or honors equivalents) or 261-262 are prerequisites to a major which consists of 30 hours, including:

- 6 hours of History 221-222 (or the honors equivalent).
- 24 upper-division hours, including one course in European history; one course in United States history; two courses in the history of Latin America, Asia, or Africa, at least one of which must be in Asia or Africa; and one additional course dealing predominantly with a period prior to 1750.

HONORS CONCENTRATION

The Department of History offers honors sections of the western civilization and United States history survey courses. Some entering freshmen are invited to participate; other interested students may apply. These survey courses are open to non-majors. A grade of C+ or less in any part of the freshman-sophomore honors sequence will render the student ineligible for further honors work in history.

The honors concentration requires successful completion of 307 and a senior thesis (407-408) with a grade of B or above. The honors concentration consists of 33 hours, including 30 hours as outlined in the Bachelor of Arts major above, plus 307. All juniors who are declared history majors with an overall GPA of at least 3.0 are invited to join the Junior-Senior Honors Program. Students interested in honors work at any level should consult the department’s honors coordinator.

Minor in History

History 241-242 or 261-262 (or honors equivalents) are prerequisites to a minor which consists of 15 hours of courses numbered 200 or above, including at least 6 hours in United States history and 9 upper-division hours.

INTERDISCIPLINARY PROGRAMS

Don Richard Cox, Associate Dean, College of Arts and Sciences, Director

In keeping with the philosophy that integration of knowledge is as important as proficiency in a given field, the College of Arts and Sciences has combined the resources of several departments to offer a series of interdisciplinary majors and minors. These programs are Africana studies, American studies, Asian studies, cinema studies, comparative literature, environmental studies, global studies, Judaic studies, Latin American studies, legal studies, linguistics, medieval studies, and women’s studies. See individual program descriptions below for the concentration and/or minor requirements.
INTERDISCIPLINARY PROGRAMS MAJOR
• AFRICANA STUDIES CONCENTRATION
Wornie Reed, Sociology, Chair

Africana Studies 201-202 are required in the concentration which consists of 24 hours from the Africana studies curriculum. At least 15 hours must represent upper-division credits. Majors are required to take Africana Studies 431, preferably in their senior year. A maximum of 6 hours in Africana Studies 492 and 493 combined can be applied toward the Africana studies concentration. In planning their program, majors must include courses from at least two other departments which cross-list courses with Africana studies in addition to the Africana studies core course offerings.

Minor in Africana Studies

Africana Studies 201-202 are required in the minor which consists of 15 hours, at least 9 of which must be upper-division credits. A maximum of 3 hours in Africana Studies 492 and 493 combined can be applied to a minor. The minor must include courses from at least two other departments which cross-list courses with Africana studies in addition to the Africana studies core course offerings.

INTERDISCIPLINARY PROGRAMS MAJOR
• AMERICAN STUDIES CONCENTRATION
Michael Fitzgerald, Political Science, Chair

English 231 and either 232 or 233 are prerequisites to a concentration in American studies which consists of 27 upper-division hours including American Studies 310; at least two approved American history courses; and 6 hours of approved courses chosen from the following disciplines: anthropology, economics, political science, or sociology. Courses in the concentration will be chosen in consultation with an American studies advisor, from a list approved by the program, in such a way that at least three courses help the student achieve a focus within the field. One course in the student’s curriculum must specifically focus upon one or more American ethnic minority cultures. An additional 3 to 6 hours of American Studies 493 (Independent Study) are recommended for majors in their senior year. A list of approved elective courses is published annually.

All majors and prospective majors should contact the chair of the program.

Minor in American Studies

The American studies minor consists of at least 15 hours of coursework chosen from the program’s list of electives, including American Studies 310 and 12 additional hours from at least two different disciplines.

INTERDISCIPLINARY PROGRAMS MAJOR
• ASIAN STUDIES CONCENTRATION
Yang Zhong, Political Science, Chair

Prerequisites to the concentration are Asian Studies 101-102. Corequisites to the concentration is competence in a major Asian language of the chosen geographical-cultural area. Competence is defined as the successful completion of the 200-level sequence of that language, or by demonstration of equivalent mastery.

The Asian studies concentration consists of 26 credit hours from the upper-division courses of Asian studies and approved departmental offerings. Twelve of the hours must be taken from courses listed within one of the four geographical-cultural areas (Islamic World; South Asia; China; Japan), and 6 of those 12 hours must come from Subdivision A and 6 from Subdivision B. Subdivision A includes art, literature, music, philosophy, and religious studies; Subdivision B includes anthropology, economics, geography, history, political science, and sociology.

Six of the 26 hours must be taken from courses listed for other geographical-cultural areas.

Minor in Asian Studies

The Asian studies minor consists of Asian Studies 101-102 and 15 credit hours at the 200 level and above. Twelve credit hours must be taken from courses within one of the four geographical-cultural areas. Six credit hours must come from Subdivision A and 6 from Subdivision B. Three hours must be taken from courses in another geographical-cultural area.

CINEMA STUDIES
Christine Holmlund, Modern Foreign Languages and Literatures, Chair

Minor in Cinema Studies

The cinema studies minor consists of 15 hours, including Cinema Studies 281; 3 hours chosen from Cinema Studies 235, 236, or Journalism and Electronic Media 336; and 9 additional hours from any courses in cinema studies, courses cross-listed with cinema studies, or from the following list of approved courses: Journalism and Electronic Media 275, 336, 436. It is strongly recommended that Cinema Studies 281 be taken before any other courses in the minor.

For further information about the minor, consult the chairperson of the cinema studies program. Courses related to cinema studies and not listed above may be applied to the minor with the approval of the chair of the program.

INTERDISCIPLINARY PROGRAMS MAJOR
• COMPARATIVE LITERATURE CONCENTRATION
Carolyn R. Hodges, Modern Foreign Languages and Literatures, Chair

Students concentrating in comparative literature are strongly encouraged to acquire a working knowledge of a second foreign language, especially if they hope to pursue comparative literature on the graduate level.

A concentration in comparative literature consists of 27 hours including Comparative Literature 202 and 401-402, and 9 hours of literature in a foreign language in courses numbered 300 or above. The remaining 9 hours should include literature courses, either in English or in a foreign language, numbered 300 or above, from at least two of the following departments: Classics, English, Modern Foreign Languages and Literatures, and Religious Studies. Certain courses in philosophy, theatre, and interdisciplinary programs may be substituted with the approval of the chair of the comparative literature program.

Minor in Comparative Literature

A minor in comparative literature consists of 18 hours including Comparative Literature 202 and either Comparative Literature 401 or 402, 6 hours of literature in a foreign language in courses numbered 300 or above, and 6 hours of literature courses numbered 300 or above in a different department. These 6 hours may be either in English or in a foreign language and should be chosen from the following departments: English, Modern Foreign Languages and Literatures, and Religious Studies. Certain courses in philosophy, theatre, and interdisciplinary programs may be substituted with the approval of the chairperson of the comparative literature program. Minors in comparative literature are strongly encouraged to continue study of a foreign language beyond the minimum requirement.
INTERDISCIPLINARY PROGRAMS MAJOR
• ENVIRONMENTAL STUDIES CONCENTRATION
  Michael McKinney, Earth and Planetary Sciences, Chair

  The concentration in environmental studies provides sound scientific, socio-economic, and philosophical background for understanding the earth’s environment with an opportunity to minor in one of the many environmentally related curricula offered by the various colleges within the university.

  Prerequisites to the concentration are Biology 130-140 or 111-112; Chemistry 120-130; Geology 101; Geography 131; Mathematics 123-125 or 141-142 or 151-152; Economics 201; and Biology 250.

  The concentration consists of a core and a specialty.

  Core
  (a) 15 hours from Geography 345; Sociology 360 or 464 or 465 (one only); Philosophy 245; Economics 362 or Agricultural Economics 470 (one only); Agriculture and Natural Resources 333; Journalism and Electronic Media 451; Geology 490.
  (b) 3 hours from Geology 455 or Ecology and Evolutionary Biology 484.
  (c) 3 hours from Geography 334, 433, 434, 436; Environmental and Soil Sciences 462.

  Specialty
  Twelve hours at the 300 level or above in one of the following departments: Biochemistry, Cellular and Molecular Biology; Chemistry; Earth and Planetary Sciences; Ecology and Evolutionary Biology; Economics; Environmental and Soil Sciences; Forestry, Wildlife and Fisheries; Geography; Plant Sciences; Political Science; or Sociology.

INTERDISCIPLINARY PROGRAMS MAJOR
• GLOBAL STUDIES CONCENTRATION
  Jon Shefner, Sociology, Chair

  The global studies concentration focuses on understanding connections between different parts of the world. Globalization, or the trans-national exchange of investments, commodities, people, politics, technologies, and cultures, is both a characteristic of the contemporary world and the culmination of large-scale, long-term social change. Although globalization, at times, seems dominated by new economic and political formations more powerful than the traditional nation-state, it has also mobilized new expressions of local and transnational discontent and resistance.

  The University of Tennessee, Knoxville, global studies curriculum helps students understand the implications of global change, allowing the university community to confront what is occurring in our immediate locale by examining what is going on elsewhere. Bringing together faculty and students from diverse perspectives creates an interdisciplinary understanding of the disruption and integration resulting from changing configurations of nations, global processes, and identities.

  Global Studies 250 is a prerequisite to the concentration which requires 17-18 credit hours distributed in the following manner.

  A. Seven core courses from the following list. A student may choose to concentrate in either global society and culture or global politics and economy. The requirements for either track will be five courses in the primary track and two courses in the secondary track.

  Track I – Global Society and Culture
  Anthropology 315, History 421; Comparative Literature 202; English 331, 454; Geography 345; Musicology 290; and Religious Studies 302, 333.

  Track II – Global Politics and Economy
  Agricultural Economics 420; Forestry, Wildlife, and Fisheries 470; Retail and Consumer Sciences 421; and Sociology 442, 446.

  B. Any two courses from the following approved list of regional studies courses.
  Anthropology 313, 316, 319; Asian Studies 471; Geography 373; Political Science 452, 456; Religious Studies 332, 373; Spanish 331, 401, 465.

  C. One upper-division course from the following list.
  Anthropology 410, 431; Geography 320, 340, 415; Philosophy 360; Political Science 401; Religious Studies 300; Sociology 331; any upper-division modern foreign language course taught in the language of study.

  Note: Any courses taken to fulfill a core requirement cannot be used to fulfill a regional studies or methods/foreign language requirement.

Minor in Global Studies

Global Studies 250 is a prerequisite to the minor in global studies which requires 17-18 credit hours distributed in the following manner.

Six courses, including two courses from Track I (global society and culture) and two courses from Track II (global politics and economy). The remaining two courses may be taken from any of the above lists.

INTERDISCIPLINARY PROGRAMS MAJOR
• JUDAIC STUDIES CONCENTRATION
  Gilya Gerda Schmidt, Religious Studies, Chair

  The concentration in Judaic studies offers a course of study that treats Judaism as a historically evolving and culturally specific enterprise. The concentration explores Jewish culture, religion and heritage through literature, philosophy and history.

  A multi-disciplinary combination of courses permits critical reflection about topics and issues in a world civilization and cross-cultural context.

  The concentration consists of at least 27 hours at the 300 level or above, distributed as follows.

  • Religious Studies 381, History 383.
  • 12 hours from Religious Studies 311, 312, 320, 385, 386, 405; History 370, 384.
  • 9 hours selected from Art History 425, 431, 475; German 350; History 369, 395, 484; Philosophy 322.

  Students should contact the program advisor early in planning a Judaic studies concentration.

Minor in Judaic Studies

The Judaic studies minor consists of Religious Studies 381, History 383, and 9 hours selected from the Judaic studies concentration.

INTERDISCIPLINARY PROGRAMS MAJOR
• LANGUAGE AND WORLD BUSINESS – CHINESE, JAPANESE, OR PORTUGUESE CONCENTRATION
  Gregory B. Kaplan, Modern Foreign Languages and Literatures, Chair

  For a complete list of requirements, see Department of Modern Foreign Languages and Literatures.
The legal studies concentration places the study of law within the context of a liberal arts education. This concentration offers a course of study that treats law as a historically evolving and culturally specific enterprise. The concentration seeks to attract students interested in exploring the ways in which law and legal institutions shape and are shaped by values, behavior, communication patterns, and organization of social, economic, and political systems. A multidisciplinary combination of courses permits critical reflection about how law and social life are interconnected history and culturally. The program is designed to provide education about law and legal culture. It should not be viewed as an interdisciplinary program that speaks to the need to comprehend the connections between law and other components of society; promote an interest in studying how law shapes, and is shaped by the larger social, behavioral, political, historical, and cultural context; present an interdisciplinary program that speaks to the need to address problems about law that will face us in the next century; offer an integrated program drawn from existing curriculum and faculty.

Students should contact program advisors early in planning a legal studies concentration. Other law-related courses consistent with the purposes and objectives of the major may be approved through consultation with the Chair of the Legal Studies Committee.

The concentration consists of 27 hours, including either Political Science 330 or Sociology 455 and 24 hours of upper-division courses distributed among five categories.

**Analysis**
3 hours from English 496, Political Science 401, Sociology 331.
Minor in Linguistics
A minor in linguistics shall consist of 18 credit hours composed of
- Either English 471 or 3 hours selected in consultation with a linguistics advisor from Anthropology 411; Audiology and Speech Pathology 302, 320; Foreign Language/ESL Education 455; French 421, 422; Linguistics 321, 400, 429, 431, 435, 436, 472, 474, 476, 477, 485, 490, 491, 492, 493; Philosophy 472; Psychology 400, 424, Spanish 421, 422; Communication Studies 300, 320; Theatre 326.
- 15 additional hours – Audiology and Speech Pathology 305; English 371 or 372; Linguistics 423 and 425 or 426; plus 3 hours selected in consultation with a linguistics advisor.

INTERDISCIPLINARY PROGRAMS MAJOR
• MEDIEVAL STUDIES CONCENTRATION

Robert Bast, History, Chair

A concentration in medieval studies focuses upon culture and society from the collapse of the Roman Empire to the 16th century. Such a concentration offers the opportunity to deepen one’s self-awareness and broaden one’s view of the range of human possibilities by studying a very different and remote culture, its conditions of life, social and political institutions, values and ideals, and modes of perception and expression.

Latin is the most appropriate language for students in the medieval studies concentration and is essential for those who plan to continue their studies in graduate school. In addition, students planning to go on to graduate school are strongly advised to supplement their medieval studies concentration with extensive work in one of the traditional disciplines.

The concentration consists of Medieval Studies 201 and 403 and 21 hours of upper-division courses concerned primarily with the medieval experience, divided among the following three categories.

Category 1 – History, Philosophy, and Political Science

History 312, 313, 330, 334, 369, 474; Philosophy 322; Political Science 475.

Category 2 – Language and Literature

Classics 435; English 371, 401, 402; French 410; Italian 401, 402.

Category 3 – The Arts

Architecture 415; Art History 425, 431, 441, 451; Musicology 210.

Courses should either form a related pattern (for example, courses in the literature and history of medieval England or Italy) or should revolve around a particular discipline or two closely related disciplines (for example, courses in the history of art and architecture).

Minor in Medieval Studies
A minor in medieval studies consists of Medieval Studies 201 and 403 and 12 additional hours distributed among the categories listed above for the major. Each student’s program, major or minor, must be approved in advance by the Medieval Studies Coordinating Committee chairperson.

INTERDISCIPLINARY PROGRAMS MAJOR
• WOMEN’S STUDIES CONCENTRATION

Cheryl Brown Travis, Psychology, Chair

Women’s studies encourages inquiry into the full range of the human experience by raising new questions and opening new areas of research concerning women. The discipline enriches the traditional Arts and Sciences curriculum by adding new perspectives on women’s lives and accomplishments. Women’s studies can broaden the education of both male and female students by helping them to understand the limitations placed on both sexes by narrowly defined sex roles. Wherever there is a need to understand women and an interest in the new roles they are playing in society, women’s studies can enhance a student’s career preparation and opportunities.

The concentration in women’s studies consists of 30 semester hours including one of the Images of Women in Literature courses (either 210 or 215), Women in Society (220), Emergence of the Modern American Woman (310), at least 3 hours of Independent Study (493), and at least one course from each of the three major areas: Women’s Heritage (383, 432, 453, 466, 483), Contemporary Issues (320, 340, 360, 375, 382, 410, 425, 434, 476), and Literature and the Arts (330, 332, 422, 433, 469).

Because its content varies, 400 may be included in any of these areas. Students are encouraged to take at least 9 hours in one of these areas.

Minor in Women’s Studies
The women’s studies minor consists of one of the Images of Women in Literature courses (either 210 or 215), Women in Society (220), and an additional 12 hours of upper-division women’s studies courses. Approved special topics courses related to women’s studies may also be applied toward a major or a minor.

DEPARTMENT OF MATHEMATICS

http://www.math.utk.edu/

Robert J. Daverman, Interim Head

Professors
Alexiades, V., PhD  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
The Mathematics Department Honors Program offers a broad introduction to mathematics which serves as preparation for a wide variety of careers. The requirements below, which provide a solid introduction to four of the core components of mathematics, should be regarded as minimal preparation for careers in mathematics or closely related mathematical fields. Students with special interests and talents are encouraged to take as many other mathematics courses as their schedule permits.

Prerequisites to the major are Mathematics 141-142 (or 147-148) and 171 or Computer Science 102.

Major requirements consist of 37 semester hours of mathematics courses including (1) Mathematics 231, 241 (or 247), 251 (or 257), 300; and (2) eight additional courses at the 300-400 level (except 399, 403, 405, 490, 497, and 498) satisfying the following conditions.

- At least one course must be taken from each of the following categories.

- At least one 400-level two-semester sequence must be taken from the list above.

- Computer Science 311 and Computer Science 380 may be used as upper-division mathematics electives in part (2).

HONORS PROGRAM

Students who are interested in participating in the departmental honors program are urged to enroll in Mathematics 300 as soon as possible. Students who have completed Mathematics 300 may apply to the Mathematics Undergraduate Office for admission into the program, no later than the end of the junior year. Admission is based on recommendation of two University of Tennessee, Knoxville, mathematics faculty, including the student’s teacher in Mathematics 300 or an upper-division Mathematics honors course. Students are normally expected to be in the top 20% among Mathematics 300 students to be admitted to the honors program. Those who are not admitted based on performance in Mathematics 300 but who do exceptionally well in an upper-division mathematics honors course may also be admitted. Membership in the Chancellor’s Honors Program is not required, nor does such membership guarantee admission into the departmental honors program.

Honors students must meet stronger requirements. Specifically, honors students must meet all the requirements for a Bachelor of Science in Mathematics, but must also enroll in at least 4 hours of Mathematics 497 and take two upper-division mathematics sequences (instead of one), one of which must be an honors sequence. Honors students must also maintain a 3.4 cumulative GPA in all upper-division math courses and write a thesis (normally while enrolled in Mathematics 498) that must be approved by an honors thesis committee. The honors category upon graduation is determined as follows, based on the GPA of all upper-division math courses: GPA at least 3.4 – Honors; GPA at least 3.6 – High Honors; GPA at least 3.8 – Highest Honors.

SAMPLE PROGRAMS

There are many careers one can pursue with a mathematics major. Sample programs for four different goals are listed below. Additional information is available in the Department of Mathematics office.

**Industrial Employment**

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 141-142 (or 147-148) and 171</td>
<td>.11</td>
<td></td>
</tr>
<tr>
<td>English Composition</td>
<td>.6</td>
<td></td>
</tr>
<tr>
<td>Foreign Language</td>
<td>.6</td>
<td></td>
</tr>
<tr>
<td>Lab Science Distribution Requirement</td>
<td>.8</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 231, 241 (or 247), 251 (or 257), and 300</td>
<td>.13</td>
<td></td>
</tr>
<tr>
<td>Non-U.S. History Distribution Requirement</td>
<td>.6</td>
<td></td>
</tr>
<tr>
<td>Social Science Distribution Requirement</td>
<td>.3</td>
<td></td>
</tr>
<tr>
<td>Foreign Language (completion of secondary level)</td>
<td>.3</td>
<td></td>
</tr>
<tr>
<td>Science Distribution Requirement</td>
<td>.3</td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>.3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 351, 431 (or 435), 341, 371</td>
<td>.12</td>
<td></td>
</tr>
<tr>
<td>Humanities Distribution Requirement</td>
<td>.6</td>
<td></td>
</tr>
<tr>
<td>Social Science Distribution Requirement</td>
<td>.3</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>.12</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 471-472, 423, 475</td>
<td>.12</td>
<td></td>
</tr>
<tr>
<td>Upper-Level Distribution Requirement</td>
<td>.6</td>
<td></td>
</tr>
<tr>
<td>Oral Communication Requirement</td>
<td>.3</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>.4</td>
<td></td>
</tr>
</tbody>
</table>

Total 120 minimum

**Preparation for Graduate School**

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 141-142 (or 147-148) and 171</td>
<td>.11</td>
<td></td>
</tr>
<tr>
<td>English Composition</td>
<td>.6</td>
<td></td>
</tr>
<tr>
<td>Foreign Language (beginning level, preferably French, German, or Russian)</td>
<td>.6</td>
<td></td>
</tr>
<tr>
<td>Lab Science Distribution Requirement</td>
<td>.8</td>
<td></td>
</tr>
</tbody>
</table>

Guest, R., MS ........................................... Tennessee
Hagan, R., MS ........................................... Tennessee
Howard, J., MS .......................................... Tennessee
Kililias, H., MS ......................................... Tennessee
Lawkins, W., PhD ....................................... Tennessee
Limwood, D., PhD ....................................... Courant Institute
Long, J., PhD ........................................... Michigan
McClard, M., MA ....................................... Murray State
Mount, J., PhD ......................................... Illinois
Patton, P., MS .......................................... Tennessee
Peery, M., MM ......................................... Tennessee
Pringle, K., PhD ....................................... Oregon
Reagan, R.D., MM ....................................... Tennessee
Remus, C., MS .......................................... Tennessee
Self, C., MS ........................................... Tennessee
Smith, K., MM ......................................... Tennessee
Stein, D., MS ........................................... Tennessee
Szczepanski, A., PhD ................................. California (San Diego)

All entering freshmen and all other students who have not completed a college level mathematics course, except students who have received AP calculus credit, must take UT Knoxville’s Mathematics Placement Exam before enrolling in a mathematics course. Placement in the appropriate course will be determined by the score on the exam. Ordinarily, a student will not be allowed to enroll in a course at a level above that determined by his or her placement exam score. In exceptional circumstances, students will have the right to appeal their placement to the Mathematics Department. The exam will be administered during summer orientation and at designated times during the fall, spring, and summer registration.

**Mathematics Major**

The undergraduate mathematics major is designed to provide a solid introduction to four of the core components of mathematics, should be regarded as minimal preparation for careers in mathematics or closely related mathematical fields. Students with special interests and talents are encouraged to take as many other mathematics courses as their schedule permits.

Prerequisites to the major are Mathematics 141-142 (or 147-148) and 171 or Computer Science 102.

Major requirements consist of 37 semester hours of mathematics courses including (1) Mathematics 231, 241 (or 247), 251 (or 257), 300; and (2) eight additional courses at the 300-400 level (except 399, 403, 405, 490, 497, and 498) satisfying the following conditions.

- At least one course must be taken from each of the following categories.

- At least one 400-level two-semester sequence must be taken from the list above.

- Computer Science 311 and Computer Science 380 may be used as upper-division mathematics electives in part (2).
In the fifth year, complete 9 hours per semester of graduate classes fulfilling the requirements for a Master of Science degree, including two graduate sequences and Master of Science project.

The Mathematics Department awards graduate assistantships each year. The assistantship pays graduate tuition, as well as stipends for living expenses. Students who fulfill all requirements of the Mathematics Honors Program will be given priority for a graduate teaching assistantship from the UT Mathematics Department beginning in the academic year following award of the Bachelor of Science degree.

Accelerated/5th Year Master of Science

First Year

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 147-148 and 300</td>
<td>11</td>
</tr>
<tr>
<td>English Composition</td>
<td>6</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>6</td>
</tr>
<tr>
<td>Lab Science Distribution Requirement</td>
<td>8</td>
</tr>
<tr>
<td>Total 120 minimum</td>
<td></td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 231, 241, 251 (or 257), and 300</td>
<td>13</td>
</tr>
<tr>
<td>Non-U.S. History Distribution Requirement</td>
<td>6</td>
</tr>
<tr>
<td>Social Science Distribution Requirement</td>
<td>6</td>
</tr>
<tr>
<td>Foreign Language (completion of secondary level)</td>
<td>3</td>
</tr>
<tr>
<td>Science Distribution Requirement</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>0-2</td>
</tr>
<tr>
<td>Total 120 minimum</td>
<td></td>
</tr>
</tbody>
</table>

Third Year

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 323, 351, 341, 371, 400</td>
<td>15</td>
</tr>
<tr>
<td>Humanities Distribution Requirement</td>
<td>6</td>
</tr>
<tr>
<td>Social Sciences Distribution Requirement</td>
<td>3</td>
</tr>
<tr>
<td>Educational Psychology 210</td>
<td>3</td>
</tr>
<tr>
<td>Total 120 minimum</td>
<td></td>
</tr>
</tbody>
</table>

Fourth Year

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 445-446, 460, 421 (or 411, 431)</td>
<td>12</td>
</tr>
<tr>
<td>Upper-Level Distribution Requirement</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication Requirement</td>
<td>1-3</td>
</tr>
<tr>
<td>Educational Psychology 401</td>
<td>2</td>
</tr>
<tr>
<td>Special Education 402</td>
<td>2</td>
</tr>
<tr>
<td>Theory and Practice in Teacher Education 352 (1), 335 (3)</td>
<td>4</td>
</tr>
<tr>
<td>Instructional Technology 486</td>
<td>3</td>
</tr>
<tr>
<td>Total 120 minimum</td>
<td></td>
</tr>
</tbody>
</table>

5TH YEAR MASTER OF SCIENCE IN STATISTICS

Students may earn a Bachelor of Science with a major in mathematics and a Master of Science with a major in statistics in five years following a similar program as above. For more information contact the Department of Statistics, Operations and Management Science.

Minor in Mathematics

Prerequisite to the minor — Mathematics 141-142 (or 147-148). The minor consists of Mathematics 231, 241, 251, 300 and 9 additional hours at the 300-400 level (except 399, 405, 490, 497, and 498). Computer Science 370 may be substituted for three of those hours. The grade in each of these courses must be at least C.

DEPARTMENT OF MICROBIOLOGY

http://web.bio.utk.edu/micro/

Jeffrey M. Becker, Head

Professors
Becker, J.M., PhD ........................................... Cincinnati
Brian, D.A., PhD/DVM ......................................... Michigan State
Moore, R.N., PhD ............................................. Texas
Riggsby, W.S., Ph.D ......................................... Yale
Rouse, B.T., PhD ............................................. Guelph (Canada)
BVSc ............................................................... Bristol (UK)
Saylor, S.G., PhD ............................................. Idaho
Small, P.L.C., PhD ........................................... Stanford
White, D.C. (Distinguished Scientist), MD, ...................... Tufts
PhD ............................................................... Rockefeller
Microbiology is the study of organisms so small that they must be viewed with a microscope. These organisms include bacteria, yeasts, molds, protozoa and viruses. Microbiology is one of the fastest growing areas of science. The concentration in microbiology is designed to furnish necessary experience in medical, agricultural, food, industrial, or pharmaceutical microbiology. In addition, many microbiologists pursue careers in environmental microbiology and bioremediation. Other students become teachers, science writers, technical librarians, or managers of scientific companies. The microbiology concentration also provides an excellent background for students who plan to enter medical school, veterinary school or other health sciences graduate programs.

Students wishing to emphasize study in this area elect a concentration in microbiology. See the description of the biological sciences major under Division of Biology for requirements.

DEPARTMENT OF MODERN FOREIGN LANGUAGES AND LITERATURES

http://web.utk.edu/~mfl/
Chauncey J. Mellor, Interim Head

Professors
Brady, P. (Shumway Chair of Excellence), PhD ................................................................. Université de Paris (Sorbonne)
Brizio-Skov, F., PhD ................................................................. Washington
Campion, E., PhD ................................................................. Yale
Creel, B., PhD ................................................................. California (Davis)
DiMaria, S., PhD ................................................................. Wisconsin
Handelsman, M.H. (Distinguished Professor), PhD ................................................................. Florida
Hodges, C.R. (Associate Dean), PhD ................................................................. Chicago
Holmlund, C., PhD ................................................................. Wisconsin
Levy, K.D., PhD ................................................................. Kentucky
Mellor, C.J., PhD ................................................................. Chicago
Rivera-Rodas, O., PhD ................................................................. California (Davis)
Romeiser, J.B., PhD ................................................................. Vanderbilt
Young, D.J., PhD ................................................................. Texas

Associate Professors
Blackwell, S.H., PhD ................................................................. Indiana
Cruz-Cámara, N., PhD ................................................................. State University of New York (Buffalo)
Essif, L., PhD ................................................................. Brown
Kaplan, G., PhD ................................................................. Pennsylvania
LaCure, J., PhD ................................................................. Indiana
Lee, D.E., PhD ................................................................. Stanford
McAlpin, M.K., PhD ................................................................. Columbia
Ohnesorg, S., PhD ................................................................. McGill (Canada)
Pervukhina, N.K., PhD ................................................................. Bryn Mawr
Silva-Filho, E., PhD ................................................................. North Carolina

Assistant Professors
Arnold, M.N., PhD ................................................................. Texas
Ayo, A., PhD ................................................................. Arizona
Berwald, O., PhD ................................................................. North Carolina
Cano, L., PhD ................................................................. Florida State
Duke, D., PhD ................................................................. Pittsburgh
Gimmel, M., PhD ................................................................. Indiana
Gregory, A., PhD ................................................................. Texas
He, D., PhD ................................................................. British Columbia
Horiguchi, N., PhD ................................................................. Pennsylvania
Johnson, E., PhD ................................................................. Tennessee
Koek, C., PhD ................................................................. Michigan
Magilow, D.H., PhD ................................................................. Princeton

Programs in the Department of Modern Foreign Languages and Literatures provide students with courses in language, literature, linguistics, and culture. Along with developing language proficiency in reading, writing, speaking, and listening comprehension, the courses prepare students for study abroad and offer learning experiences that foster understanding and appreciation of global issues and multicultural perspectives.

Placement Examination
Students who have had previous work (either two or more years in high school or one year in college) in Chinese, French, German, Italian, Japanese, Portuguese, Russian, or Spanish must take a placement test to determine the appropriate level course for which to register. Placement tests are given for incoming students during summer orientation and throughout the year. Please contact the department for further details.

Proficiency Examinations
Students who have acquired a knowledge of French, German, Italian, Russian, or Spanish should request a proficiency test. A student earning a grade of C or better will receive credit for the appropriate number of courses. Superior students are encouraged to proceed as rapidly as their achievement permits.

Study Abroad
Five summer study abroad opportunities are available to students through the department. The department sponsors programs in Brazil, France, Italy, Mexico, and Spain. Students can earn up to 6 credit hours by participating in these programs. In most cases, the courses will fulfill part or all of the foreign language requirement (completion of the elementary or intermediate level). Upper-division classes in literature, culture, and language are also available for major and minor credit. Participation in these programs will satisfy the foreign study requirements for language and world business. A faculty member accompanies students in the program. In addition to formal classes held at a major university in the city, group excursions to cultural and historical sites are an integral part of the program. For more information concerning prerequisites, lodging arrangements, costs, and dates of an individual program, contact the Department of Modern Foreign Languages and Literatures, 701 McClung Tower.

Students are also encouraged to study abroad, particularly through participation in the university’s International Student Exchange Program (ISEP). The department is also prepared to recommend summer-study programs and year-abroad programs for students who are interested in foreign study. Credits from recognized foreign-study programs can readily be transferred to the University of Tennessee, Knoxville. For qualified students, the department also offers Asian Languages 491, German 491, and Russian 491. Students should consult the department before registering for the foreign study course.

FRENCH MAJOR

The French major consists of 30 hours in courses numbered 333 and above. (French 300 does not count toward the major but is recommended for students needing grammar review.) All majors must complete the following courses (or their equivalent...
GERMAN MAJOR
Majors or minors in German should carefully prepare their programs in consultation with a departmental faculty advisor. German 201-202 or the equivalent is a prerequisite to the major. German 331-332 do not count toward the major. In order to graduate, majors will be required to take a proficiency test in German.

LANGUAGE AND LITERATURE CONCENTRATION
Language and literature concentration consists of at least 30 hours of German in courses numbered above 300, including 301-302 and 3 hours chosen from German 323, 350, 363 or 415.

GERMAN STUDIES CONCENTRATION
The German studies concentration is designed for students who would like to focus on German-speaking countries from a comprehensive cultural perspective. The four components of the German studies concentration are command of the German language; knowledge of the cultural achievements (art, music, philosophy, poetry, fiction, religion, theatre) of the German-speaking people; knowledge of the political, social, and cultural history of the German-speaking nations; and knowledge and understanding of contemporary institutions in German-speaking nations. This concentration consists of 36 hours, distributed as follows.

Language
Any four from German 311, 312, 411, 412, 435, 485.

Literature, Culture, Arts
Any four from Art History 441; German 301, 302, 305, 323, 350, 415, 422, 423, 424; Musicology 400, 420, 430; Philosophy 324, 326, 353, 370, 395; Religious Studies 385, 411.

History
At least one from German 436; History 315, 323, 334, 335, 471, 472, 484.

Contemporary Institutions
At least one from Geography 340; German 363.

Additional Courses
Two additional courses from the above History and Contemporary Institutions lists.

HONORS CONCENTRATION
The honors concentration consists of at least 32 hours of German in courses numbered above 300, including completion of German 477 or 478 with a grade of A or B+. To be admitted to the honors program, students must present a cumulative grade point average in German major courses of at least 3.5 and have an overall GPA of not less than 3.2. Students should apply for admission to the Bachelor of Arts honors program at the end of their junior year. Application forms are available in the department office. Since courses taken abroad are not calculated in the overall average, the department reserves the right to make a judgment on the appropriateness of a study-abroad curriculum for acceptance as honors work and to require other 400-level courses as a condition for the degree.

ITALIAN MAJOR
The Italian major consists of 30 hours in courses numbered 311 and above.

RUSSIAN MAJOR
The Russian major has two options – literary emphasis and area studies. Majors should prepare their programs in consultation with the departmental faculty advisor. Both options consist of 30 hours of courses and both require Russian 311-312 and 401-402.

AREA STUDIES OPTION
Additional requirements for the area studies option are Russian 371-372; 3 or more credits chosen from Russian 221, 222, and Russian courses numbered 300 and above; and 6 or more credits chosen from History 340-341, and Political Science 459.

LITERARY EMPHASIS OPTION
The literary emphasis option requires Russian 451-452. Students may choose their remaining 12 hours from a group of courses that includes 221-222 and all courses numbered above 300.

SPANISH MAJOR
The Spanish major consists of 30 hours in courses numbered above 300 in one of two concentrations. All majors must complete 323, 330, and 331. Majors who study a semester or more abroad must take 323 (must be taken prior to any study abroad), 330, and three of the four required 400-level courses at the University of Tennessee.

HISPANIC STUDIES CONCENTRATION
One course from Spanish 332, 333 or 334; six additional courses in language, literature or culture, at least four of which must be from the 400 level. Students whose level of proficiency in Spanish is superior as defined by the ACTFL Proficiency Guidelines may substitute a 400-level course for Spanish 323 with consent of the department.

LITERATURE CONCENTRATION
Spanish 332, 333, 334; four additional 400-level courses, at least two of which must be in literature.

FRENCH, GERMAN, ITALIAN, RUSSIAN, SPANISH MAJOR • LANGUAGE AND WORLD BUSINESS CONCENTRATION or INTERDISCIPLINARY PROGRAMS MAJOR • LANGUAGE AND WORLD BUSINESS – CHINESE, JAPANESE, OR PORTUGUESE CONCENTRATION
Students who wish to prepare for careers in international business may complete a special major in Chinese, French, German, Italian, Japanese, Portuguese, Russian, or Spanish; a professional emphasis in international business, international retail merchandising, or international agricultural economics; and some form of practical experience related to the concentration. Admission is by permission of the program director.

A. Language Requirements
Chinese concentration (30 hours)
Asian Languages 231, 232, 331, 332; 3 hours of Asian Languages 490 or 491; and 9 hours of courses from the following – Asian Languages 311, 312, 315; History 389, 390, 391, 476; Political Science 454; Religious Studies 376, 379 (or other course approved by the Asian Studies Advisor).

French major (33 hours)
French 333, 345, 351, 352, 400, 422, 432, 440, 445; a 400-level literature elective; and 3 hours of 491, 490 or 493.
German major (30 hours)
German 301-302, 311-312, 323 or 363, 485; 3 hours of 490, 491 or 493; and 3 courses numbered 320 or above.

Italian major (27 hours)
Italian 314, 341, 342, 401; 3 hours of 490 or 491; and 12 hours of any 400-level literature courses.

Japanese concentration (30 hours)
Japanese 251, 252, 351, 352, 451, 452; 3 hours of Asian Languages 490 or 491; and 1 of the following – Japanese 313, 314, or 413.

Portuguese concentration (30 hours)
Portuguese 301-302, 309, 315-316, 409, 431 or 432; and 9 hours of courses from – Portuguese 490, 491, 493; Latin American Studies 360, 361, 401, 460, 463, 465.

Russian major (30 hours)
Russian 311-312, 401-402, 451-452; 3 hours of 490 or 491; and 9 hours from – 221, 222, 371, 372, 430, or any 400-level courses.

Spanish major (33 hours)
Spanish 323, 330, 331, 345 or 346; at least one 300-level literature survey course; 3 hours of Spanish 490 or 491; any four courses in language, literature or culture (at least two of which must be from the 400 level, while the remaining two may be selected from courses numbered above 300); and Portuguese 400. Students whose level of proficiency in Spanish is superior as defined by the ACTFL Proficiency Guidelines may substitute a 400-level course for 323 with consent of the department.

B. Professional Emphasis
International Business (26 hours)
Accounting 200, Economics 201, Business Administration 201, Statistics 201, Finance 301, Marketing 300, Economics 322, and Management 472. All upper-division (300 level or above) coursework must be taken at the University of Tennessee unless otherwise approved by College of Business Administration and the Director of the Language and World Business Program. Students are responsible for meeting all prerequisites for business courses. (For instance, Mathematics 125 or 141 is a prerequisite to Statistics 201.) Students should consult their catalogs and advisors to ensure that all prerequisites are met.

International Retail Merchandising (26 hours)
Accounting 200; Business Administration 201; Marketing 300, Retail and Consumer Sciences 210, 310, 421; and 6 additional credit hours from Retail and Consumer Sciences 410, 411, 412, 415, 493. Students are responsible for meeting all prerequisites for business courses. Students should consult their catalogs and advisors to ensure that all prerequisites are met.

International Agricultural Economics (25 hours)
Accounting 200; Business Administration 201; Agricultural Economics 320, 342, 350, 420, 430; and 3 credit hours from the following Marketing 300; Management 300, 472; Finance 301. Students are responsible for meeting all prerequisites for business courses. Students should consult their catalogs and advisors to ensure that all prerequisites are met.

C. Practical Experience
Each language and world business student must undertake an internship (490), study abroad (491), or a relevant research project (493) for a minimum of 3 hours (included in major requirements).

Additionally, language and world business students must consult an advisor in the department in selecting relevant courses under the basic skills and distribution requirements for the college.

Students interested in the language and world business program should contact the director for advising as early as possible in their college careers. The academic record presented will be assessed by the Director of Language and World Business.

For further information, inquire at 701 McClung Tower.

Minors

Chinese
Asian Languages 231-232 or equivalents are prerequisites to the minor. The minor consists of at least 17 hours of Chinese courses, including Asian Languages 331-332, 431, and 6 hours from Asian Languages 311-312 or other Chinese courses above 300.

French
Eighteen hours in courses numbered 333 and above, distributed as follows – 333, 351-352, 421, and 6 hours of electives at the 300 or 400 level. French 300 does not count toward the minor but is recommended for students needing grammar review.

German
German 201-202 equivalents are prerequisites to the minor. The minor consists of at least 18 hours of German courses numbered above 300 – normally German 301-302 and 12 additional hours of courses numbered above 300 (excluding 331-332 and courses in English translation).

Italian
Eighteen hours in courses numbered 311 or above. Students pursuing a minor must consult with a departmental advisor.

Japanese
Asian Languages 251-252 equivalents are prerequisites to the minor. The minor consists of at least 20 hours of Japanese courses including Asian Languages 351-352; 451-452; and 6 hours from Asian Languages 313-314, 413 or other Japanese courses above 300.

Portuguese
Eighteen hours in courses numbered 300 or above. Students pursuing a minor must consult with a departmental advisor.

Russian
Eighteen hours of Russian courses including 301-312, 401-402, and 6 hours chosen from 221-222 and courses numbered above 300.

Spanish
Eighteen hours in courses numbered above 300, distributed as follows – 323, 330 and 331; one course from 332, 333 or 334; and two additional courses. Minors who study a semester or more abroad must take 323 (must be taken prior to any study abroad), 330, and at least one additional course numbered above 300 at the University of Tennessee.

School of Music
http://www.music.utk.edu
Roger L. Stephens, Director
Barbara Murphy, Associate Director for Undergraduate Studies

Professors
Brock, J.P., MM ........................................ Alabama
Coker, J., MA .......................................... Sam Houston
Jacobs, K.A., DMA ................................. Texas Leach, C.F., DM ............................... Northwestern

SCHOOL OF MUSIC

102 COLLEGE OF ARTS AND SCIENCES
The mission of the School of Music is to provide the highest quality instruction in the musical arts and to cultivate creative activity and research in the areas of composition, education, musicology, pedagogy, performance, and theory. As part of its mission, the school enriches the musical and educational lives of its students, the university community and citizens of Tennessee.

**Progression Requirements**

All new music students (freshmen and transfers) must perform an audition in applied music and take a music theory examination. No student officially progresses to major in music until the audition has been passed and the theory placement examination has been taken. The results of the audition and theory exam will determine the student’s placement in applied music and theory. Both the audition and theory exam should be completed during a visit to the university prior to final arrival to begin classes. Applicants are urged to contact the School of Music to schedule appointments for satisfying both requirements as early as possible, but certainly no later than the summer orientation period.

**General Requirements**

Students in the School of Music are required to consult the School of Music Undergraduate Handbook, available in Room 211 Music Building, for departmental policies and procedures pertaining to music degrees.

**Minimum Performance Standards**

Potential performance and music education majors not meeting minimum performance standards, but showing potential will be allowed to register for Music General 101 in order to attain the desired level. Such students are normally expected to demonstrate sufficient progress by the end of the first academic year to perform on a level commensurate with a freshman student accepted without reservation by the school. The addition of the extra semesters of study usually results in lengthening the period needed to satisfy requirements for advanced standing (300 level).

Students entering any one of the four emphases in music education must complete the same audition procedures as those of performance majors. At the end of the second year or after having completed the required courses, students will participate in an interview with an appointed Admissions Board. Upon receiving positive recommendation from this board, students are admitted to the Teacher Education Program and permitted to take required upper-division education courses.

Students who pursue the music education curriculum are subject to all rules and regulations of the Teacher Education Program in the College of Education, Heath, and Human Sciences, notwithstanding the fact that their degree will be awarded from the College of Arts and Sciences.

**Ensembles**

Ensemble participation during each semester of residence is required of all students studying applied music. Students are required to participate in ensembles appropriate to their specific degree program as approved by the faculty of the department. Ensemble requirements vary among the concentrations and are listed in the School of Music Undergraduate Handbook, which is available in Room 211, Music Building. Enrollment in all ensembles is by audition or consent of instructor.

**Applied Music**

Applied study is classified as principal or secondary. Students studying their principal (major) instrument register for credit appropriate to their program (1-3 credit hours). Students studying a secondary instrument register for 1 hour of credit. Study at the principal level receives one hour of private instruction per week or a one-hour class lesson plus a half-hour private lesson. Determination of the mode of instruction rests with the department. Study at the secondary level receives one-half hour private instruction per week or its equivalent in class instruction. Applied music courses do not permit non-credit registration nor may students elect non-conventional grading.

**Solo Class**

All music majors are required to register for Music General 200 every fall and spring they are enrolled in applied music with the exception of the semester in which they are student teaching. The requirements for this course are to attend scheduled concerts, recitals, master classes, repertoire, and solo classes, and to perform at least once each semester as partial fulfillment of applied music credit requirement.

**Applied Music Fees**

$150 per semester for half-hour lesson (1 credit hour); $300 and $150 per semester for hour lesson (2-3 credit hours). Computer registration and applied music fee payment must be verified in the School of Music office no later than the end of the second day of classes of the fall and spring semesters and the first day of the summer terms in order to be accepted for applied music study. Applied music fees are not refundable after lessons have been scheduled.

**Keyboard Skills Proficiency Examination**

Proficiency in keyboard skills is required of all music majors and is usually acquired in the four-semester series of Music Keyboard 110, 120, 210, 220. Students who already possess keyboard skills may pass a proficiency examination in lieu of these courses.

**Recital Attendance Policy**

The faculty of the School of Music believes that exposure to a variety of live musical performances is an important part of the education of students studying music at the university level. As a result, the faculty has put in place a recital attendance requirement for undergraduate music students. Regular recital attendance helps students become acquainted with accepted norms of recital presentation, furnishes them with opportunities to get to
know and respect the talents of other students and faculty in the School of Music, and helps them establish the habit of attending musical performances after graduation. Specific recital attendance requirements are listed in the School of Music Undergraduate Handbook.

**BACHELOR OF MUSIC DEGREE**

**MUSIC MAJOR**

The School of Music offers curricula leading to the Bachelor of Music degree with concentrations in music theory/composition, music education, and applied music (voice; piano; organ; sacred music-organ or piano; sacred music-voice; piano pedagogy; strings; woodwind, brass, and percussion instruments; studio music and jazz). This study prepares students for graduate music study or for positions in music for which a professional music degree is required.

The University General Education Requirement (6 hours foreign language) is in addition to the university admission requirement. Students may continue at the 200 level in a language begun in high school or elect to begin a new language at the 100 level. Students majoring in vocal performance must complete one year each of two languages chosen from French, German and Italian.

**MUSIC EDUCATION CONCENTRATION**

Students seeking licensure to teach music in the public schools should pursue one of the options within this degree program. Options are available to prepare teachers for instrumental teaching or for the teaching of vocal and general music. The option of a student-teaching semester leads to the degree and to teaching licensure. The internship option provides for the granting of the degree with teacher licensure and 24 hours which may be applied to the master’s degree.

**Requirements for the Bachelor of Music • Music Major • Music Education Concentration – Wind/Percussion Emphasis**

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102*</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Performance (100 level)</td>
<td>2.2</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0.0</td>
</tr>
<tr>
<td>Music Ensemble 1</td>
<td>1.1</td>
</tr>
<tr>
<td>Music Ensemble 359</td>
<td>1.1</td>
</tr>
<tr>
<td>Music Theory 110, 120</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Theory 130, 140</td>
<td>1.1</td>
</tr>
<tr>
<td>Musicology 110*</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Education 230</td>
<td>1.1</td>
</tr>
<tr>
<td>Music Education 240 or 241</td>
<td>1.1</td>
</tr>
<tr>
<td>Music Keyboard 110, 120</td>
<td>1.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2Cultures and Civilizations*</td>
<td>3.3</td>
</tr>
<tr>
<td>Child and Family Studies 210*</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Performance (200 level)</td>
<td>2.2</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0.0</td>
</tr>
<tr>
<td>Music Ensemble 1</td>
<td>1.1</td>
</tr>
<tr>
<td>Music Ensemble 359</td>
<td>1.1</td>
</tr>
<tr>
<td>Music Theory 210, 220</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Theory 230, 240</td>
<td>1.1</td>
</tr>
<tr>
<td>Musicology 210*, 220*</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Education 210, 211</td>
<td>1.1</td>
</tr>
<tr>
<td>Music Education 220, 221</td>
<td>1.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3Communicating Orally*</td>
<td>3.3</td>
</tr>
<tr>
<td>Mathematics 115*</td>
<td>3.3</td>
</tr>
<tr>
<td>4Natural Sciences*</td>
<td>4.3</td>
</tr>
<tr>
<td>Music Performance (200 or 300 level)</td>
<td>2.2</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0.0</td>
</tr>
<tr>
<td>Music Ensemble 1</td>
<td>1.1</td>
</tr>
<tr>
<td>Music Ensemble 359</td>
<td>1.1</td>
</tr>
<tr>
<td>Music Theory 320</td>
<td>2.2</td>
</tr>
<tr>
<td>Musicology 380*</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Education 350</td>
<td>1.1</td>
</tr>
</tbody>
</table>

**Requirements for the Bachelor of Music Degree • Music Major • Music Education Concentration – String Emphasis**

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102*</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Performance (100 level)</td>
<td>2.2</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0.0</td>
</tr>
<tr>
<td>Music Performance (100 level)</td>
<td>2.2</td>
</tr>
<tr>
<td>Music Education 350</td>
<td>1.1</td>
</tr>
<tr>
<td>Music Ensemble 359</td>
<td>1.1</td>
</tr>
<tr>
<td>Music Theory 320</td>
<td>2.2</td>
</tr>
<tr>
<td>Musicology 380*</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Education 350</td>
<td>1.1</td>
</tr>
<tr>
<td>Music Education 310, 320</td>
<td>3.2</td>
</tr>
<tr>
<td>Music Education 200</td>
<td>1.1</td>
</tr>
<tr>
<td>Music Education 212</td>
<td>1.1</td>
</tr>
<tr>
<td>Instructional Technology 486</td>
<td>3.3</td>
</tr>
</tbody>
</table>

**Fourth Year**

| Social Sciences* | 3 |
| Natural Sciences* | 3 |
| Quantitative Reasoning* | 3 |
| Music Performance (300 or 400 level) | 2 |
| Music General 200 | 0.0 |
| Music Ensemble 1 | 1.1 |
| Music General 301 | 0.0 |
| Music Education 340 | 3.3 |
| Music Education 420 | 3.3 |
| Music Education 430 | 3.3 |
| Music Education 440 | 2.2 |
| Cultural Studies in Education 400 | 2.2 |
| Educational Psychology 401 | 2.2 |
| Special Education 402 | 2.2 |

Total 124**
### Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communicating Orally*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Mathematics 115*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Natural Sciences*</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Music Performance (200 or 300 level)</td>
<td></td>
<td>2,2</td>
</tr>
<tr>
<td>Music General 200</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Music Ensemble 310</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Music Theory 320</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Musicology 380*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Music Education 230</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Music Education 350</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Music Education 310, 320</td>
<td></td>
<td>3,2</td>
</tr>
<tr>
<td>Music Education 200</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Instructional Technology 486</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

** Total 12 undergraduate **

### Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Sciences*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Natural Sciences*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Quantitative Reasoning*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Music Performance (300 or 400 level)</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Music General 200</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Music Ensemble 370</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Music General 301</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Music Education 340</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Music Education 420</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Music Education 430</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Music Education 441</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Cultural Studies in Education 400</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Educational Psychology 401</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Special Education 402</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

** Total 12 undergraduate **

### Internship Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Education 575</td>
<td></td>
<td>8,4</td>
</tr>
<tr>
<td>Music Education 574</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Music Education 591</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Electives in Music Education or Music</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

** Total 24 graduate **

### Student Teaching Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Education 400</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Music Education 401</td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

** Total 12 undergraduate **

### Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultures and Civilizations*</td>
<td></td>
<td>3,3</td>
</tr>
<tr>
<td>Child and Family Studies 210*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Music Performance (200-level Keyboard)</td>
<td></td>
<td>2,2</td>
</tr>
<tr>
<td>Music Performance 155, 156 or 255, 256 (Voice)</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Music General 200</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Music Theory 210, 220</td>
<td></td>
<td>3,3</td>
</tr>
<tr>
<td>Music Theory 230, 240</td>
<td></td>
<td>1,1</td>
</tr>
<tr>
<td>Musicology 210*, 220*</td>
<td></td>
<td>3,3</td>
</tr>
<tr>
<td>Music Education 200</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Music Education 201</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

** Total 12 undergraduate **

### Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Sciences*</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Mathematics 115*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Music Performance (200- or 300-level Keyboard)</td>
<td></td>
<td>2,2</td>
</tr>
<tr>
<td>Music General 200</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Music Theory 210, 220</td>
<td></td>
<td>3,3</td>
</tr>
<tr>
<td>Music Education 200</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Instructional Technology 486</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

** Total 12 undergraduate **

### Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Sciences*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Natural Sciences*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Quantitative Reasoning*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Music Performance (300 or 400 level)</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Music General 200</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Music Theory 450</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Musicology 380*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Music Education 210 or 211</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Music Education 250, 251</td>
<td></td>
<td>1,1</td>
</tr>
<tr>
<td>Music Education 310, 320</td>
<td></td>
<td>3,2</td>
</tr>
<tr>
<td>Music Ensemble 399</td>
<td></td>
<td>1,1</td>
</tr>
<tr>
<td>Music Voice 450</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Instructional Technology 486</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

** Total 12 undergraduate **

### Internship Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Education 575</td>
<td></td>
<td>8,4</td>
</tr>
<tr>
<td>Music Education 574</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Music Education 591</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Electives in Music Education or Music</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

** Total 24 graduate **

### Student Teaching Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Education 400</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Music Education 401</td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

** Total 12 undergraduate **

### Requirements for the Bachelor of Music • Music Major • Music Education Concentration – Vocal-General/Keyboard Emphasis

#### First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102*</td>
<td></td>
<td>3,3</td>
</tr>
<tr>
<td>'Communicating Orally'</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Music Performance (100-level Keyboard)</td>
<td></td>
<td>2,2</td>
</tr>
<tr>
<td>Music Performance 155, 156 or Music Voice 110</td>
<td></td>
<td>1,1</td>
</tr>
<tr>
<td>Music General 200</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Music Theory 110, 120</td>
<td></td>
<td>3,3</td>
</tr>
<tr>
<td>Music Theory 130, 140</td>
<td></td>
<td>1,1</td>
</tr>
<tr>
<td>Musicology 110*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Music Education 240 or 241</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

** Total 24 graduate **

### Internship Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Education 575</td>
<td></td>
<td>8,4</td>
</tr>
<tr>
<td>Music Education 574</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Music Education 591</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Electives in Music Education or Music</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

** Total 24 graduate **

### Student Teaching Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Education 400</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Music Education 401</td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

** Total 12 undergraduate **
Requirements for the Bachelor of Music • Music Major
• Music Education Concentration – Vocal-General/Vocal Emphasis

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102*</td>
<td>3.3</td>
<td>3</td>
</tr>
<tr>
<td>1Communicating Orally*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Music Performance (100-level Keyboard)</td>
<td>2.2</td>
<td>3</td>
</tr>
<tr>
<td>Music Performance 155, 156 or Music Voice 110</td>
<td>1.1</td>
<td>1</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0.0</td>
<td>1</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>1.1</td>
<td>1</td>
</tr>
<tr>
<td>Music Theory 110, 120</td>
<td>3.3</td>
<td>3</td>
</tr>
<tr>
<td>Music Theory 130, 140</td>
<td>1.1</td>
<td>1</td>
</tr>
<tr>
<td>Musicology 110*</td>
<td>0.3</td>
<td>0</td>
</tr>
<tr>
<td>Music Education 240 or 241</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>2Cultures and Civilizations*</td>
<td>3.3</td>
<td>3</td>
</tr>
<tr>
<td>Child and Family Studies 210*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Music Performance (200-level Keyboard)</td>
<td>2.2</td>
<td>2</td>
</tr>
<tr>
<td>Music Performance 155, 255, 256 (Voice)</td>
<td>1.1</td>
<td>1</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>1.1</td>
<td>1</td>
</tr>
<tr>
<td>Music Theory 210, 220</td>
<td>3.3</td>
<td>3</td>
</tr>
<tr>
<td>Music Theory 230, 240</td>
<td>1.1</td>
<td>1</td>
</tr>
<tr>
<td>Musicology 110*</td>
<td>0.3</td>
<td>0</td>
</tr>
<tr>
<td>Music Education 200</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Music Education 201</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>3Natural Sciences*</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics 115*</td>
<td>0.3</td>
<td>0</td>
</tr>
<tr>
<td>Music Performance (200- or 300-level Keyboard)</td>
<td>2.2</td>
<td>2</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>1.1</td>
<td>1</td>
</tr>
<tr>
<td>Music Theory 450</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Musicology 380*</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Music Education 210 or 211</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Music Education 250, 251</td>
<td>1.1</td>
<td>1</td>
</tr>
<tr>
<td>Music Education 310, 320</td>
<td>3.2</td>
<td>3</td>
</tr>
<tr>
<td>Music Voice 450</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Instructional Technology 486</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>4Social Sciences</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>3Natural Sciences*</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>5Quantitative Reasoning*</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Music Performance (300 or 400 level)</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Music General 200</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>1.1</td>
<td>1</td>
</tr>
<tr>
<td>Music Education 200</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Music Education 330</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Music Education 350</td>
<td>1.1</td>
<td>1</td>
</tr>
<tr>
<td>Music Education 420</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Music Education 430</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Music General 301</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cultural Studies in Education 400</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Educational Psychology 401</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Special Education 402</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Total 122**

Requirements for the Bachelor of Music • Music Major
• Organ Concentration

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102*</td>
<td>3.3</td>
<td>3</td>
</tr>
<tr>
<td>Music Theory 110, 120</td>
<td>3.3</td>
<td>3</td>
</tr>
<tr>
<td>Music Theory 130, 140</td>
<td>1.1</td>
<td>1</td>
</tr>
<tr>
<td>Musicology 110*</td>
<td>0.3</td>
<td>0</td>
</tr>
<tr>
<td>Music Performance 190</td>
<td>3.3</td>
<td>3</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>1.1</td>
<td>1</td>
</tr>
<tr>
<td>Music Education 200</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Foreign Language (200-level sequence)*</td>
<td>3.3</td>
<td>3</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Theory 210, 220</td>
<td>3.3</td>
<td>3</td>
</tr>
<tr>
<td>Music Theory 230, 240</td>
<td>1.1</td>
<td>1</td>
</tr>
<tr>
<td>Musicology 210*, 220*</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Music Education 401</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Electives</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1Quantitative Reasoning*</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Musicology 380*</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Music Theory 310</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Music Performance 390</td>
<td>3.3</td>
<td>3</td>
</tr>
<tr>
<td>Music Keyboard 410</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Music Education 430</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>1.1</td>
<td>1</td>
</tr>
<tr>
<td>Music Education 200</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Music General 301</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>2Social Sciences*</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>3Communicating Orally*</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Education 310</td>
<td>3.3</td>
<td>3</td>
</tr>
<tr>
<td>Music Keyboard 410</td>
<td>1.1</td>
<td>1</td>
</tr>
<tr>
<td>Electives</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Music Performance 490</td>
<td>3.3</td>
<td>3</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>1.1</td>
<td>1</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4Natural Sciences</td>
<td>4.3</td>
<td>4.3</td>
</tr>
<tr>
<td>Music General 401</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Music General 401</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Music Keyboard 460, 470</td>
<td>3.3</td>
<td>3.3</td>
</tr>
</tbody>
</table>

Total 120

Internship Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Education 575</td>
<td>8.4</td>
<td>8.4</td>
</tr>
<tr>
<td>Music Education 574</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Music Education 591</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Electives in Music Education or Music</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

Total 24 graduate

or

Student Teaching Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Education 400</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Music Education 401</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Total 12 undergraduate

* Meets University General Education Requirement.
** Teacher licensure requires a fifth-year graduate internship or one semester of student teaching.
1 See Communicating Orally – University General Education Requirement. Select one course from the list.
2 See Cultures and Civilizations – University General Education Requirement. Select two courses on the list or two courses in a foreign language at the intermediate level.
3 See Natural Sciences – University General Education Requirement. Select two courses from the list. At least one of the courses must have a laboratory.
4 See Social Sciences – University General Education Requirement.
5 See Quantitative Reasoning – University General Education Requirement.
### Requirements for the Bachelor of Music • Music Major

#### Piano Pedagogy Concentration

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102*</td>
<td>3</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Theory 110, 120</td>
<td>3</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Theory 130, 140</td>
<td>1</td>
<td>1.1</td>
</tr>
<tr>
<td>Musicology 110*</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Music Performance 180</td>
<td>2</td>
<td>2.2</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Music General 200</td>
<td>1</td>
<td>1.1</td>
</tr>
<tr>
<td><em>Cultures and Civilization</em></td>
<td>6</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Theory 210, 220</td>
<td>3</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Theory 230, 240</td>
<td>1</td>
<td>1.1</td>
</tr>
<tr>
<td>Musicology 210*, 220*</td>
<td>3</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Performance 280</td>
<td>2</td>
<td>2.2</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><em>Natural Sciences</em></td>
<td>4.3</td>
<td>3</td>
</tr>
<tr>
<td>Music Ensemble 399</td>
<td>1</td>
<td>1.1</td>
</tr>
<tr>
<td>Music Keyboard 340, 350</td>
<td>3</td>
<td>3.3</td>
</tr>
</tbody>
</table>

#### Third Year

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Musicology 380*</td>
<td>3</td>
</tr>
<tr>
<td>Psychology 110*</td>
<td>3</td>
</tr>
<tr>
<td><em>Social Sciences</em></td>
<td>3</td>
</tr>
<tr>
<td>Music Theory 310</td>
<td>3</td>
</tr>
<tr>
<td>Music Performance 380</td>
<td>2</td>
</tr>
<tr>
<td>Music Keyboard 480</td>
<td>3</td>
</tr>
<tr>
<td>Music Ensemble 399</td>
<td>1</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0</td>
</tr>
<tr>
<td>Music General 301</td>
<td>0</td>
</tr>
<tr>
<td>Music Keyboard 360, 370</td>
<td>2</td>
</tr>
<tr>
<td>Music Education 310</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Fourth Year

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Keyboard 230</td>
<td>1</td>
</tr>
<tr>
<td>Music Theory 310, 320</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Performance 480</td>
<td>2.2</td>
</tr>
<tr>
<td>Music Ensemble 399</td>
<td>1.1</td>
</tr>
<tr>
<td><em>Quantitative Reasoning</em></td>
<td>3.3</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0</td>
</tr>
<tr>
<td>Music Keyboard 360, 370</td>
<td>2</td>
</tr>
<tr>
<td>Music General 401</td>
<td>0</td>
</tr>
<tr>
<td><em>Communicating Orally</em></td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>2</td>
</tr>
</tbody>
</table>

* Meets University General Education Requirement.
1 See Culture and Civilization – University General Education Requirement. Select two non-U.S. History courses on the list or two courses in a foreign language at the intermediate level.
2 See Natural Sciences – University General Education Requirement. Select two courses from the list. At least one of the courses must have a laboratory.
3 See Social Sciences – University General Education Requirement.
4 Select two courses from the list.
5 See Quantitative Reasoning – University General Education Requirement. Select one course from the list.

#### Sacred Music Concentration • Organ Track

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102*</td>
<td>3</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Theory 110, 120</td>
<td>3</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Theory 130, 140</td>
<td>1</td>
<td>1.1</td>
</tr>
<tr>
<td>Musicology 110*</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Music Performance 180</td>
<td>2</td>
<td>2.2</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><em>Cultures and Civilization</em></td>
<td>3</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>1.1</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Theory 210, 220</td>
<td>3</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Theory 230, 240</td>
<td>1</td>
<td>1.1</td>
</tr>
<tr>
<td>Musicology 210*, 220*</td>
<td>3</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Performance 280</td>
<td>2</td>
<td>2.2</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><em>Natural Sciences</em></td>
<td>4.3</td>
<td></td>
</tr>
<tr>
<td>Music Ensemble 399</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td>Music Keyboard 340, 350</td>
<td>3</td>
<td>3.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Musicology 380*</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Music Theory 310</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Music Performance 380</td>
<td>2</td>
<td>2.2</td>
</tr>
<tr>
<td>Music Keyboard 480</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Music Ensemble 399</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Music General 200</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Music General 301</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Music Education 310</td>
<td>3.2</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Keyboard 230</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Music Theory 310, 320</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>Music Performance 480</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td>Music Ensemble 399</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td><em>Quantitative Reasoning</em></td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>Music General 200</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Music Keyboard 360, 370</td>
<td>2</td>
<td>2.2</td>
</tr>
<tr>
<td>Music General 401</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><em>Communicating Orally</em></td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

* Meets University General Education Requirement.
1 See Culture and Civilization – University General Education Requirement. Select two non-U.S. History courses on the list or two courses in a foreign language at the intermediate level.
2 See Natural Sciences – University General Education Requirement. Select two courses from the list. At least one of the courses must have a laboratory.
3 See Social Sciences – University General Education Requirement.
4 See Quantitative Reasoning – University General Education Requirement. Select two courses from the list.
5 See Quantitative Reasoning – University General Education Requirement. Select one course from the list.
### Fourth Year
- **Music Performance 490** ......................................................... 2.2
- **Music General 495** ................................................................. 3
- **Music Keyboard 410** ................................................................. 1.1
- **Music Keyboard 460, 470** ...................................................... 3.3
- **Music Ensemble** ....................................................................... 1.1
- **Music General 200** ................................................................. 0.0
- **Music General 401** ................................................................. 0
- **Music Theory 110, 120** ............................................................. 3

### Third Year
- **Music Performance 189, 190 (Organ)** ..................................... 1.1
- **Music Performance 180, 181 (Piano)** ..................................... 2.2
- **Foreign Language (200-level sequence)** .............................. 3.3
- **Music General 200** ................................................................. 0

### Second Year
- **Music Performance 280, 281 (Piano)** ..................................... 2.2
- **Music Performance 289, 290 (Organ)** ..................................... 1.1
- **Music Keyboard 230** .............................................................. 1
- **Music Keyboard 410** .............................................................. 1
- **Music Education 200** ............................................................. 1
- **Music General 200** ................................................................. 0

### First Year
- **Music Performance 200** ........................................................... 0
- **Music Ensemble** ....................................................................... 1.1
- **Music Performance 255** ........................................................... 2.2
- **Music Voice 450-460** .............................................................. 2

### Electives
- **Music Education 200** ............................................................. 1
- **Music General 301** ................................................................. 0.0
- **Music Education 310, 320** ...................................................... 3.2
- **Music Performance 155, 156 or Music Voice 110, 120** ....... 1.1
- **4Religious Studies** ................................................................. 3

### Fourth Year
- **5Natural Sciences** ................................................................. 4.3
- **Communicating Orally** ........................................................ 3
- **Music Keyboard 410** .............................................................. 2
- **Music Keyboard 420 or 430** ................................................... 3
- **Music General 495** ................................................................. 2
- **Music Performance 155, 156 or 255, 256 (Voice)** ................ 1.1
- **Music Performance 480, 481 (Piano)** ..................................... 2.2
- **Music Ensemble** ....................................................................... 1.1
- **Music General 200** ................................................................. 0.0
- **Music General 401** ................................................................. 0.0

**Total 120**

* Meets University General Education Requirement.
1. Piano majors take 4 hours of Music Ensemble 399 and 4 hours of Music Ensemble 380, 383, or 389.
2. See Quantitative Reasoning – University General Education Requirement. Select two courses from the list.
3. See Social Sciences – University General Education Requirement. Select two courses from the list.
4. See Communicating Orally – University General Education Requirement. Select two courses from the list.
6. See Communicating Orally – University General Education Requirement. Select one course from the list.

### Requirements for the Bachelor of Music • Music Major
- **Sacred Music Concentration • Voice Track**

<table>
<thead>
<tr>
<th>Year</th>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Year</strong></td>
<td>English 101*, 102*</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music Theory 110, 120</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music Theory 130, 140</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Musicology 110*</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music Performance 189, 190 (Organ)</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music Performance 180, 181 (Piano)</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Foreign Language (200-level sequence)*</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music General 200</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Second Year</strong></td>
<td>2Quantitative Reasoning*</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music Theory 210, 220</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music Theory 230, 240</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Musicology 210*, 220*</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music Performance 280, 281 (Piano)</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music Performance 289, 290 (Organ)</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music Keyboard 230</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music Keyboard 410</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music Education 200</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music General 200</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Third Year</strong></td>
<td>3Social Sciences*</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Musicology 380*</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music Theory 310</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music Performance 380, 381 (Piano)</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music Ensemble</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music General 200</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music General 301</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music Education 310, 320</td>
<td>3.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music Performance 155, 156 or Music Voice 110, 120</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4Religious Studies</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td><strong>Fourth Year</strong></td>
<td>5Natural Sciences*</td>
<td>4.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Communicating Orally*</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music Keyboard 410</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music Keyboard 420 or 430</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music General 495</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music Performance 155, 156 or 255, 256 (Voice)</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music Performance 480, 481 (Piano)</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music Ensemble</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music General 200</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music General 401</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Electives</td>
<td>0.0</td>
<td></td>
</tr>
</tbody>
</table>

**Total 120**

* Meets University General Education Requirement.
1. Piano majors take 4 hours of Music Ensemble 399 and 4 hours of Music Ensemble 380, 383, or 389.
2. See Quantitative Reasoning – University General Education Requirement. Select two courses from the list.
3. See Social Sciences – University General Education Requirement. Select two courses from the list.
4. See Communicating Orally – University General Education Requirement. Select one course from the list.
Requirements for the Bachelor of Music • Music Major

- Strings Concentration

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102*</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Theory 110, 120</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Theory 130, 140</td>
<td>1.1</td>
</tr>
<tr>
<td>Musicology 110*</td>
<td>3</td>
</tr>
<tr>
<td>Music Performance (100 level)</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Keyboard 110, 120</td>
<td>1.1</td>
</tr>
<tr>
<td>Music Ensemble 370</td>
<td>1.1</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0.0</td>
</tr>
<tr>
<td>¹Natural Sciences*</td>
<td>4</td>
</tr>
</tbody>
</table>

- Second Year

| Music Theory 210, 220                           | 3.3          |
| Music Theory 230, 240                           | 1.1          |
| Musicology 210*, 220*                          | 3.3          |
| Music Keyboard 210, 220                         | 1.1          |
| Music Performance (200 level)                   | 3.3          |
| Music Ensemble 370                              | 1.1          |
| Music General 200                               | 0.0          |
| ²Cultures and Civilizations*                    | 3.3          |

- Third Year

| Music Theory 310                                | 3           |
| Music Theory 420                                | 3           |
| Musicology 380*                                | 3           |
| Music Performance (300 level)                    | 3.3         |
| Music Ensemble 370                              | 1.1         |
| Music Education 310                             | 3           |
| ³Social Sciences*                               | 3.3         |
| ⁴Communicating Orally*                          | 3           |
| Music General 301                               | 0.0         |

- Fourth Year

| Music Performance (400 level)                    | 3.3         |
| Music Instrumental 340, 350                      | 3.3         |
| Music Ensemble 370                               | 1.1         |
| ⁵Quantitative Reasoning*                         | 3.3         |
| Music General 200                                | 0.0         |
| Music General 401                                | 0.0         |
| ¹Natural Sciences*                               | 3           |
| Electives                                       | 7           |

Total 120

* Meets University General Education Requirement.
1 See Natural Sciences – University General Education Requirement. Choose two courses from the list. At least one of the courses must have a laboratory.
2 See Cultures and Civilizations – University General Education Requirement. Select two courses on the list or two courses in a foreign language at the intermediate level.
3 See Social Sciences – University General Education Requirement. Select two courses from the list.
4 See Communicating Orally – University General Education Requirement. Select one course from the list.
5 See Quantitative Reasoning – University General Education Requirement. Select two courses from the list.

Requirements for the Bachelor of Music • Music Major

- Studio Music and Jazz Concentration

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102*</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Theory 110, 120</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Theory 130, 140</td>
<td>1.1</td>
</tr>
<tr>
<td>Musicology 110*</td>
<td>3</td>
</tr>
<tr>
<td>Musicology 350</td>
<td>3</td>
</tr>
<tr>
<td>Music Jazz 110</td>
<td>2</td>
</tr>
<tr>
<td>Music Jazz 130, 140</td>
<td>1.1</td>
</tr>
<tr>
<td>Music Performance (100 level)</td>
<td>2.2</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>1.1</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0.0</td>
</tr>
</tbody>
</table>

- Second Year

| Music Theory 210, 220                           | 3.3         |
| Music Theory 230, 240                           | 1.1         |
| Musicology 210*, 220*                          | 3.3         |
| Music Jazz 120                                 | 2           |
| Music Jazz 210, 220                             | 2.2         |

Requirements for the Bachelor of Music • Music Major

- Theory/Composition Concentration

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102*</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Theory 110, 120</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Theory 130, 140</td>
<td>1.1</td>
</tr>
<tr>
<td>Musicology 110*</td>
<td>3</td>
</tr>
<tr>
<td>Musicology 380*</td>
<td>3</td>
</tr>
<tr>
<td>Music Performance (200 level)</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>1.1</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0.0</td>
</tr>
<tr>
<td>Music General 301</td>
<td>0.0</td>
</tr>
<tr>
<td>¹Social Sciences*</td>
<td>3</td>
</tr>
</tbody>
</table>

- Third Year

| Music Theory 310                                | 3           |
| Music Theory 420                                | 3           |
| Musicology 430*                                | 3           |
| Music Performance (400 level)                    | 2.2         |
| Music Ensemble                                 | 1.1         |
| Music General 200                               | 0.0         |
| Music General 401                               | 0.0         |
| ²Cultures and Civilizations*                    | 3.3         |

- Fourth Year

| Music Jazz 310                                  | 3           |
| Music Jazz 420                                  | 3           |
| Musicology 390*                                 | 3           |
| ¹Social Sciences*                               | 3           |
| ⁴Quantitative Reasoning*                        | 3           |
| Music Performance (400 level)                    | 2.2         |
| Music Ensemble                                 | 1.1         |
| Music General 200                               | 0.0         |
| Music Jazz 390                                  | 3           |
| Music Jazz 420                                  | 1           |

Total 120

* Meets University General Education Requirement.
1 See Natural Sciences – University General Education Requirement. Select two courses from the list. At least one of the courses must have a laboratory.
2 See Cultures and Civilizations – University General Education Requirement. Select two courses on the list or two courses in a foreign language at the intermediate level.
3 See Social Sciences – University General Education Requirement. Select two courses from the list.
4 See Communicating Orally – University General Education Requirement. Select one course from the list.
5 See Quantitative Reasoning – University General Education Requirement. Select two courses from the list.

Requirements for the Bachelor of Music • Music Major

- Communication Concentration

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102*</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Theory 110, 120</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Theory 130, 140</td>
<td>1.1</td>
</tr>
<tr>
<td>Musicology 110*</td>
<td>3</td>
</tr>
<tr>
<td>Musicology 380*</td>
<td>3</td>
</tr>
<tr>
<td>Music Performance (200 level)</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>1.1</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0.0</td>
</tr>
<tr>
<td>Music General 301</td>
<td>0.0</td>
</tr>
<tr>
<td>¹Social Sciences*</td>
<td>3</td>
</tr>
</tbody>
</table>

- Third Year

| Music Theory 310                                | 3           |
| Music Theory 420                                | 3           |
| Musicology 430*                                 | 3           |
| Music Performance (400 level)                    | 2.2         |
| Music Ensemble                                 | 1.1         |
| Music General 200                               | 0.0         |
| Music General 401                               | 0.0         |

- Fourth Year

| Music Jazz 390                                  | 3           |
| Music Jazz 420                                  | 1           |

Total 120
### Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Theory 430, 440</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>Music Performance</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td>4Area Study</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td>1Music Ensemble</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td>Music Education 310</td>
<td>.3</td>
<td></td>
</tr>
<tr>
<td>Music General 200</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>6Social Sciences*</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

**Total 120**

* Meets University General Education Requirement.

2 See Quantitative Reasoning – University General Education Requirement.
3 See Cultures and Civilizations – University General Education Requirement.
4 Areas of Study
   - OPTION C – MUSIC THEORY: Music Performance 394 or 395, Music Theory 493, Musicology Elective (300 level and above).
5 See Natural Sciences – University General Education Requirement. Select two courses from the list. At least one of the courses must have a laboratory.
6 See Social Sciences – University General Education Requirement. Select two courses from the list.

### Requirements for the Bachelor of Music • Music Major

#### Voice Concentration

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102*</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Theory 110, 120</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Theory 130, 140</td>
<td>1.1</td>
</tr>
<tr>
<td>Musicology 110*</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Performance 155</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>1.1</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0.0</td>
</tr>
<tr>
<td>Music Keyboard 240</td>
<td>0.0</td>
</tr>
<tr>
<td>Music Voice 240, 250</td>
<td>1.1</td>
</tr>
<tr>
<td>Music Voice 240, 250</td>
<td>2.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Theory 210, 220</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Theory 230, 240</td>
<td>1.1</td>
</tr>
<tr>
<td>Musicology 210*, 220*</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Performance 255</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>1.1</td>
</tr>
<tr>
<td>Music Keyboard 210, 220</td>
<td>1.1</td>
</tr>
<tr>
<td>Music Theory 300 level</td>
<td>0.0</td>
</tr>
<tr>
<td>Music Voice 240, 250</td>
<td>0.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Musicology 380*</td>
<td>.3</td>
</tr>
<tr>
<td>1Foreign Language</td>
<td>3.3</td>
</tr>
<tr>
<td>2Social Sciences*</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Theory 310</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Performance 395</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>1.1</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0.0</td>
</tr>
<tr>
<td>Music General 301</td>
<td>0.0</td>
</tr>
<tr>
<td>3Natural Sciences*</td>
<td>4.3</td>
</tr>
<tr>
<td>Music Education 310</td>
<td>3.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music General 410, 420</td>
<td>2.2</td>
</tr>
<tr>
<td>Music Voice 450, 460</td>
<td>2.1</td>
</tr>
<tr>
<td>Music Performance 455</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>1.1</td>
</tr>
<tr>
<td>Music Ensemble 340</td>
<td>1.1</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0.0</td>
</tr>
<tr>
<td>Music General 401</td>
<td>0.0</td>
</tr>
<tr>
<td>2Social Sciences*</td>
<td>3.3</td>
</tr>
<tr>
<td>4Communicating Orally*</td>
<td>3.3</td>
</tr>
<tr>
<td>5Quantitative Reasoning</td>
<td>3.3</td>
</tr>
</tbody>
</table>

**Total 123**

* Meets University General Education Requirement.

1 Consult with voice concentration advisor for the appropriate language concentrations.
2 See Social Sciences – University General Education Requirement.
3 See Natural Sciences – University General Education Requirement. Select two courses from the list. At least one of the courses must have a laboratory.
4 See Communicating Orally – University General Education Requirement. Select one course from the list.
5 See Quantitative Reasoning – University General Education Requirement. Select two courses from the list.

#### Woodwind, Brass, and Percussion Instruments Concentration

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102*</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Theory 110, 120</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Theory 130, 140</td>
<td>1.1</td>
</tr>
<tr>
<td>Musicology 110*</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Performance (100 level)</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>1.1</td>
</tr>
<tr>
<td>Music Keyboard 110, 120</td>
<td>1.1</td>
</tr>
<tr>
<td>&quot;cultures and Civilization*</td>
<td>3.3</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Theory 210, 220</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Theory 230, 240</td>
<td>1.1</td>
</tr>
<tr>
<td>Musicology 210*, 220*</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Performance (200 level)</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>1.1</td>
</tr>
<tr>
<td>Music Keyboard 210, 220</td>
<td>1.1</td>
</tr>
<tr>
<td>Music Voice 240, 250</td>
<td>1.1</td>
</tr>
<tr>
<td>Music Voice 240, 250</td>
<td>2.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Theory 301</td>
<td>0.0</td>
</tr>
<tr>
<td>Music Electives</td>
<td>0.0</td>
</tr>
<tr>
<td>Music Performance (400 level)</td>
<td>3.3</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>1.1</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0.0</td>
</tr>
<tr>
<td>Music General 301</td>
<td>0.0</td>
</tr>
<tr>
<td>3Natural Sciences*</td>
<td>4.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Education 310</td>
<td>0.0</td>
</tr>
<tr>
<td>Music Electives</td>
<td>0.0</td>
</tr>
<tr>
<td>Music Performance 401</td>
<td>0.0</td>
</tr>
<tr>
<td>4Quantitative Reasoning*</td>
<td>6.0</td>
</tr>
<tr>
<td>5Communicating Orally*</td>
<td>3.3</td>
</tr>
<tr>
<td>Electives</td>
<td>0.0</td>
</tr>
</tbody>
</table>

**Total 120**

* Meets University General Education Requirement.

1 See Cultures and Civilizations – University General Education Requirement. Select two courses from the list or two courses in a foreign language at the intermediate level.
2 See Social Sciences – University General Education Requirement. Select two courses from the list.
3 See Natural Sciences – University General Education Requirement. Select two courses from the list. At least one of the courses must have a laboratory.
4 See Quantitative Reasoning – University General Education Requirement. Select two courses from the list.
5 See Communicating Orally – University General Education Requirement. Select one course from the list.
BACHELOR OF ARTS DEGREE • MUSIC MAJOR

The School of Music offers curricula leading to the Bachelor of Arts degree with a major and minor in music designed for those students who have a strong interest in music but desire a comprehensive liberal studies program.

Requirements Bachelor of Arts • Music Major

Prerequisites Hours Credit
Music Theory 110, 120 .................................................... 3.3
Music Theory 130, 140 .................................................... 1.1
Music Performance (100 level) ........................................ 1.1

Courses toward the major
Music Theory 210, 220 .................................................... 3.3
Music Theory 230, 240 .................................................... 1.1
MusicoLOGY 110* .......................................................... 3
MusicoLOGY 210*, 220* ................................................. 3.3
1Music Performance (200 level or above) ...................... 2, 2.2
2Music General 200 ....................................................... 0.0, 0.0
3Music Ensemble ......................................................... 1.1, 1.1
Music Theory 310 ........................................................ 3
MusicoLOGY 350 or 380 ................................................ 3
4Music Electives ........................................................... 0-3

Total 45-48

This degree requires a minimum of 120 hours as structured by the requirements outlined for the Bachelor of Arts degree with the College of Arts and Sciences. See the Undergraduate Catalog for further details.

1 Students must complete a minimum of four semesters of Music Performance at the 200 level or above.
2 Music General 200 must be completed a minimum of four semesters.
4 For piano or organ majors – Music Ensemble 399 (maximum 2 credits), 380, 330, 383, 389, 353, 352, 352, 350 or 370.
5 Select from Music General 301(0), 411(0); Music Theory 493(3); Musicology 460(3), 493(3).

MUSIC AND CULTURE CONCENTRATION

Requirements Bachelor of Arts • Music Major • Music and Culture Concentration

Prerequisites Hours Credit
Music Theory 110, 120 .................................................... 3.3
Music Theory 130, 140 .................................................... 1.1
MusicoLOGY Course (100 level) ..................................... 3
1Intro Culture Course (100 level) .................................... 3

Courses toward the major
Music Theory 210 ........................................................ 3
Music Theory 230 ........................................................ 1
Music Jazz 110 or Music Theory 220 ......................... 2-3
Music Performance (100 level) .................................... 1.1
Music General 200 ....................................................... 0.0
2Music Ensemble ........................................................ 1.1
3Performance Experience (maximum 1 hour) ............... 2
MusicoLOGY 210, 220 ................................................... 3.3
MusicoLOGY 290 ........................................................ 3
MusicoLOGY 380 ........................................................ 3
4MusicoLOGY Elective (300 level or above) ................ 3.3
5Interdisciplinary Elective ........................................... 3

Total 47-48

This degree requires a minimum of 120 hours as structured by the requirements outlined for the Bachelor of Arts degree with the College of Arts and Sciences. See the Undergraduate Catalog for further details.

Minor in Music

Applied Music

The minor concentration in applied music consists of 15 hours in courses numbered 200 and above.

Prerequisites Hours Credit
Music Theory 100 or 105 ........................................... 3
MusicoLOGY 110 .......................................................... 3
Music Performance 100-level ..................................... 2

Required Courses
Music Performance 200-level or above ....................... 8
Music Electives .......................................................... 7

Musicology

The Minor concentration in musicology consists of 17 hours in courses numbered 200 and above.

Prerequisites Hours Credit
MusicoLOGY 100-level course ...................................... 3
Music Theory 100 or 105 ........................................... 3
Music Performance 100-level ..................................... 2

Required Courses
MusicoLOGY 210 or 220 ............................................. 3
MusicoLOGY 290 ........................................................ 3
MusicoLOGY courses ................................................ 6
Music Electives .......................................................... 5

DEPARTMENT OF PHILOSOPHY

http://web.utk.edu/~philosop/

John R. Hardwig, Head

Professors
Aquila, R.E., PhD ......................................................... Northwestern
Cohen, S.M., PhD ......................................................... Northwestern
Graber, G.C., PhD ......................................................... Michigan
Hardwig, J.R., PhD ......................................................... Texas
Nolt, J.E., PhD ............................................................. Ohio State
Postow, B.C., PhD ........................................................ Yale

Associate Professors
Bohmstedt, K.E., PhD .................................................. Ohio State
Hamlin, H.P., PhD ........................................................ Georgia

Assistant Professors
Arnold, D., PhD ........................................................ Minnesota
Davis, J.K., JD, PhD ...................................................... Washington
Douglas, H., PhD ........................................................ Pittsburgh
Reidy, D.A., JD, PhD ...................................................... Kansas

Adjunct Faculty
Gale, R.M., PhD ........................................................ New York

Philosophy as a discipline, in western civilization, has its roots in the thought of ancient Greece, which posed three questions which philosophers have ever since attempted to answer: (1) What is real? (2) How do we know? (3) What should we do? (metaphysics, epistemology, ethics, respectively). The department’s program is designed to introduce students to this rich tradition of thought and speculation. Such an introduction will provide them with an understanding of the development of the thought of their civilization and thus prepare them to participate thoughtfully and critically in our complex, modern society. Students taking philosophy courses will develop skills in critical thinking, argumentation, reading, and writing.
PHILOSOPHY MAJOR
Prerequisites
Three hours of logic, normally 130 or 135.

Requirements
Twenty-four hours of courses numbered 200 or above, including 3 hours of ethics (normally 340 or 440) and 6 hours in the history of philosophy (3 in ancient, normally 320, and 3 in modern, normally 324). At least four of the courses for the major must be at the 300-level or above, of which at least one must be at the 400-level or above. Majors are required to discuss their programs with a member of the philosophy faculty.

Minor in Philosophy
The minor consists of 18 hours in courses 200 or above. Minors should discuss their program with a member of the philosophy faculty.

DEPARTMENT OF PHYSICS AND ASTRONOMY
http://www.phys.utk.edu/
Soren P. Sorensen, Head

Professors
Barnes, F.E. (Joint Faculty), PhD ............................................................................................... California
Bingham, C.R., PhD .................................................................................................................. Tennessee
Blas, W.E., PhD ......................................................................................................................... Michigan State
Breining, M.J., PhD .................................................................................................................. Oregon
Callicott, T.A., PhD .................................................................................................................. Purdue
Compton, R.N., PhD .................................................................................................................. Tennessee
Crater, H.W. (UTSI), PhD ............................................................................................................ Yale
Dagotto, E.R. (Distinguished Professor), PhD ........................................................................ Bariloche (Argentina)
Eguluz, A.G. (Joint Faculty), PhD .............................................................................................. Brown
Elston, S.B., PhD ........................................................................................................................ Massachusetts
Georgiou, S., PhD ........................................................................................................................ Harvard
Guidry, M.W., PhD .................................................................................................................... Tennessee
Handier, T., PhD ............................................................................................................................ Rutgers
Kamyshchuk, L., PhD ...................................................................................................................... ITEP (Russia)
Levin, J.C., PhD ............................................................................................................................ Oregon
Lewis, J.W.L. (Distinguished Professor, UTSI), PhD ........................................................................ Mississippi
Maciej, J. (Distinguished Professor), PhD ...................................................................................... Rensselaer Polytechnic Institute
Mokos, A. (Joint Faculty), PhD ..................................................................................................... Bariloche (Argentina)
Nazarwicz, W., PhD ...................................................................................................................... Warsaw (Poland)
Painter, L.R., PhD ........................................................................................................................ Tennessee
Pegg, D.J., PhD ................................................................................................................................ New Hampshire
Plummer, E.W. (Distinguished Professor), PhD ........................................................................... Cornell
Quinn, J.J. (Lincoln Chair), PhD ...................................................................................................... Maryland
Read, K.F. (Joint Faculty), PhD ............................................................................................................ Cornell
Riedinger, L.L., PhD .......................................................................................................................... Vanderbilt
Shih, C.C., PhD ................................................................................................................................ Cornell
Siopsis, G., PhD ............................................................................................................................... California Institute of Technology
Sorensen, S.P., PhD ........................................................................................................................ Copenhagen (Denmark)
Thompson, J.R., PhD ...................................................................................................................... Duke
Weitering, H.H. (Joint Faculty), PhD ............................................................................................ Groningen (Netherlands)
Zhang, Z. (Joint Faculty), PhD ........................................................................................................... Rutgers

Associate Professors
Dai, P., PhD ...................................................................................................................................... Missouri
Davis, L. (UTSI), PhD ...................................................................................................................... Auckland (New Zealand)
Efremenko, Y.Y. (Joint Faculty), PhD ............................................................................................. ITEP (Russia)
Parigger, C. (UTSI), PhD ............................................................................................................... Otago (New Zealand)

Assistant Professors
Barzykin, V., PhD ........................................................................................................................... Illinois
Grzywacz, R., PhD .......................................................................................................................... Warsaw (Poland)
Papenbrock, T.F. (Joint Faculty), PhD .............................................................................................. Heidelberg (Germany)
Spanier, S.M., PhD .......................................................................................................................... Mainz (Germany)

Director of Undergraduate Laboratories
Parks, J.E., PhD .................................................................................................................................. Kentucky

Physics is the study of matter and energy and their interactions from microscopic to macroscopic regimes. It is the most fundamental physical science in the sense that the laws of physics form the foundation of all natural sciences. The undergraduate physics major provides a thorough introduction to the core areas of physics while offering students flexibility to pursue special interests through our academic, applied, or general concentrations. The academic concentration is intended for students interested in professional employment or graduate work in physics or closely related fields such as astronomy, engineering, laser technology, or computational science. The applied concentration introduces students to the physics and technology of today and tomorrow. Such a broad physics background is increasingly useful in technological and industrial fields outside of physics. The general concentration is intended for students who wish to apply a substantial knowledge of physics to fields such as secondary education, medicine, law, journalism, business, or any field of their choice.

PHYSICS MAJOR
Physics 137-138 or 135-136; Mathematics 141-142 and Computer Science 102 are prerequisites to the major.

ACADEMIC CONCENTRATION
The academic concentration consists of 41 hours. Mathematics 231 and 241; Physics 240, 311-312, 321, 361, 411-412, 421, 431-432, and 461. Physics 401 is recommended.

APPLIED CONCENTRATION
The applied concentration consists of 41 hours. Mathematics 241; Physics 240, 311-312, 321, 361, 401, 421, 441-442, 453-454 and 461.

GENERAL CONCENTRATION
The general concentration consists of 40-41 hours. Mathematics 241; Physics 240, 311, 321 and 361; one lab course, chosen from 421, 453, and 461; and three core courses chosen from 312, 411, 412, 431, 432, 441, 442. In addition, 12 coordinated hours in an area of the student’s special interest are to be chosen by the student in consultation with a departmental advisor.

HONORS ACADEMIC AND HONORS APPLIED CONCENTRATIONS
Students who complete all requirements for the academic or applied concentrations will be awarded a degree with Honors if their cumulative GPA is at least 3.0, their GPA in 300- and 400-level mathematics and physics courses is at least 3.5, and they complete a written senior thesis reporting results of research conducted under faculty supervision and defended before a committee of three physics faculty members. A minimum of 3 credit hours of Physics 493 is required.

Minor in Astronomy
An astronomy minor consists of 24 hours. One year of introductory astronomy, Astronomy 411, 490 (3), Physics 311-312, and 421.

Minor in Physics
A physics minor consists of 23-25 hours. Physics 137-138, 240, or 135-136, 240 and 12 hours from physics and astronomy courses numbered 300 and above.
DEPARTMENT OF POLITICAL SCIENCE

http://web.utk.edu/~polisci/

David L. Feldman, Head

Professors
Cunningham, R.B., PhD  ..................................................... Indiana
Feldman, D.L., PhD  ......................................................... Missouri
Fitzgerald, M.R., PhD  ....................................................... Oklahoma
Folz, D.H., PhD  ................................................................ Tennessee
Freeland, P.K., PhD  ........................................................ Wisconsin
Gant, M.M., PhD  ............................................................... Michigan State
Gorman, R., PhD  .............................................................. New York
Lyons, W., PhD  ................................................................. Oklahoma
Scheb, J.M., PhD  .............................................................. Florida
Stephens, Jr., O.H. (Alumni Distinguished Service Professor), PhD  ................................................. Johns Hopkins
Tonn, B., PhD  ................................................................. Northwestern
Zhong, Y., PhD  ................................................................ Kentucky

Associate Professors
Houston, D.J., PhD  .............................................................. State University of New York (Binghamton)
Nownes, A.J., PhD  .............................................................. Kansas

Assistant Professors
Carcieri, M., PhD  ............................................................... California (Santa Barbara)
Carroll, D., PhD  ............................................................... Wisconsin (Milwaukee)
Down, I., PhD  ................................................................. North Carolina
Jepson, E., PhD  ................................................................. Wisconsin
Kelly, J.M., PhD  ................................................................. North Carolina
Kelly, N., PhD  ................................................................. North Carolina
Morgan, A., PhD  ............................................................. Georgetown

The Department of Political Science offers a variety of courses of general interest to undergraduates, as well as ample opportunity for students to specialize in the study of government and politics. The political science discipline is broad and diverse ranging from the study of campaigns and elections to analysis of political philosophy. Political science gives attention to the theory and practice of government at all levels from local to international, as well as to the complex relationships between social values and the formulation of public policy. As a blend of the theoretical and the practical, political science has much to offer as an undergraduate major and as an elective field for the non-major. It provides a broad liberal arts background for professional careers in law, government service, foreign service, business, journalism, and public school teaching. It offers a good foundation for those wishing to pursue post-graduate study, especially in the fields of political science, and public administration. For those interested in specializing in fields outside of law and government, political science courses can contribute significantly to an awareness of public issues and an appreciation of the complexity of modern society.

POLITICAL SCIENCE MAJOR

Political Science 101 or 107, and 102 are prerequisites to the major. The major consists of 24 hours of courses numbered 300 or above. These 24 hours must include at least one course in each of the four areas of the discipline.

United States Government and Politics/Public Administration

Comparative Government and Politics
350, 361, 451, 452, 454, 456, 459, 461, and 463.

International Relations

Political Theory
300, 374, 475, and 476.

HONORS CONCENTRATION

The honors concentration encourages highly motivated students to obtain a superior liberal education and more rigorous preparation in the discipline. Admission is selective. The honors concentration is normally a two-year program. Political Science 101 or 107, and 102 are prerequisites. The concentration consists of 27 hours of courses numbered 300 or above, including 387, 388, 487, and 488. These 27 hours must include at least one course in each of the four areas of the discipline. Political Science 387 and 388 may be used to satisfy this requirement in the appropriate area.

To graduate with honors in political science, the student must have a minimum GPA of 3.3 in political science, and a minimum cumulative GPA of 3.0.

PUBLIC ADMINISTRATION CONCENTRATION

Students majoring in political science who wish to prepare for a career in public service may select the concentration in public administration. Political Science 101 or 107, and Economics 201 are prerequisites to the major in political science with a concentration in public administration. The concentration consists of 27 hours of coursework in political science, economics, and accounting. Students must complete Political Science 340 and 401; two courses from Political Science 440, 441, 442; and two courses from Accounting 200 or 207, Economics 371, 472. Students must also include one course in each of the three remaining fields of political science (comparative government and politics, international relations, and political theory).

Minor in Political Science

Prerequisites to the minor are Political Science 101 or 107 and 102. The minor consists of 15 hours of courses numbered 300 and above.

DEPARTMENT OF PSYCHOLOGY

http://psychology.utk.edu

James E. Lawler, Head

Professors
Bahr, G.M. (Alumni Distinguished Professor), PhD  ......................................................... Chicago
Bundy, L., PhD  ............................................................... Michigan State
Hector, M., PhD  ............................................................... Michigan State
Jones, W.H., PhD  ............................................................. Oklahoma State
Lawler, J.E., PhD  ............................................................. North Carolina
Leone, F.T.L., PhD  .............................................................. Maryland
Louie, J.W., PhD  .............................................................. Michigan State
Lubars, J., PhD  ............................................................... Chicago
Malone, J.C., PhD  ........................................................... Duke University
Nash, M.R., PhD  .............................................................. Ohio
Pollio, H., PhD  ............................................................... Michigan
Row, K.A.L., PhD  ............................................................. North Carolina
Sanec, R.A., PhD  .............................................................. Florida State
Sundstrom, E.D., PhD  ......................................................... Utah
Travis, C.J., PhD  .............................................................. California (Davis)
Wahler, R.G., PhD  ........................................................... Washington

Assistant Professors
Baldwin, D., PhD  ............................................................. Kent State
Corbet, D., PhD  ............................................................... Geneva (Switzerland)
Gaertner, L., PhD  ............................................................. North Carolina
Gordon, K., PhD  ............................................................. North Carolina
Hopko, D., PhD  ............................................................. West Virginia
Hubbard, T., PhD  ........................................................... Georgia
Morgan, W.G., PhD  ........................................................... Tennessee
Welch, D.P., PhD  ............................................................. Massachusetts

Assistant Professors
Freeberg, T.M., PhD  ............................................................. Indiana
Levy, J., PhD  ................................................................. Indiana
MacFie, J., PhD  ............................................................... Rochester
McNulty, J.K., PhD  .......................................................... Florida
Rowing, M., PhD  ............................................................. Indiana

Psychology studies the array of biological, environmental, and social influences on normal and abnormal behavior. Psychology studies behavior using both basic and applied scientific research strategies. The psychology major offers students the opportunity to learn about behavior as a general liberal arts degree applicable to a wide variety of careers or as preparation for an advanced degree in professional and graduate programs.
PSYCHOLOGY MAJOR
Prerequisites are one year of a biological science (e.g., Biology 101-102), Psychology 110 with a grade of C or better, and a GPA of at least 2.00.
The major consists of 24 hours of Psychology at the 200 level or higher.
- Either Psychology 295 or Psychology 395 (prerequisites to Psychology 395 are Psychology 385 or Statistics 201 or Mathematics 115).
- Three courses from Psychology 210, 220, 300, 310, 320, 330, 360, 370.
- Two additional psychology courses at the 300 level or higher.
- Two additional psychology courses at the 400 level.
No more than 6 hours of 399, 489, 491, 492, 493 may be used in this major. Continuation in the psychology major requires maintenance of a GPA of 2.00. Students placed on Academic Review will be informed in writing that they are on probation and their records will be reviewed. Students who continue on Academic Review will be dropped from the major.

HONORS CONCENTRATION
The Psychology Department offers an honors concentration that is a specially designed individualized mentorship program. Chancellor’s Honors students and psychology majors with ACT scores of 29 or higher (or SAT equivalent) may apply. Admission to the program will be on the basis of the review of the candidate’s application and interview by the Psychology Honors Faculty, normally in the student’s second year. Any semester with a GPA below 3.2 will lead to consideration of a student’s dismissal from the program by the program faculty. The honors concentration includes all the requirements of the psychology major and at least 10 hours of upper-division psychology honors courses, including at least 4 hours of Psychology 347 (continuous registration is preferred), 3 hours of Psychology 367, and 3 hours of Psychology 467.

Minor in Psychology
The minor consists of 110 or equivalent and 15 additional hours at the 300 level and above. (Psychology 399, 489, 491, 492, 493 cannot be used in this minor.)

DEPARTMENT OF RELIGIOUS STUDIES
http://web.utk.edu/~religion
Gilya G. Schmidt, Head

Professors
Fitzgerald, J.L., PhD ............................................Chicago
Hackett, R.I.J., PhD .............................................Aberdeen (UK)
Levering, M.L., PhD ............................................Harvard
Reynolds, C.H., PhD ............................................Harvard
Schmidt, G.G., PhD .............................................Pittsburgh

Associate Professors
Gwynne, R.W., PhD ............................................Washington
Hodges, J.O., PhD ...............................................Chicago
Hulsether, M.D., PhD ..........................................Minnesota

Assistant Professors
Jacobs, R., PhD .................................................Northwestern
Shepardson, C.C., PhD ........................................Duke
Sleibert, J., PhD ..................................................Glasgow (UK)

Adjunct Faculty
Heffernan, T.J.A., PhD ........................................Cambridge (UK)

The mission of the Department of Religious Studies is the academic study of the role of religion in history and culture. It also requires that the literature and history and sensibilities of western European humanity are incomplete unless they are studied with those of other past and present cultures and civilizations.

RELIGIOUS STUDIES MAJOR
Majors will be required to take 27 hours, all of which must be at the 300 level or above, including Religious Studies 300; two courses from categories 1, 2, and 3; one course from category 4; and one 400-level course. The major shall not include related language courses. The two courses required in categories 1, 2, and 3 must be from two different subcategories within those categories.

1. West Asia and Europe (choose one from two subcategories)
   Judaism – choose from 311, 312, 381, 385, 386.
   Christianity – choose from 321, 322.
   Islam – choose from 332, 333.

2. Africa and the Americas (choose one from two subcategories)
   African Religions – choose from 302, 373.
   North American Religions – choose from 351, 355.
   African-American and African Diaspora Religions – choose from 352, 353.

3. South, Southeast, and East Asia (choose one from two subcategories)
   South Asia – choose from 313, 374, 376.
   Southeast Asia – choose from 376, 378, 382.
   East Asia – choose from 379, 380, 383, 384.

4. Methods and Issues in Religious Studies (choose one)
   Choose from 301, 302, 305, 320, 342.

Details regarding the major and religious studies courses are available in the departmental office, located in 501 McClung Tower, or from any member of the religious studies faculty.

Minor in Religious Studies
The minor consists of 15 hours of courses at the 300 level or above, not including related language courses. It is recommended that students minoring in religious studies discuss their program with a faculty member in the department.

DEPARTMENT OF SOCIOLOGY
http://web.utk.edu/~utsocdep/
R. Scott Frey, Head

Professors
Frey, R.S., PhD ..................................................Colorado State
Hastings, D.W., PhD ............................................Massachusetts
Jalata, A., PhD ..................................................State University of New York (Binghamton)
Shover, N.E., PhD ...............................................Illinois

Associate Professors
Bohan, S., PhD .................................................Penn State
Cable, S., PhD ..................................................Penn State
Dahms, H., PhD .................................................New School for Social Research
Jones, R.E., PhD ..................................................Washington State
Kurth, S.B., PhD ...............................................Illinois (Chicago)
Shefner, J., PhD ................................................California (Davis)

Assistant Professors
Bui, H., PhD .....................................................Michigan State
Gellert, P., PhD ................................................Wisconsin
Presser, L., PhD ................................................Cincinnati

The undergraduate program curriculum emphasizes the theme of social justice. Through coursework in the interest areas of criminal justice, political economy, social psychology and environmental issues and globalization, students develop an understanding of everyday social behavior as well as the structural factors that contribute to inequalities across various status hierarchies such as race, ethnicity, class, gender, age and lifestyle. Students also acquire an awareness of the competing perspectives that exist within societies, the ability to critically analyze social trends, and the tools to evaluate social policies.
SOCIOLOGY MAJOR

Before applying to the Sociology Department for admission to the major, a student must complete either Sociology 110 or 120 or their honors equivalent with a grade of C+ or above. Upon granting admission to the major, the department will assign the student an academic advisor who will help the student plan a program of study for the major. Prerequisites to the major are 3 lower-division hours in sociology (either 110 or 120 or their honors equivalent) and Statistics 201. The major consists of 27 upper-division hours in sociology and must include 321 and 331 and at least two 400-level courses.

CRIMINAL JUSTICE CONCENTRATION

All prerequisites and upper-division courses required for general majors are required for this concentration. In addition, the concentration consists of 21 hours of upper-division sociology as follows – 350, 351, 451; one of the five following courses 452, 453, 455, 459, 495; and three courses selected in consultation with advisor.

ENVIRONMENTAL ISSUES AND GLOBALIZATION CONCENTRATION

All prerequisites required for the major are required for this concentration. The concentration in environmental issues and globalization consists of Sociology 321 and 331 and 21 hours of upper-division sociology courses as follows – 360; either 442 or 446; two courses from 344, 464, and 465; and three courses selected in consultation with advisor.

Minor in Sociology

The minor consists of 15 upper-division hours in sociology and must include 321 and 331. Prerequisites to the minor are 3 lower-division hours in sociology (either 110 or 120 or their honors equivalent) and Statistics 201.

Minor in Sociology with Concentration in Environmental Issues and Globalization

The minor consists of 15 hours including Sociology 321, 331, 360 and two courses from 344, 442, 446 and 465. Prerequisite to the minor are either Sociology 110 or 120 and Statistics 201.

DEPARTMENT OF STATISTICS

See faculty list in the College of Business Administration.

Arts and Sciences students may major or minor in statistics under the supervision of the faculty of the Statistics Department in the College of Business Administration. The major is designed to prepare students for graduate studies in statistics or for professional work in various applications of statistical methods, including applications in the natural and social sciences, business and industry. Contact the Statistics Department for further information on careers in statistics and appropriate courses to take. It is highly recommended that a student majoring in statistics have a minor in an area of application.

STATISTICS MAJOR

Prerequisites to the major are Mathematics 141-142. The major requires 33 semester hours including the following.

- Statistics 201 or 251.
- Statistics 320, 330, 365, 471.
- Two courses selected from Statistics 472, 473, 474, 475; Mathematics 423, 424, 425.
- Mathematics 241-251 or upper-division mathematics.
- Two technical electives to be selected from upper-division courses in mathematics, computer science, engineering, physics, or chemistry, with the approval of the student’s advisor in the Department of Statistics.

Minor in Statistics

The minor consists of Statistics 201 or Statistics 251; an additional 12 hours from Statistics 320, 330, 365, 471, 472, 473, 474, 475; and Mathematics 423, 424, 425.

DEPARTMENT OF THEATRE

http://theatre.utk.edu

Calvin MacLean, Head

Professors

Black, W.R., MFA ................................................. Illinois
Custer, M., MFA .................................................. Wisconsin
Gould, B.K.A., MFA ............................................. Catholic
MacLean, C., MFA ................................................. Massachusetts

Associate Professors

Diamond, J., MFA ................................................. New York
Van den Berg, K., PhD .......................................... Indiana
Weber, T., MFA ................................................... Alabama

Assistant Professors

Campelli, J., MFA ................................................. Penn State
Pickart, C., MFA .................................................. Penn State
Sams, J., MFA ...................................................... Penn State
Yeager, K., BFA .................................................. Penn State

The department’s program is designed to teach students to think critically; communicate fully, creatively, and effectively; and explore life and literature through study and practice of the theatrical event.

THEATRE MAJOR

Theatre 100 is a prerequisite to a major which consists of 220, 242, 252, 262, 300, 411, 412, 430 and 12 additional hours of theatre courses numbered 200 and above, 3 of which may be in cognate areas approved by the department.

Minor in Theatre

Theatre 100 is a prerequisite to a minor which consists of 15 hours of theatre courses, 6 of which must be upper division.
The College of Business Administration at the University of Tennessee is widely recognized for its leadership role in implementing some of the most innovative and exciting curricular changes occurring during the last forty years of management education.

The curriculum coursework is divided into four components: general education, pre-business core, business core, and major.

The 58 hours of general education focus on all aspects of human endeavor – written and oral communications; mathematics; social, behavioral, and natural sciences; humanities; foreign language; ethics; and the arts. General education courses span the student’s entire academic career.

The pre-business core courses (14 hours) are taken during the student’s second year. The pre-business core provides students with the fundamentals of business education, introducing the tools, the environment, and the functions of contemporary business practices.

Building on the pre-business core foundation, the business core (23 hours) consists of integrated contemporary business management modules in supply chain management, demand management, lean operations, information management, and integrated process management; discipline-specific courses in financial management and business strategy; and coursework on global and legal issues. As business management perspectives change, the topics in the business core will, by design, adapt.

Simultaneously, students are completing the coursework (24 hours) required by their chosen major. The College of Business Administration offers nine majors – accounting, economics, enterprise management, finance, human resource management, logistics, marketing, public administration, and statistics. Within the 24 hours of their major, students may study two areas of emphasis – their major with a collateral or their major with a dual concentration.

With a collateral, students complete 15 hours in their major and 9 hours in their collateral area (with the exception of economics and statistics majors, who complete 18 hours in their major and 6 hours in their collateral area). With a dual concentration, students complete 12 hours in each area of emphasis. See the chart in this section for details of the collateral and dual concentration options for each major. A minimum grade of C must be earned in every course counted toward the major, including major, collateral, or dual concentration courses.

Upon the completion of this curriculum, students are awarded a Bachelor of Science in Business Administration.

Residency Requirement for Major Coursework

College of Business Administration students are required to take 18 of the 24 major hours (75 percent) in residence at the University of Tennessee. This 24-hour major requirement includes all major, collateral, and/or dual concentration coursework.

Optional Second Major

College of Business Administration students who wish to pursue optional second majors within the College of Business Administration may do so by completing a minimum of 15 or 18 additional hours of primary emphasis (major) outlined by each department. These hours must be distinct from the 24 hours required by the student’s first major. Students who choose a second major in public administration must complete an additional 24 hours of major coursework.

College of Business Administration students who wish to pursue optional second majors in the College of Arts and Sciences may do so by completing all curricular requirements for the College of Business Administration and only the major requirements outlined by the College of Arts and Sciences department.

In either instance, the optional multiple majors (or second major) may be listed on the student’s transcript. Students should understand that meeting the requirements of second majors may lengthen their academic programs and they should consult with advisors in both areas.

http://bus.utk.edu/
Minor in Business Administration

The College of Business Administration also offers a minor for students pursuing majors in colleges other than the College of Business Administration. Students must successfully complete the following requirements.

### Hours Credit

- **Accounting 200** ........................................ 3
- **Economics 201** ....................................... 4
- **Statistics 201** ......................................... 3
- **Business Administration 201** ................. 4
- **Finance 301** ........................................... 3
- **Marketing 300** ....................................... 3
- **Management 300** .................................... 3

**Total 23**

All upper-division (300-level or above) coursework must be taken at the University of Tennessee, Knoxville. Students are responsible for meeting the listed prerequisites of any upper division courses taken. (For instance, Mathematics 125 or 141 is a prerequisite to Statistics 201.) Engineering students may substitute Chemical Engineering 301 for Statistics 201.

### Faculty

Students in the College of Business Administration benefit from the countless faculty recognized for excellence in teaching, research, and public service. One of the first in the South to be accredited by the Association to Advance Colleges, the University of Tennessee’s College of Business Administration strives for excellence in all endeavors.

In addition to challenging students in the classroom, faculty also devote their energies to professional growth and commitment to the community by participating in other College of Business Administration programs, like the Global Business Institute, the Corporate Governance Center, the Center for Executive Education, and the Center for Business and Economic Research.

### Technology

Success in today’s business environment is largely a function of accessibility to and interpretation of information. This information provides the knowledge that allows employees and employers to make smart business decisions. Because today’s business world demands that employees be able to effectively use personal computers and diverse software applications, the College of Business Administration intertwines technology with its curriculum at all levels.

In order to take advantage of these unique learning tools, all business students will be required to have their own laptop computers when they start their business core courses, which is typically at the beginning of the third year. With the wireless network at the University of Tennessee, students will be able to use their laptop computers almost anywhere on campus.

### The Global Initiative

Seeking to instill a global perspective in all of its students, the College of Business Administration challenges undergraduate students to develop the requisite knowledge and skills to prosper in today’s global business environment. To help students meet that challenge, the college provides these critical tools – an enhanced core curriculum that covers international business topics in all relevant courses; extraordinary programs for international study and internships; and a unique opportunity to delve into the principles of international business through a collateral or dual concentration in international business.

Students who choose a collateral or dual concentration in international business will gain an understanding of how functional strategies are carried out and how to assess business opportunities in other cultures and countries. With the ability to appreciate different cultural perspectives, political, and economic institutions and to scan the broader environment of world events, students will be prepared to succeed in future international assignments in their careers.

### Global Business Institute

The Global Business Institute, located in 410 Aconda Court, serves as the primary catalyst for international awareness and change in the College of Business Administration. By offering internships and career consultation, speakers and event planning, partnership coordination, and program and curricula facilitation, the Global Business Institute helps students, faculty, managers, and public policy makers meet the challenges of a global marketplace.

### 2006 Majors with Collaterals and Concentrations

#### Collaterals 9 hours

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enterprise Management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Resource Management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logistics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marketing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Administration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statistics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Concentrations 12 hours

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enterprise Management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Resource Management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logistics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marketing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Administration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statistics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 In addition to its Collateral options, Economics also offers areas of focus in international economics, industrial organization, public economics, quantitative economics, money/macroeconomics, regional/urban economics, environmental economics, labor economics, and health economics.

2 Because Public Administration is interdisciplinary in design, it does not offer any collaterals or concentrations.
Where to Begin
Undergraduate Programs Office

The mission of the Undergraduate Programs Office is to provide excellent academic and educational program planning services to undergraduate students in the College of Business Administration. The Undergraduate Programs Office, 112 Aconda Court, maintains a full-time staff of academic advisors to answer students’ questions concerning majors, curriculum, and elective options. Student advising is achieved through these professional advisors and through faculty mentors when students are admitted to a major.

In addition to advising, the Undergraduate Programs Office provides individual and group educational program planning, management of student data and enrollment information for the college, undergraduate student recruiting, administration of the undergraduate scholarship program, coordination of progression procedures to business majors, and career counseling.

Progression Standards

Acceptance to the College of Business Administration does not guarantee acceptance to a specific major. Students are admitted to the college as pre-majors and must earn admission to the major prior to the completion of 75 hours of coursework. Application to a major is a one-time only event and occurs as part of the student’s advising session in the Undergraduate Programs Office the semester a student completes the following coursework:

Mathematics 125, 123, or 141-142 (6 or 8 hours); Oral Communication (3 hours from Communication Studies 210 or 240); Written Communication (3 hours from English 255, 295, or 355); Accounting 200 (3 hours); Economics 201 (4 hours); Statistics 201 (3 hours); Business Administration 201 (4 hours).

Students will progress to a major provided they have earned a 2.75 cumulative GPA (3.0 in accounting) in the coursework listed above.

The Admissions Committee will review applications the week after final grades are posted and students will be notified via mail. If denied progression, the student must pursue a major in a college other than Business Administration at the University of Tennessee, Knoxville.

Only in unusual cases will an application be considered beyond 75 hours of completed coursework. Progression standards are subject to change. Current standards are always available in the Undergraduate Programs Office, 112 Aconda Court.

Appeals

Students who have been denied progression to a major within the College of Business Administration may appeal to the Undergraduate Admissions Appeals Committee. Information on appeal procedures may be obtained in the Undergraduate Programs Office, 112 Aconda Court.

Transfer Students within the University of Tennessee and from Other Institutions

Students in other colleges at the University of Tennessee, or from other institutions should apply for progression to the College of Business Administration at the earliest possible date—no later than the completion of 75 hours. Only in exceptional cases will application be considered after 75 hours of coursework (at the University of Tennessee, Knoxville, or elsewhere) have been attempted. The following minimum requirements must be met in order to be considered for admission to a major.

The student must have earned a minimum 2.75 cumulative average in the courses required for progression (3.0 for accounting majors).

Progression standards are subject to change. Current standards are available in the Undergraduate Programs Office, 112 Aconda Court.

Articulation Agreements

The College of Business Administration has special transfer articulation agreements with some Tennessee community colleges leading to admission with third-year standing in particular majors at the University of Tennessee. Students are awarded an associate’s degree by the specified community college and a baccalaureate degree by the University of Tennessee provided the student successfully completes all the courses required in a particular program and meets the progression standards. All other academic regulations of the degree-granting institutions must also be satisfied.

Details on specific programs and requirements are available from the Office of Undergraduate Admissions at the University of Tennessee or from the specified community college.

Enrichment Opportunities

Executive Undergraduate Program

Top students are invited to participate in the Executive Undergraduate Program, a professional enrichment experience. Members meet with executives who present small group workshops and luncheons and share experiences with students who have similar goals and interests.

Executive-in-Residence

A senior-level executive-in-residence course brings distinguished business and industry leaders to campus for lectures with small groups of students. In these sessions, students have the opportunity to ask questions of some of the nation’s business leaders regarding domestic and international strategic planning and other current business topics.

Scholarships

A limited number of scholarships are available for highly-qualified students. Students are invited to apply for a College of Business Administration scholarship. Selection criteria considered for scholarships include academic merit, financial need, and leadership.

To be considered for a scholarship, students must meet the following criteria:

• Unweighted grade point average of 3.0.
• ACT composite score of 23 or SAT combined score of 1050.

Students must complete either the Entering Freshman Academic Scholarship Application or the Returning and Transfer Student Undergraduate Scholarship Application both of which can be obtained from UT’s Office of Financial Aid and Scholarships, 115 Student Services Building or online at http://web.utk.edu/~finaid/, and submit it by the date printed on the application, with the following items:

• A current high school transcript and a current college transcript, if the student is a transfer student.
• ACT or SAT scores.

Foreign Study

Several opportunities for study abroad are available to College of Business Administration students, such as group programs arranged and supervised by the college’s departments on a full semester or summer term; direct exchange, summer study, and semester programs organized by the Programs Abroad division of the Center for International Education; and individualized programs.

Students planning foreign study must first meet with their academic advisor in the Undergraduate Programs Office to discuss curricular issues.

Off-Campus Study

Recognizing that learning is not restricted to formal classroom situations, students may earn credit towards graduation for approved off-campus study. It may include certain types of work experiences or community involvement. Such study may be undertaken only with prior approval of a faculty member and the department granting credit.
**DEPARTMENT OF ACCOUNTING AND INFORMATION MANAGEMENT**

**http://bus.utk.edu/acct**

Daniel P. Murphy, Head

**Professors**
Andersen, K.E. (Rugh and Company Professor), PhD, CPA  ...Indiana
Behn, B.K. (Ergen Professor & CBER Faculty Fellow),
PhD, CPA  ...Arizona State
Carcello, J.V. (Ernst & Young Professor),
PhD, CPA, CMA, CIA  ...Georgia State
Fisher, B.D., LLM  ...George Washington
Kiger, J.E. (Warren L. Slagle Professor), PhD, CPA  ...Missouri
Murphy, D.P. (Deloitte & Touche Professor), PhD, CPA  ...North Carolina
Roth, H.P., PhD, CPA, CMA  ...Virginia Tech
Stanga, K.G. (Andersen Professor), PhD, CPA  ...Louisiana State
Williams, J.R. (Dean and Pilat Chair of Excellence in Leadership),
PhD, CPA  ...Arkansas

**Associate Professors**
Townsend, R.L., PhD, CPA  ...Texas
Woodroof, J.B., PhD, CPA  ...Texas Tech

**Assistant Professors**
DeVries, D.D., PhD, CPA, CISA  ...Arizona State
Luna, L., PhD, CPA  ...Tennessee
Neal, T.L., PhD, CPA  ...Tennessee
Pennington, R.R., PhD, CPA  ...South Carolina

**Lecturers**
Anderson, E.B., MAcc, CPA  ...Texas
Gilbert, P.S., MS  ...Tennessee
Hendricks, K., MBA, JD, CPA  ...UT Houston
Hollander, A.S. (Reagan Faculty Scholar), PhD  ...Tennessee
Hughes, H.N., BS  ...Tennessee
Reeves, L.M., MAcc, CPA  ...Tennessee
Valades, K.L., MAcc  ...Tennessee

**ACCOUNTING MAJOR**

The University of Tennessee has one of the leading accounting programs in the nation. The program emphasizes the conceptual and applied understanding of business information and prepares students for careers in accounting and business. The program has separate accounting accreditation from AACSB International and is one of the first accounting programs to have earned this designation. As an accredited program, the UT accounting program continuously meets or exceeds a rigorous set of international accreditation standards and is peer reviewed on a regular basis.

The faculty strongly encourages students who desire to become certified public accountants (CPAs) to continue their formal education in UT’s one-year Master of Accountancy (MAcc) program which is described in the Graduate Catalog. The primary objective of the 30 semester-hour MAcc program, which includes 21 graduate-level semester hours of accounting and 9 hours of business, is to prepare students for careers as CPAs. MAcc students select a specialty area in audit and controls or taxation. Taken together, the BS and MAcc programs provide graduates with the educational requirements to sit for the CPA exam as well as the academic preparation to begin successful careers as CPAs. Most states, including Tennessee, require 150 semester hours of education to sit for the CPA exam.

The UT accounting program offers its majors an opportunity to participate in two full-time, highly-structured internship programs. The faculty strongly encourages accounting majors to participate in one or both programs. The first internship program (summer program) emphasizes internships in industry. The industry internship occurs during the summer between the student’s third and fourth year. The second internship program (spring program) emphasizes internships with public accounting firms. Public accounting internships occur during the spring of the student’s fourth year and are designed for those students who intend to enroll in UT’s MAcc program.

The accounting major offers three programs at the undergraduate level – preparation for general accounting, preparation for internal auditing, and preparation for the Master of Accountancy program.

Preparation for general accounting is for those students who do not seek to become CPAs but instead desire careers in other areas of accounting or business (for example, managerial accounting). It also provides students with an introduction to major functional areas of accounting. The program requires students to choose a three-course collateral area in one of four areas that closely complement a career in accounting – finance, information management, international business, or logistics.

**Requirements for the Bachelor of Science in Business Administration Accounting Major • Collateral Option**

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Written Communication: English 101*, 102*  ...6</td>
</tr>
<tr>
<td>2</td>
<td>Quantitative Reasoning: Math 123*–125* or 141*–142*  ...6 or 8</td>
</tr>
<tr>
<td>3</td>
<td>Cultures and Civilizations: Intermediate Foreign Language*  ...6</td>
</tr>
<tr>
<td>4</td>
<td>Natural Sciences*  ...6 or 8</td>
</tr>
<tr>
<td>5</td>
<td>Social Sciences*  ...3</td>
</tr>
<tr>
<td>6</td>
<td>Oral Communication: Communication Studies 210* or 240*  ...3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Accounting 200 (Honors 207)  ...3</td>
</tr>
<tr>
<td>2</td>
<td>Social Sciences: Economics 201* (Honors 207*)  ...4</td>
</tr>
<tr>
<td>3</td>
<td>Written Communication: English 255*, 295*, or 355*  ...6</td>
</tr>
<tr>
<td>4</td>
<td>Statistics 201 (Honors 207)  ...3</td>
</tr>
<tr>
<td>5</td>
<td>Business Administration 201  ...4</td>
</tr>
<tr>
<td>6</td>
<td>2 Arts and Humanities*  ...6</td>
</tr>
<tr>
<td>7</td>
<td>Social Sciences*  ...3</td>
</tr>
<tr>
<td>8</td>
<td>Electives  ...3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Business Administration 331-332  ...4</td>
</tr>
<tr>
<td>2</td>
<td>Business Administration 341-342  ...4</td>
</tr>
<tr>
<td>3</td>
<td>Ethics: Philosophy 243, 244, or 443  ...3</td>
</tr>
<tr>
<td>4</td>
<td>Accounting 301  ...3</td>
</tr>
<tr>
<td>5</td>
<td>Information Management 341  ...3</td>
</tr>
<tr>
<td>6</td>
<td>Account 301  ...3</td>
</tr>
<tr>
<td>7</td>
<td>Business Administration 353  ...3</td>
</tr>
<tr>
<td>8</td>
<td>Business Administration 361  ...3</td>
</tr>
<tr>
<td>9</td>
<td>Accounting 311  ...3</td>
</tr>
<tr>
<td>10</td>
<td>Accounting 411  ...3</td>
</tr>
<tr>
<td>11</td>
<td>4 Collateral  ...3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Accounting 321  ...3</td>
</tr>
<tr>
<td>2</td>
<td>Accounting 414 or 431  ...4</td>
</tr>
<tr>
<td>3</td>
<td>Business Law 301  ...3</td>
</tr>
<tr>
<td>4</td>
<td>Management 401  ...3</td>
</tr>
<tr>
<td>5</td>
<td>4 Collateral  ...6</td>
</tr>
<tr>
<td>6</td>
<td>Electives  ...4-8</td>
</tr>
</tbody>
</table>

* Meets University General Education Requirement.
1 Must be completed by the end of the First Year.
2 Students who complete English 118, Honors English Composition, with a grade of A or B will complete their English Composition requirement by choosing English 102 or a Second Year literature course in the English Department. If the Second Year literature course appears on the list for the Arts and Humanities requirement, the course may also be counted toward the Arts and Humanities requirement.
3 Mathematics – Mathematics 125 or 141 are prerequisites for Statistics 201, which is taken during the second semester of the Second Year. As a result, either Mathematics 125 or 141 must be completed by the end of the first semester of the Second Year. Students testing into Mathematics 100, 110, 115, or 119 must complete these courses during their First Year to ensure that Mathematics 125 or 141 can be completed during the first semester of the Second Year. Students who have not completed Mathematics 125 by the end of their First Year...
should take Mathematics 125 in the first semester of their Second Year, prior to taking Mathematics 123.

In the spring of their Third Year, students normally make the decision whether to enter the job market upon graduation or apply to the Master of Accountancy program. Accounting 414 and 431 are both prerequisites to the MAcc program; therefore, students planning to enter the MAcc program should take Accounting 414 or 431 (whichever was not taken to satisfy the major requirement) instead of Finance 455 in the finance collateral, instead of Information Management 442 in the information management collateral, instead of Management 471 in the international business collateral, and instead of Logistics 421 in the logistics collateral.

**INTERNAL AUDITING**

The internal auditing concentration (for finance, logistics, and marketing majors) is designed to provide high-performing graduates a path to corporate management by beginning a career in internal auditing with either a CPA firm, corporation, or governmental organization. Internal auditing provides a direct pathway to corporate management. An entry-level position in internal auditing functions as a management-training program. A corporate internal auditor learns a great deal about a company’s industry, operations, and business processes. Internal auditors working in CPA firms generally are exposed to a variety of businesses and industries. While some internal auditors focus on accounting matters, many internal auditors concentrate on finance or other aspects of business operations. Most business organizations plan for internal auditors to progress from the internal audit department to a management position in three to five years. Internal auditors working in CPA firms often migrate to corporate internal audit departments or other managerial positions with internal audit clients.

An internship usually is a prerequisite to placement of entry-level candidates. In connection with Career Services, the Department of Accounting and Information Management coordinates an internship program. To be eligible to interview, students will be expected to have at least a 3.5 overall GPA and at least a 3.2 in courses in the internal auditing concentration. For information regarding this program, please contact the Department of Accounting and Information Management.

**PREPARATION FOR MASTER OF ACCOUNTANCY**

Preparation for the Master of Accountancy program is for those students who want to become CPAs. It provides students with an introduction to the major functional areas of accounting, thereby serving as preparation for the in-depth pursuit of a specialization (audit and controls or taxation) in the MAcc program. The program requires students to choose a two-course collateral area in one of four areas that closely complement a career in accounting—finance, information management, international business, or logistics.

**DEPARTMENT OF ECONOMICS**

http://econ.bus.utk.edu

Robert A. Bohm, Head

**Professors**

Bohm, R.A., PhD .................................................. Washington (St. Louis)
Bruce, D., PhD .......................................................... Syracuse
Chang, H.S., PhD ....................................................... Vanderbilt
Clark, D.P. (Beam Professor), PhD .................................. Michigan State
Fox, W.F. (William B. Stokely Distinguished Professor of Business), PhD ................................. Ohio State
Murray, M.N. (Douglas A. and Brenda Home Professor), PhD ........................................ Syracuse
Santore, R., PhD ....................................................... Ohio State

**Associate Professor**

Gauger, J.A., PhD ...................................................... Iowa State

**Assistant Professors**

Chakraborty, A., PhD ................................................ Oregon
Evans, M., PhD ......................................................... Colorado
Gipatric, S., PhD ......................................................... Texas A&M

Mohsin, M., PhD ...................................................... York (Canada)
Munkin, M., PhD ...................................................... Indiana
Vossler, C., PhD ......................................................... Cornell

**Research Associate Professor**

Burton, M., PhD .......................................................... Tennessee
McKee, M., PhD ......................................................... Carlton (Canada)

**Lecturers**

Baker, K., PhD .......................................................... New Mexico
Buer, D.M., PhD ......................................................... Tennessee
DeS. S., PhD .............................................................. Vanderbilt
Kauffman, C., PhD ...................................................... Tennessee
Schuler, G., PhD ........................................................ Houston

**Emeriti Faculty**

Davidson, P. (J. Fred Holly Chair of Excellence Emeritus), PhD ............................................... Pennsylvania
Moore, J.R. (Alumni Distinguished Service Professor Emeritus), PhD ......................................... Cornell
Russell, M., PhD .......................................................... Ohio State
Spiva, Jr., G.A., PhD ....................................................... Texas

**Adjunct Faculty**

Bjornstad, David, PhD .................................................. Syracuse
Curlee, T.R., PhD ........................................................ Purdue
D’Urso, V.T., PhD ........................................................ Massachusetts Institute of Technology
Shaler, W.R., PhD ......................................................... Tennessee
Shelton, R.B., PhD ...................................................... Southern Illinois
Vogt, D.P., PhD .......................................................... Syracuse

**ECONOMICS MAJOR**

The economics major provides an opportunity to apply the theoretical and analytical rigor of basic managerial and macroeconomic tools to contemporary issues in economics and business. Students may choose either the traditional or collateral option for the major (see below), the latter providing an opportunity to combine work in economics with complementary topics in finance, mathematics, or statistics. Electives, as well as major coursework under the traditional option, consider topics such as business, industrial organization, and public finance, as well as international, quantitative, monetary, regional/urban, environmental, labor, and health economics. Majors pursue careers in the traditional business disciplines, consulting, all levels of government service, and a variety of other fields. The program provides excellent training for graduate work in economics, business, public policy, and law. Students planning to pursue graduate study in economics should elect the quantitative economics and mathematics collateral option.

**Requirements for the Bachelor of Science in Business Administration • Economics Major • Traditional Option**

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration 201 (Honors 207)</td>
<td>3</td>
</tr>
<tr>
<td>Social Sciences: Economics 201 (Honors 207)</td>
<td>4</td>
</tr>
<tr>
<td>Written Communication: English 101* , 102*</td>
<td>6</td>
</tr>
<tr>
<td>Cultures and Civilizations: Intermediate Foreign Language*</td>
<td>6</td>
</tr>
<tr>
<td>Natural Sciences*</td>
<td>6</td>
</tr>
<tr>
<td>Social Sciences*</td>
<td>3</td>
</tr>
<tr>
<td>Oral Communication: Communication Studies 210* or 240*</td>
<td>3</td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting 414 or 431</td>
<td>4</td>
</tr>
<tr>
<td>Business Administration 201</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 381</td>
<td>3</td>
</tr>
<tr>
<td>Ethics: Philosophy 243, 244, or 443</td>
<td>3</td>
</tr>
<tr>
<td>Finance 301</td>
<td>3</td>
</tr>
<tr>
<td>Economics 312</td>
<td>3</td>
</tr>
<tr>
<td>Economics 313</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 353</td>
<td>3</td>
</tr>
<tr>
<td>Economics major coursework</td>
<td>3</td>
</tr>
</tbody>
</table>

**Third Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration 331-332</td>
<td>4</td>
</tr>
<tr>
<td>Business Administration 341-342</td>
<td>4</td>
</tr>
<tr>
<td>Ethics: Philosophy 243, 244, or 443</td>
<td>4</td>
</tr>
<tr>
<td>Finance 301</td>
<td>3</td>
</tr>
<tr>
<td>Economics 312</td>
<td>3</td>
</tr>
<tr>
<td>Economics 313</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 353</td>
<td>3</td>
</tr>
<tr>
<td>Economics major coursework</td>
<td>3</td>
</tr>
</tbody>
</table>
Fourth Year
Economics major coursework ................................................. 3
Business Law 301 .............................................................. 3
Electives (Four additional Economics courses, 
with at least two at the 400-level) .................................... 12
Management 401 .............................................................. 3
Electives ........................................................................... 7-11
Total 120

Economics Major Coursework Options (choose one area of focus).
ENVIRONMENTAL ECONOMICS – Economics 362, 463.
HEALTH ECONOMICS – Economics 436; Public Health 300.
INDUSTRIAL ORGANIZATION – Economics 331, 435.
INTERNATIONAL ECONOMICS – Economics 322, 421.
LABOR ECONOMICS – Economics 441; Management 472.
MONEY/MACROECONOMICS – Economics 351, 413.
PUBLIC ECONOMICS – Economics 371, 472.
QUANTITATIVE ECONOMICS – Economics 381, 482.
REGIONAL/URBAN ECONOMICS – Economics 361; Finance 485 
(Accounting 301 prerequisite).

FINANCE MAJOR
The finance major gives students the flexibility to tailor 
their programs to fit their particular career goals and to prepare 
for one (or more) of the following specialty areas. 
The course in investments leads to career opportunities in 
investment analysis, commercial and investment banking, and 
insurance companies. The course in real estate is designed 
for students who are interested in real estate brokerage, 
appraising, taxation, law, property management, real estate 
development, mortgage lending and banking, construction, 
government loan guarantees, and insurance. The course in 
corporate finance leads to opportunities in corporate forecasting, 
planning, and control; cash management; and capital and 
financial analysis positions. The course in
financial analysis positions.
The course in financial institutions 
and markets prepares students for opportunities in the 
management of financial institutions, as well as within the 
government organizations related to the industry. The course in 
insurance and risk management prepares students for oppor- 
tunities in insurance, business, and public risk management.

Requirements for the Bachelor of Science in Business 
Administration • Finance Major • Collateral Option

First Year
Accounting 200 (Honors 207) ............................................. 3
Social Sciences: Economics 201* (Honors 207*) .................... 4
Written Communication: English 255*, 295*, or 355* ............ 3
Cultures and Civilizations: Intermediate Foreign Language* .... 6
Arts and Humanities* ....................................................... 6
Electives ......................................................................... 3
Total 120

Second Year
Accounting 331-332 ........................................................... 4
Business Administration 341-342 ....................................... 4
Ethics: Philosophy 243, 244, or 443 .................................... 3
Finance 301 ................................................................. 3
Accounting 301 .............................................................. 3
Business Administration 331-332 ...................................... 3
Business Administration 361 ......................................... 3
Finance 425 ................................................................. 3
Electives ......................................................................... 6
Fourth Year
Business Law 301 .................................................. 3
Finance 435 .................................................. 3
Collateral .......................................................... 3
Finance 455 .................................................. 3
Finance Electives: 3 hours from Finance 402, 475, 485, 493, 495 . 3
Management 401 .................................................. 3
Electives .......................................................... 7-11

Finance Collateral Options
ACCOUNTING – Accounting 321 and any one of Accounting 311, Information Management 341 or Accounting 431 (increase Finance electives by 3).
ECONOMICS – Economics 312, 313, and choice of either Economics 421 or 482.
INFORMATION MANAGEMENT – Information Management 341, 342, 442 or 443.
INTERNATIONAL BUSINESS – Economics 329; Business Administration 371; Management 471.
LOGISTICS – Logistics 310, 411, 421.

* Meets University General Education Requirement.
1 Must be completed by the end of the First Year.
2 Students who complete English 118, Honors English Composition, with a grade of A or B will complete their English Composition requirement by choosing English 102 or a Second Year literature course in the English Department. If the Second Year literature course appears on the list for the Arts and Humanities requirement, the course may also be counted toward the Arts and Humanities requirement.
3 Mathematics – Mathematics 125 or 141 are prerequisites for Statistics 201, which is taken during the second semester of the Second Year. As a result, either Mathematics 125 or 141 must be completed by the end of the first semester of the Second Year. Students testing into Mathematics 100, 110, 115, or 119 must complete these courses during their First Year to ensure that Mathematics 125 or 141 can be completed during the first semester of the Second Year. Students who have not completed Mathematics 125 by the end of their First Year should take Mathematics 125 in the first semester of their Second Year, prior to taking Mathematics 123.

Requirements for the Bachelor of Science in Business Administration • Finance Major • Dual Concentration with Internal Auditing

Third Year Hours Credit
Business Administration 331-332 ........................................ 4
Business Administration 341-342 ........................................ 4
Ethics: Philosophy 243, 244, or 443 .................................. 3
Finance 301 .................................................. 3
Accounting 301 .................................................. 3
Information Management 341 ........................................ 3
Business Administration 353 ........................................... 3
Business Administration 361 ........................................... 3
Finance 425 .................................................. 3
Accounting 411 .................................................. 3

Fourth Year Hours Credit
Business Law 301 .................................................. 3
Finance 435 .................................................. 3
Finance 455 .................................................. 3
Accounting 311 .................................................. 3
Finance Elective: 3 hours from Finance 402, 475, 485, 493, or 495 . 3
Management 401 .................................................. 3
Electives .......................................................... 7-11

Total 120

DEPARTMENT OF MANAGEMENT

http://bus.utk.edu/mgt

Robert T. Ladd, Interim Head
E. Kate Atchley, Assistant Head

Professors
Judge, W.Q., PhD ........................................... North Carolina
Ladd, R.T. (Associate Dean and William B. Stokely Professor of Business), PhD ........... Georgia
Miller, A. (Associate Dean and William B. Stokely Chair of Management), PhD ........... Washington
Rentsch, J.R., PhD ........................................... Maryland
Rush, M.C., PhD ........................................... Akron
Stahl, M.J. (William B. Stokely Distinguished Professor of Management), PhD ............ Rensselaer Polytechnic Institute
Woehr, D.J., PhD ........................................... Georgia Tech

Associate Professors
Elenkov, D.S., PhD ........................................... Massachusetts Institute of Technology
Kupritz, V.W., PhD ........................................... Virginia Tech
Morris, M.L. (Stokely Faculty Scholar), PhD, CFLE ..................................................... Tennessee
Seat, J.E., PhD ........................................... Tennessee
Smith, A.D., PhD ........................................... North Carolina

Assistant Professors
Barley, S.J., PhD ........................................... Tennessee
Lim, D.H., PhD ........................................... Illinois
Pierce, R.H., PhD ........................................... Ohio State

Lecturers
Anderson, J.C., MIM ........................................ Thunderbird
Atchley, E.K.P., PhD ........................................ Tennessee
Hoffman, J.G., MBA ........................................ Notre Dame
Lyle, L.G., PhD ........................................... Tennessee
Mackey, D.L., PhD ........................................ Tennessee
Neubert, R.L., PhD ........................................ Tennessee
Swift, G.D., MBA ........................................... Georgia State

ENTERPRISE MANAGEMENT MAJOR

The enterprise management major was designed to meet an increasing demand for a general management major that prepares individuals for starting small businesses, working in family businesses, or entering management training programs. The basis of the enterprise management major is coursework in marketing strategy frameworks, total quality management or micro-economics, managerial skills, personnel management, and business planning. Students then choose from collaterals in marketing, operations management, resource management, information management, or international business.

Requirements for the Bachelor of Science in Business Administration • Enterprise Management Major • Collateral Option

First Year Hours Credit
1-2Written Communication: English 101*, 102* ....................... 6
3Quantitative Reasoning: Math 123*-125* or 141*-142* ............. 6 or 8
Cultures and Civilizations: Intermediate Foreign Language* ............ 6
Natural Sciences* ............................................. 6 or 8
Social Sciences* .................................................. 3
Oral Communication: Communication Studies 210* or 240* .......... 3

Second Year
Accounting 200 (Honors 207) .................................... 3
Social Sciences: Economics 201* (Honors 207*) ...................... 4
Written Communication: English 256*, 295*, or 300* .................. 3
Statistics 201 (Honors 207) ...................................... 3
Business Administration 201 ....................................... 4
Arts and Humanities* ........................................... 6
Cultures and Civilizations* ......................................... 3
Electives .......................................................... 3

Third Year
Business Administration 331-332 .................................... 4
Business Administration 341-342 .................................... 4
Ethics: Philosophy 243, 244, or 443 .................................. 3
Finance 301 .................................................. 3
Business Administration 353 ........................................ 3
Business Administration 361 ........................................ 3

4 Students are encouraged to take Accounting 321.
HUMAN RESOURCE MANAGEMENT MAJOR

The human resource management major was designed to meet the growing demand for qualified human resource practitioners armed with the skills required in today’s rapidly changing workplace. The major is consistent with the Society for Human Resource Management's model of knowledge and skills needed for successful practice and certification. Human resource management majors take coursework in organizational behavior, training systems, employee and labor relations, compensation and benefits, and staffing organizations. Students may choose from collateral information management and international business.

Requirements for the Bachelor of Science in Business Administration • Human Resource Management Major
• Collateral Option

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication: English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>Quantitative Reasoning: Math 123*-125* or 141*-142*</td>
<td>6 or 8</td>
</tr>
<tr>
<td>Business Administration 201</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 201</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 201</td>
<td>3</td>
</tr>
<tr>
<td>Written Communication: English 255*, 295*, or 355*</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 201 (Honors 207)</td>
<td>3</td>
</tr>
<tr>
<td>Business Law 301</td>
<td>3</td>
</tr>
<tr>
<td>Management 431</td>
<td>3</td>
</tr>
<tr>
<td>Management 451</td>
<td>3</td>
</tr>
<tr>
<td>Management 401</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
</tr>
<tr>
<td>Total First Year</td>
<td>12-11</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting 200 (Honors 207)</td>
<td>3</td>
</tr>
<tr>
<td>Written Communication: English 255*, 295*, or 355*</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 201 (Honors 207)</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 201</td>
<td>3</td>
</tr>
<tr>
<td>*Arts and Humanities</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 311</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 311</td>
<td>3</td>
</tr>
<tr>
<td>*Arts and Humanities</td>
<td>3</td>
</tr>
<tr>
<td>Total Second Year</td>
<td>12-11</td>
</tr>
</tbody>
</table>

Total 120

Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration 331-332</td>
<td>4</td>
</tr>
<tr>
<td>Business Administration 341-342</td>
<td>4</td>
</tr>
<tr>
<td>Ethics: Philosophy 243, 244, or 443</td>
<td>3</td>
</tr>
<tr>
<td>Finance 301</td>
<td>3</td>
</tr>
<tr>
<td>Human Resource Management 330</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 353</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 361</td>
<td>3</td>
</tr>
<tr>
<td>Human Resource Management 340</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
</tr>
<tr>
<td>Total Third Year</td>
<td>12-11</td>
</tr>
</tbody>
</table>

Enterprise Management Collateral Options

<table>
<thead>
<tr>
<th>COURSE</th>
<th>HOURS CREDIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFORMATION MANAGEMENT – Information Management 341, 342, and one of Information Management 442 or 443</td>
<td></td>
</tr>
<tr>
<td>INTERNATIONAL BUSINESS – Economics 329; Business Administration 371; Management 471</td>
<td></td>
</tr>
<tr>
<td>OPERATIONS MANAGEMENT – Operations and Management Science 341, 410, 441.</td>
<td></td>
</tr>
<tr>
<td>RESOURCE MANAGEMENT – Accounting 301, 321; Finance 425.</td>
<td></td>
</tr>
<tr>
<td>* Meets University General Education Requirement.</td>
<td></td>
</tr>
<tr>
<td>1 Must be completed by the end of the First Year.</td>
<td></td>
</tr>
<tr>
<td>2 Students who complete English 118, Honors English Composition, with a grade of A or B will complete their English Composition requirement by choosing English 102 or a Second Year literature course in the English Department. If the Second Year literature course appears on the list for the Arts and Humanities requirement, the course may also be counted toward the Arts and Humanities requirement.</td>
<td></td>
</tr>
<tr>
<td>3 Mathematics – Mathematics 125 or 141 are prerequisites for Statistics 201, which is taken during the second semester of the Second Year. As a result, either Mathematics 125 or 141 must be completed by the end of the first semester of the Second Year. Students testing into Mathematics 100, 110, 115, or 119 must complete these courses during their First Year to ensure that Mathematics 125 or 141 can be completed during the first semester of the Second Year. Students who have not completed Mathematics 125 by the end of their First Year should take Mathematics 125 in the first semester of their Second Year, prior to taking Mathematics 123.</td>
<td></td>
</tr>
</tbody>
</table>

Human Resource Management Collateral Options

<table>
<thead>
<tr>
<th>COURSE</th>
<th>HOURS CREDIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFORMATION MANAGEMENT – Information Management 341, 342, and one of Information Management 442 or 443</td>
<td></td>
</tr>
<tr>
<td>INTERNATIONAL BUSINESS – Economics 329; Business Administration 371; Management 471</td>
<td></td>
</tr>
<tr>
<td>* Meets University General Education Requirement.</td>
<td></td>
</tr>
<tr>
<td>1 Must be completed by the end of the First Year.</td>
<td></td>
</tr>
<tr>
<td>2 Students who complete English 118, Honors English Composition, with a grade of A or B will complete their English Composition requirement by choosing English 102 or a Second Year literature course in the English Department. If the Second Year literature course appears on the list for the Arts and Humanities requirement, the course may also be counted toward the Arts and Humanities requirement.</td>
<td></td>
</tr>
<tr>
<td>3 Mathematics – Mathematics 125 or 141 are prerequisites for Statistics 201, which is taken during the second semester of the Second Year. As a result, either Mathematics 125 or 141 must be completed by the end of the first semester of the Second Year. Students testing into Mathematics 100, 110, 115, or 119 must complete these courses during their First Year to ensure that Mathematics 125 or 141 can be completed during the first semester of the Second Year. Students who have not completed Mathematics 125 by the end of their First Year should take Mathematics 125 in the first semester of their Second Year, prior to taking Mathematics 123.</td>
<td></td>
</tr>
</tbody>
</table>

DEPARTMENT OF MARKETING AND LOGISTICS

http://ml.bus.utk.edu

Ted Stank, Head

Professors

<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barnett, J.R., PhD</td>
<td>Purdue</td>
</tr>
<tr>
<td>Cadotte, E.R., PhD</td>
<td>Ohio State</td>
</tr>
<tr>
<td>Davis, J.R., F.W., PhD</td>
<td>Michigan State</td>
</tr>
<tr>
<td>Gardial, S.F.</td>
<td>Houston</td>
</tr>
<tr>
<td>Mentzer, J.T.</td>
<td>Missouri State</td>
</tr>
<tr>
<td>Stank, T.P.</td>
<td>Georgia State</td>
</tr>
</tbody>
</table>

Associate Professors

<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dabholkar, P.A., PhD</td>
<td>Georgia State</td>
</tr>
<tr>
<td>Flint, D.J.</td>
<td>Tennessee</td>
</tr>
<tr>
<td>Foggin, J.A., MBA</td>
<td>Indiana</td>
</tr>
<tr>
<td>Holcomb, M.C., PhD</td>
<td>Tennessee</td>
</tr>
<tr>
<td>Kahn, K.B., PhD</td>
<td>Virginia Tech</td>
</tr>
<tr>
<td>Moen, M.A., PhD</td>
<td>North Carolina</td>
</tr>
<tr>
<td>Myers, M.B.</td>
<td>Michigan State</td>
</tr>
</tbody>
</table>

Assistant Professors

<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Esper, T.L., PhD</td>
<td>Arkansas</td>
</tr>
<tr>
<td>Mollenkopf, D., PhD</td>
<td>Drexel</td>
</tr>
<tr>
<td>Sahin, F., PhD</td>
<td>Texas A&amp;M</td>
</tr>
<tr>
<td>Tate, W., PhD</td>
<td>Arkansas</td>
</tr>
</tbody>
</table>
LOGISTICS MAJOR

Logistics has responsibility for the movement of raw materials and component parts into and within a business firm and to the distribution of finished products and services to customers.

Because having products and/or services in the right place at the right time is critical for success in any business, logistics plays a critical role in a firm’s comprehensive supply chain. A career in logistics offers students the opportunity to make a significant contribution to corporate effectiveness in this area.

The internationally recognized logistics program at the University of Tennessee is currently regarded as one of the most comprehensive and contemporary programs in the nation. The program offers a fundamental yet innovative curriculum. Students develop important skills required of logistics professionals as well as learn how logistics helps solve business supply chain management problems.

Requirements for the Bachelor of Science in Business Administration • Logistics Major • Collateral Option

First Year

<table>
<thead>
<tr>
<th>Course/Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Writing Communication: English 101*</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics 100*</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 201*</td>
<td>3</td>
</tr>
<tr>
<td>Oral Communication: Communication Studies 210* or 240*</td>
<td>3</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Course/Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration 331-332</td>
<td>4</td>
</tr>
<tr>
<td>Business Administration 341-342</td>
<td>4</td>
</tr>
<tr>
<td>Ethics: Philosophy 243, 244, or 443</td>
<td>3</td>
</tr>
<tr>
<td>Information Management 341</td>
<td>3</td>
</tr>
<tr>
<td>Information Management 442</td>
<td>3</td>
</tr>
<tr>
<td>Information Management 443</td>
<td>3</td>
</tr>
<tr>
<td>Management 401</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>7-11</td>
</tr>
</tbody>
</table>

Total 120

Third Year

<table>
<thead>
<tr>
<th>Course/Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration 341-342</td>
<td>4</td>
</tr>
<tr>
<td>Ethics: Philosophy 243, 244, or 443</td>
<td>3</td>
</tr>
<tr>
<td>Information Management 442</td>
<td>3</td>
</tr>
<tr>
<td>Information Management 443</td>
<td>3</td>
</tr>
<tr>
<td>Logistics 410</td>
<td>3</td>
</tr>
<tr>
<td>Business Law 301</td>
<td>3</td>
</tr>
</tbody>
</table>

Fourth Year

<table>
<thead>
<tr>
<th>Course/Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration 353</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 361</td>
<td>3</td>
</tr>
<tr>
<td>Logistics 310</td>
<td>3</td>
</tr>
<tr>
<td>Management 401</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>7-11</td>
</tr>
</tbody>
</table>

Total 120

LOGISTICS COLLATERAL OPTIONS

INFORMATION MANAGEMENT – Information Management 341, 342, and 442 or 443.

INTERNATIONAL BUSINESS – Economics 329, Business Administration 371; Management 471.

MARKETING – Marketing 340, 350, and any two of Marketing 452, 456 or 458* (reduce elective hours by one).

OPERATIONS MANAGEMENT – Operations and Management Science 341, 441, 410 or 421.

Meets University General Education Requirement.

1 Must be completed by the end of the First Year.

2 Students who complete English 118, Honors English Composition, with a grade of A or B will complete their English Composition requirement by choosing English 102 or a Second Year literature course in the English Department. If the Second Year literature course appears on the list for Arts and Humanities requirement, the course may also be counted toward the Arts and Humanities requirement.

3 Mathematics – Mathematics 125 or 141 are prerequisites for Statistics 201, which is taken during the second semester of the Second Year. As a result, either Mathematics 125 or 141 must be completed by the end of the first semester of the Second Year. Students testing into Mathematics 100, 110, 115, or 119 must complete these courses during their First Year to ensure that Mathematics 125 or 141 can be completed during the first semester of the Second Year. Students who have not completed Mathematics 125 by the end of their First Year should take Mathematics 125 in the first semester of their Second Year, prior to taking Mathematics 123.

DUAL CONCENTRATIONS

Requirements for the Bachelor of Science in Business Administration • Logistics Major • Dual Concentration with Information Management

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration 331-332</td>
<td>4</td>
</tr>
<tr>
<td>Business Administration 341-342</td>
<td>4</td>
</tr>
<tr>
<td>Ethics: Philosophy 243, 244, or 443</td>
<td>3</td>
</tr>
<tr>
<td>Information Management 341</td>
<td>3</td>
</tr>
<tr>
<td>Information Management 442</td>
<td>3</td>
</tr>
<tr>
<td>Information Management 443</td>
<td>3</td>
</tr>
<tr>
<td>Logistics 460</td>
<td>3</td>
</tr>
<tr>
<td>Management 401</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>7-11</td>
</tr>
</tbody>
</table>

Total 120

Requirements for the Bachelor of Science in Business Administration • Logistics Major • Dual Concentration with Internal Auditing

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration 331-332</td>
<td>4</td>
</tr>
<tr>
<td>Business Administration 341-342</td>
<td>4</td>
</tr>
<tr>
<td>Ethics: Philosophy 243, 244, or 443</td>
<td>3</td>
</tr>
<tr>
<td>Accounting 301</td>
<td>3</td>
</tr>
<tr>
<td>Information Management 341</td>
<td>3</td>
</tr>
<tr>
<td>Finance 301</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 353</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 361</td>
<td>3</td>
</tr>
<tr>
<td>Logistics 310</td>
<td>3</td>
</tr>
<tr>
<td>Accounting 411</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>7-11</td>
</tr>
</tbody>
</table>

Total 120

4 Students are encouraged to take Accounting 321.
### Requirements for the Bachelor of Science in Business Administration • Logistics Major • Dual Concentration with International Business

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration 331-332</td>
<td>.4</td>
</tr>
<tr>
<td>Business Administration 341-342</td>
<td>.4</td>
</tr>
<tr>
<td>Ethics: Philosophy 243, 244, or 443</td>
<td>.3</td>
</tr>
<tr>
<td>Finance 301</td>
<td>.3</td>
</tr>
<tr>
<td>Business Administration 353</td>
<td>.3</td>
</tr>
<tr>
<td>Business Administration 361</td>
<td>.3</td>
</tr>
<tr>
<td>Logistics 310</td>
<td>.3</td>
</tr>
<tr>
<td>Logistics 329</td>
<td>.3</td>
</tr>
<tr>
<td>Business Law 301</td>
<td>.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Logistics 411</td>
<td>.3</td>
</tr>
<tr>
<td>Logistics 421 or 413</td>
<td>.3</td>
</tr>
<tr>
<td>Management 401</td>
<td>.3</td>
</tr>
<tr>
<td>Electives</td>
<td>7-11</td>
</tr>
</tbody>
</table>

**Total 120**

4 Coursework for the International Business Dual Concentration may be substituted for a program of study as approved by an advisor.

---

### Requirements for the Bachelor of Science in Business Administration • Logistics Major • Dual Concentration with Marketing

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration 331-332</td>
<td>.4</td>
</tr>
<tr>
<td>Business Administration 341-342</td>
<td>.4</td>
</tr>
<tr>
<td>Ethics: Philosophy 243, 244, or 443</td>
<td>.3</td>
</tr>
<tr>
<td>Finance 301</td>
<td>.3</td>
</tr>
<tr>
<td>Business Administration 353</td>
<td>.3</td>
</tr>
<tr>
<td>Business Administration 361</td>
<td>.3</td>
</tr>
<tr>
<td>Logistics 310</td>
<td>.3</td>
</tr>
<tr>
<td>Marketing 340</td>
<td>.3</td>
</tr>
<tr>
<td>Business Law 301</td>
<td>.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Logistics 411</td>
<td>.3</td>
</tr>
<tr>
<td>Logistics 421 or 413</td>
<td>.3</td>
</tr>
<tr>
<td>Marketing Electives: Marketing 452, 456, or 458</td>
<td>.3</td>
</tr>
<tr>
<td>Logistics 460</td>
<td>.3</td>
</tr>
<tr>
<td>Management 401</td>
<td>.3</td>
</tr>
<tr>
<td>Electives</td>
<td>6-10</td>
</tr>
</tbody>
</table>

**Total 120**

---

### Requirements for the Bachelor of Science in Business Administration • Logistics Major • Dual Concentration with Operations Management

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration 331-332</td>
<td>.4</td>
</tr>
<tr>
<td>Business Administration 341-342</td>
<td>.4</td>
</tr>
<tr>
<td>Ethics: Philosophy 243, 244, or 443</td>
<td>.3</td>
</tr>
<tr>
<td>Finance 301</td>
<td>.3</td>
</tr>
<tr>
<td>Business Administration 353</td>
<td>.3</td>
</tr>
<tr>
<td>Business Administration 361</td>
<td>.3</td>
</tr>
<tr>
<td>Operations and Management Science 341</td>
<td>.3</td>
</tr>
<tr>
<td>Business Law 301</td>
<td>.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Logistics 411</td>
<td>.3</td>
</tr>
<tr>
<td>Logistics 421 or 413</td>
<td>.3</td>
</tr>
<tr>
<td>Operations and Management Science 421</td>
<td>.3</td>
</tr>
<tr>
<td>Operations and Management Science 410</td>
<td>.3</td>
</tr>
<tr>
<td>Logistics 460</td>
<td>.3</td>
</tr>
<tr>
<td>Management 401</td>
<td>.3</td>
</tr>
<tr>
<td>Electives</td>
<td>7-11</td>
</tr>
</tbody>
</table>

**Total 120**

---

### Requirements for the Bachelor of Science in Business Administration • Logistics Major • Dual Concentration with Statistics

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration 331-332</td>
<td>.4</td>
</tr>
<tr>
<td>Business Administration 341-342</td>
<td>.4</td>
</tr>
<tr>
<td>Ethics: Philosophy 243, 244, or 443</td>
<td>.3</td>
</tr>
<tr>
<td>Finance 301</td>
<td>.3</td>
</tr>
<tr>
<td>Business Administration 353</td>
<td>.3</td>
</tr>
<tr>
<td>Business Administration 361</td>
<td>.3</td>
</tr>
<tr>
<td>Logistics 310</td>
<td>.3</td>
</tr>
<tr>
<td>Statistics 320</td>
<td>.3</td>
</tr>
<tr>
<td>Business Law 301</td>
<td>.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Logistics 411</td>
<td>.3</td>
</tr>
<tr>
<td>Logistics 421 or 413</td>
<td>.3</td>
</tr>
<tr>
<td>Statistics 365</td>
<td>.3</td>
</tr>
<tr>
<td>Statistics 471</td>
<td>.3</td>
</tr>
<tr>
<td>Statistics 474 or 475</td>
<td>.3</td>
</tr>
<tr>
<td>Management 401</td>
<td>.3</td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total 120**

---

### Marketing Major

Marketing in an organization has responsibility for identifying who customers are, what they need and want, and how best to meet those needs/wants by creating and delivering superior value to them. Marketing professionals use strategy tools to target customers, create value propositions and positioning for each target, and deliver and communicate value to these customers through products, design, pricing, advertising, personal selling, promotion, and distribution.

Marketing education enables one to pursue varied career opportunities critical to organizations. Typically, a career in marketing begins in either consumer or industrial sales or retailing, which eventually may lead to management positions in any of several areas. For example, marketing professionals may hold positions in advertising, brand management, sales management, promotion management, marketing research, distribution, and other related areas.

Students interested in a marketing career will have a broad-based business education, which includes financial management, logistics, operations, human resources, business strategy, economics, and statistics. In addition to a broad array of courses in arts and sciences, marketing students will obtain a strong grounding in the social sciences to better understand the forces that shape consumer preferences.

### Requirements for the Bachelor of Science in Business Administration • Marketing Major • Collateral Option

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication: English 101*, 102*</td>
<td>.6</td>
</tr>
<tr>
<td>Quantitative Reasoning: Math 123*-125* or 141*-142*</td>
<td>.6 or 8</td>
</tr>
<tr>
<td>Cultures and Civilizations: Intermediate Foreign Language*</td>
<td>.6</td>
</tr>
<tr>
<td>Social Sciences*</td>
<td>.3</td>
</tr>
<tr>
<td>Oral Communication: Communication Studies 210* or 240*</td>
<td>.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting 200 (Honors 207)</td>
<td>.3</td>
</tr>
<tr>
<td>Social Sciences: Economics 201* (Honors 207)*</td>
<td>.3</td>
</tr>
<tr>
<td>Written Communication: English 255*, 295*, or 355*</td>
<td>.3</td>
</tr>
<tr>
<td>Business Administration 201</td>
<td>.3</td>
</tr>
<tr>
<td>Business Administration 201</td>
<td>.4</td>
</tr>
<tr>
<td>Arts and Humanities*</td>
<td>.3</td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
</tr>
</tbody>
</table>

1 Written Communication: English 101*, 102* .6
2 Quantitative Reasoning: Math 123*-125* or 141*-142* .6 or 8
3 Cultures and Civilizations: Intermediate Foreign Language* .6
4 Social Sciences* .3
5 Oral Communication: Communication Studies 210* or 240* .3
6 Arts and Humanities* .3
7 Electives .3
### Third Year
- Business Administration 331-332: 4
- Business Administration 341-342: 4
- Ethics: Philosophy 243, 244, or 443: 3
- Finance 301: 3
- Business Administration 353: 3
- Business Administration 361: 3
- Marketing 340: 3
- Marketing 345: 2
- Business Law 301: 3
- Electives: 7-11

Total 120

### Fourth Year
- Marketing Electives: Marketing 452, 456, or 458: 4
- Electives: 6-10

Total 120

### Marketing Collateral Options
- INFORMATION MANAGEMENT – Information Management 341, 342, and 442 or 443.
- INTERNATIONAL BUSINESS – Economics 329; Business Administration 371; Management 471.
- LOGISTICS – Logistics 310, 411, 421.
- RESOURCE MANAGEMENT – Accounting 301; Finance 425, 455.

* Meets University General Education Requirement.
1 Must be completed by the end of the First Year.
2 Students who complete English 118, Honors English Composition, with a grade of A or B will complete their English Composition requirement by choosing English 102 or a Second Year literature course in the English Department. If the Second Year literature course appears on the list for the Arts and Humanities requirement, the course may also be counted toward the Arts and Humanities requirement.
3 Mathematics – Mathematics 125 or 141 are prerequisites for Statistics 201, which is taken during the second semester of the Second Year. As a result, either Mathematics 125 or 141 must be completed by the end of the first semester of the Second Year. Students testing into Mathematics 100, 110, 115, or 119 must complete these courses during their First Year to ensure that Mathematics 125 or 141 can be completed during the first semester of the Second Year. Students who have not completed Mathematics 125 by the end of their First Year should take Mathematics 125 in the first semester of their Second Year, prior to taking Mathematics 123.

### DUAL CONCENTRATIONS

#### Requirements for the Bachelor of Science in Business Administration • Marketing Major • Dual Concentration with Information Management

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration 331-332</td>
<td>4</td>
</tr>
<tr>
<td>Business Administration 341-342</td>
<td>4</td>
</tr>
<tr>
<td>Ethics: Philosophy 243, 244, or 443</td>
<td>3</td>
</tr>
<tr>
<td>Finance 301</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 353</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 361</td>
<td>3</td>
</tr>
<tr>
<td>Marketing 340</td>
<td>3</td>
</tr>
<tr>
<td>Business Law 301</td>
<td>3</td>
</tr>
<tr>
<td>Information Management 341</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing Electives: Marketing 452, 456, or 458</td>
<td>4</td>
</tr>
<tr>
<td>Information Management 342</td>
<td>3</td>
</tr>
<tr>
<td>Information Management 442</td>
<td>3</td>
</tr>
<tr>
<td>Information Management 443</td>
<td>3</td>
</tr>
<tr>
<td>Management 401</td>
<td>3</td>
</tr>
<tr>
<td>Marketing 460</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>6-10</td>
</tr>
</tbody>
</table>

Total 120

#### Requirements for the Bachelor of Science in Business Administration • Marketing Major • Dual Concentration with Internal Auditing

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration 331-332</td>
<td>4</td>
</tr>
<tr>
<td>Business Administration 341-342</td>
<td>4</td>
</tr>
<tr>
<td>Ethics: Philosophy 243, 244, or 443</td>
<td>3</td>
</tr>
<tr>
<td>Accounting 301</td>
<td>3</td>
</tr>
<tr>
<td>Information Management 341</td>
<td>3</td>
</tr>
<tr>
<td>Finance 301</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 353</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 361</td>
<td>3</td>
</tr>
<tr>
<td>Marketing 340</td>
<td>3</td>
</tr>
<tr>
<td>Accounting 411</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing Electives: Marketing 452, 456, or 458</td>
<td>4</td>
</tr>
<tr>
<td>Business Law 301</td>
<td>3</td>
</tr>
<tr>
<td>Management 401</td>
<td>3</td>
</tr>
<tr>
<td>Marketing 460</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>6-10</td>
</tr>
</tbody>
</table>

Total 120

#### Requirements for the Bachelor of Science in Business Administration • Marketing Major • Dual Concentration with International Business

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration 331-332</td>
<td>4</td>
</tr>
<tr>
<td>Business Administration 341-342</td>
<td>4</td>
</tr>
<tr>
<td>Ethics: Philosophy 243, 244, or 443</td>
<td>3</td>
</tr>
<tr>
<td>Finance 301</td>
<td>3</td>
</tr>
<tr>
<td>Accounting 301</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 353</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 361</td>
<td>3</td>
</tr>
<tr>
<td>Marketing 340</td>
<td>3</td>
</tr>
<tr>
<td>Business Law 301</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>6-10</td>
</tr>
</tbody>
</table>

Total 120

#### Requirements for the Bachelor of Science in Business Administration • Marketing Major • Dual Concentration with Logistics

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration 331-332</td>
<td>4</td>
</tr>
<tr>
<td>Business Administration 341-342</td>
<td>4</td>
</tr>
<tr>
<td>Ethics: Philosophy 243, 244, or 443</td>
<td>3</td>
</tr>
<tr>
<td>Finance 301</td>
<td>3</td>
</tr>
<tr>
<td>Accounting 301</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 353</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 361</td>
<td>3</td>
</tr>
<tr>
<td>Marketing 340</td>
<td>3</td>
</tr>
<tr>
<td>Business Law 301</td>
<td>3</td>
</tr>
<tr>
<td>Logistics 310</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing Electives: Marketing 452, 456, or 458</td>
<td>4</td>
</tr>
<tr>
<td>Logistics 411</td>
<td>3</td>
</tr>
<tr>
<td>Logistics 421 or 413</td>
<td>3</td>
</tr>
<tr>
<td>Management 401</td>
<td>3</td>
</tr>
<tr>
<td>Marketing 468</td>
<td>3</td>
</tr>
<tr>
<td>Logistics 460</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>6-10</td>
</tr>
</tbody>
</table>

Total 120

* Students are encouraged to take Accounting 321.
Requirements for the Bachelor of Science in Business Administration • Marketing Major • Dual Concentration with Statistics

Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration 331-332</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Business Administration 341-342</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Ethics: Philosophy 243, 244, or 443</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Finance 301</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 353</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 361</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Marketing 340</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Business Law 301</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Statistics Dual Concentration</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing 350</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Marketing Electives: Marketing 452, 456, or 458</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Statistics Dual Concentration</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Management 401</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Marketing 460</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>6-10</td>
</tr>
</tbody>
</table>

Marketing and Statistics Dual Concentration Options

OPTION 1 – Statistics 320, 330, 471, 474 or 475.

OPTION 2 – Statistics 320, 471, 474, 476.

PUBLIC ADMINISTRATION (Intercollegiate Program)

PUBLIC ADMINISTRATION MAJOR

The public administration major is a joint program sponsored by the Departments of Economics and Political Science. It is designed for students interested in government, namely in the formation of public policy and the practice of public sector management among many other areas of the interface between the public and private sectors. The program combines general education in the arts and humanities with specific courses in the economic and political aspects of government policies. Students choose electives to focus their interest or expertise.

Public administration majors pursue careers in a wide variety of areas in both the private and public sectors, the latter at the federal, state, and local levels. Examples include tax administration and budget analysis, city management, governmental relations within large corporations and industry trade associations, the management of nonprofit organizations, policy analysis in a non-governmental organization, and the functional areas of government such as education, health, environment, and economic development. In addition to the Master of Public Administration degree, many undergraduate majors pursue graduate programs in law, economics, or public policy.

Requirements for the Bachelor of Science in Business Administration • Public Administration Major

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication: English 101*</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Quantitative Reasoning: Math 123* or 125*</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Natural Sciences*</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Social Sciences*</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication: Communication Studies</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting 200 (Honors 207)</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Social Sciences: Economics 201* (Honors 207*)</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Written Communication: English 255*, 295*, or 355*</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 201 (Honors 207)</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 201</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Arts and Humanities*</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Cultures and Civilizations*</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration 331-332</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Business Administration 341-342</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Ethics: Philosophy 243, 244, or 443</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Finance 301</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 353</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 361</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Political Science 340</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Economics 312</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Law 301</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Economics 371</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Economics 472</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Political Science 441</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Management 401</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Economics or Political Science Electives</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>4-8</td>
</tr>
</tbody>
</table>

Total 120

* Meets University General Education Requirement.
1 Must be completed by the end of the First Year.
2 Students who complete English 118, Honors English Composition, with a grade of A or B will complete their English Composition requirement by choosing English 102 or a Second Year literature course in the English Department. If the Second Year literature course appears on the list for the Arts and Humanities requirement, the course may also be counted toward the Arts and Humanities requirement.
3 Mathematics – Mathematics 125 or 141 are prerequisites for Statistics 201, which is taken during the second semester of the Second Year. As a result, either Mathematics 125 or 141 must be completed by the end of the first semester of the Second Year. Students testing into Mathematics 100, 110, 115, or 119 must complete these courses during their First Year to ensure that Mathematics 125 or 141 can be completed during the first semester of the Second Year. Students who have not completed Mathematics 125 by the end of their First Year should take Mathematics 125 in the first semester of their Second Year, prior to taking Mathematics 123.
4 Economics or Political Science electives – any three upper division courses in Economics or Political Science.

DEPARTMENT OF STATISTICS, OPERATIONS AND MANAGEMENT SCIENCE

http://stat.bus.utk.edu

http://www.bus.utk.edu/mgmtsci

Kenneth C. Gilbert, Head

Professors

Bozdogan, H. (Toby and Brenda McKenzie Professor in Business), PhD ........................................... Illinois

Edirisinghe, C.P., PhD .................................................. British Columbia

Gilbert, K.C., PhD ..................................................... Tennessee

Guess, F.M., PhD ........................................................ Florida State

Leitnaker, M.G., PhD .................................................. Kentucky

Mee, R.W., PhD .......................................................... Iowa State

Noon, C.E., PhD ........................................................ Michigan

Parr, W.C., PhD ........................................................ Southern Methodist

Pravinadasan, M.M. (Ball Corporation Distinguished Professor of Business), PhD .................................. Northwestern

Associate Professors

Bowers, M.R., PhD ...................................................... Clemson

Leon, R.V., PhD ........................................................ Florida State

Seaver, W.L., PhD ........................................................ Texas A&M

Younger, M.S., PhD ..................................................... Virginia Tech

Assistant Professors

Bensmail, H., PhD ........................................................ Paris VI

Zaretzki, R., PhD ........................................................ Cornell

Lecturers

Cwiek, C.M., MS ........................................................ Tennessee

Schmidhammer, J.I., PhD .............................................. Pittsburgh

Adjunct Faculty

Husch, D.S., PhD ......................................................... Tennessee

McGuire, S.A., PhD ..................................................... Kansas State
STATISTICS MAJOR

The general perception of statisticians is most often associated with sporting events. The life of a professional statistician, however, is much more varied and interesting than computing the average rushing yards per play. Actually, statistics is the science of learning from data, and all processes generate data. Statisticians determine how to collect and manage this necessary information. They interrogate the data and present the results in a clear fashion so that wise decisions can be made.

Statistics is used in various areas of business, industry, science, and government. The fields of opportunity for statisticians are numerous – e.g., economics, finance, market research, e-commerce, engineering, manufacturing, transportation, education, medicine, psychology, agriculture, and computer and social sciences.

There are two basic types of statisticians – applied and theoretical. The focus of the undergraduate program is on applied statistics. Applied statisticians help to improve processes and solve real-world problems. They may forecast economic or population growth, evaluate results of a new marketing program or the effectiveness of a new drug, identify quality control issues in manufacturing, or design experiments to help engineers and scientists determine the best design for a jet airplane.

Prospective statisticians must have a strong aptitude for mathematics, a solid computing background, and an earnest curiosity to explore the practical application of statistics. The skills students will learn as a statistics major at the University of Tennessee, Knoxville, will enable them to understand and convey the scope and power of statistical thinking and will result in significant contributions toward solutions to a variety of important jobs. Well-paying jobs are available at the Bachelor of Science, Master of Science, and doctorate levels.

Requirements for the Bachelor of Science in Business Administration • Statistics Major • Collateral Option

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication: English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>3 Quantitative Reasoning: Math 123*-125* or 141*-142*</td>
<td>6 or 8</td>
</tr>
<tr>
<td>Cultures and Civilizations: Intermediate Foreign Language*</td>
<td>6</td>
</tr>
<tr>
<td>Natural Sciences*</td>
<td>6 or 8</td>
</tr>
<tr>
<td>Social Sciences*</td>
<td>3</td>
</tr>
<tr>
<td>Oral Communication: Communication Studies 210* or 240*</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting 200 (Honors 207)</td>
<td>3</td>
</tr>
<tr>
<td>Social Sciences: Economics 201* (Honors 207*)</td>
<td>4</td>
</tr>
<tr>
<td>Written Communication: English 255*, 295*, or 355*</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 201 (Honors 207)</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 201</td>
<td>4</td>
</tr>
<tr>
<td>2 Arts and Humanities*</td>
<td>6</td>
</tr>
<tr>
<td>Cultures and Civilizations*</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration 331-332</td>
<td>4</td>
</tr>
<tr>
<td>Business Administration 341-342</td>
<td>4</td>
</tr>
<tr>
<td>Ethics: Philosophy 243, 244, or 443</td>
<td>3</td>
</tr>
<tr>
<td>Finance 301</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 365</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 353</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 361</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 320</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 330</td>
<td>3</td>
</tr>
<tr>
<td>Collateral</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Law 301</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 471</td>
<td>3</td>
</tr>
<tr>
<td>Statistics Electives: any two 400-level courses in Statistics or Mathematics 423 and 425</td>
<td>6</td>
</tr>
<tr>
<td>Collateral</td>
<td>3</td>
</tr>
<tr>
<td>Management 401</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>7-11</td>
</tr>
</tbody>
</table>

Total 120

Statistics Collateral Options

- ECONOMICS – Economics 311 (312) or 313, 381.
- FINANCE – Finance 425 (Accounting 301 corequisite) and one of Finance 435, 455, 475, 485.
- INFORMATION MANAGEMENT – Information Management 341, 342.
- LOGISTICS – Logistics 310, 411.
- MARKETING – Marketing 340, 350.
- OPERATIONS MANAGEMENT – Operations and Management Science 341, 441 or 421.

1 * Meets University General Education Requirement.
2 Must be completed by the end of the First Year.
3 Students who complete English 118, Honors English Composition, with a grade of A or B will complete their English Composition requirement by choosing English 102 or a Second Year literature course in the English Department. If the Second Year literature course appears on the list for the Arts and Humanities requirement, the course may also be counted toward the Arts and Humanities requirement.

DUAL CONCENTRATIONS

Requirements for the Bachelor of Science in Business Administration • Statistics Major • Dual Concentration with Internal Auditing

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration 331-332</td>
<td>4</td>
</tr>
<tr>
<td>Business Administration 341-342</td>
<td>4</td>
</tr>
<tr>
<td>Ethics: Philosophy 243, 244, or 443</td>
<td>3</td>
</tr>
<tr>
<td>Finance 301</td>
<td>3</td>
</tr>
<tr>
<td>Accounting 301</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 365</td>
<td>3</td>
</tr>
<tr>
<td>Information Management 341</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 353</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 361</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 320</td>
<td>3</td>
</tr>
<tr>
<td>Accounting 311</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Statistics 365</td>
<td>3</td>
</tr>
<tr>
<td>Business Law 301</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 471</td>
<td>3</td>
</tr>
<tr>
<td>Statistics Electives: any two 400-level courses in Statistics or Mathematics 423 and 425</td>
<td>6</td>
</tr>
<tr>
<td>Collateral</td>
<td>3</td>
</tr>
<tr>
<td>Management 401</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>7-11</td>
</tr>
</tbody>
</table>

Total 120

4 Students are encouraged to take Accounting 321.

Requirements for the Bachelor of Science in Business Administration • Statistics Major • Dual Concentration with Logistics

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration 331-332</td>
<td>4</td>
</tr>
<tr>
<td>Business Administration 341-342</td>
<td>4</td>
</tr>
<tr>
<td>Ethics: Philosophy 243, 244, or 443</td>
<td>3</td>
</tr>
<tr>
<td>Finance 301</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 365</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 353</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 361</td>
<td>3</td>
</tr>
<tr>
<td>Logistics 310</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 320</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Law 301</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 471</td>
<td>3</td>
</tr>
<tr>
<td>Statistics Electives: any two 400-level courses in Statistics or Mathematics 423 and 425</td>
<td>6</td>
</tr>
<tr>
<td>Collateral</td>
<td>3</td>
</tr>
<tr>
<td>Management 401</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>7-11</td>
</tr>
</tbody>
</table>

Total 120
### Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Law 301</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 471</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 474 or 475</td>
<td>3</td>
</tr>
<tr>
<td>Logistics 411</td>
<td>3</td>
</tr>
<tr>
<td>Logistics 421 or 413</td>
<td>3</td>
</tr>
<tr>
<td>Logistics 460</td>
<td>3</td>
</tr>
<tr>
<td>Management 401</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>7-11</td>
</tr>
<tr>
<td><strong>Total 120</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Requirements for the Bachelor of Science in Business Administration • Statistics Major • Dual Concentration with Marketing

#### Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration 331-332</td>
<td>4</td>
</tr>
<tr>
<td>Business Administration 341-342</td>
<td>3</td>
</tr>
<tr>
<td>Ethics: Philosophy 243, 244, or 443</td>
<td>3</td>
</tr>
<tr>
<td>Finance 301</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 353</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 361</td>
<td>3</td>
</tr>
<tr>
<td>Marketing 340</td>
<td>3</td>
</tr>
<tr>
<td>Business Law 301</td>
<td>3</td>
</tr>
<tr>
<td>Statistics Dual Concentration</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total 120</strong></td>
<td></td>
</tr>
</tbody>
</table>

#### Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing 350</td>
<td>3</td>
</tr>
<tr>
<td>Marketing Electives: Marketing 452, 456, or 458</td>
<td>3</td>
</tr>
<tr>
<td>Statistics Dual Concentration</td>
<td>9</td>
</tr>
<tr>
<td>Management 401</td>
<td>3</td>
</tr>
<tr>
<td>Marketing 460</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>6-10</td>
</tr>
<tr>
<td><strong>Total 120</strong></td>
<td></td>
</tr>
</tbody>
</table>

#### Statistics and Marketing Dual Concentration Options

**OPTION 1** – Statistics 320, 330, 471, 474 or 475.

**OPTION 2** – Statistics 320, 471, 474, 475.

### FIFTH YEAR MASTER OF SCIENCE

Students may earn a Bachelor of Science (majoring in mathematics or statistics) and a Master of Science with a major in statistics in five years as follows. (See the [Graduate Catalog](#) for more information on the Master of Science degree.) Please note that admission as a graduate student must be obtained prior to the beginning of the fifth year.

- To apply, a student must earn a grade of B or better in Mathematics 142 (148) and Mathematics 241 (247) and have a UT cumulative GPA of 3.25 or greater with 60 or more credit hours earned.
- To continue, a student must complete at least 96 hours of undergraduate credit prior to the fourth year with a B average (3.0) or better.
- Complete the requirements for your first undergraduate degree by the end of your fourth year, but not earlier.
- Complete an additional 9 hours of statistics courses (Statistics 566, 572 and 573) graduate credit by submitting a “Senior Requesting Graduate Credit” form and obtaining Senior Privilege through the Office of Graduate Student Services. These courses must be taken in the fourth year and may not be used to fulfill any requirements for the undergraduate degree. Note: Each semester you are registered for a graduate course, your total credits for undergraduate and graduate classes may not exceed 15.
- In the fifth year, including the summer preceding or following the fifth year, complete requirements for the Master of Science degree as detailed in the [Graduate Catalog](#). This will typically require 12 credits per semester.

The Department of Statistics, Operations and Management Science awards graduate assistantships each year. The assistantship pays graduate tuition, as well as a stipend for living expenses. Fourth year students who complete at least 6 credits of graduate course work toward the Master of Science degree with a B average or better will be given priority for a graduate teaching assistantship from the department beginning in the academic year following award of the Bachelor of Science degree.

### Requirements for Fifth Year Master of Science • Statistics Major

#### First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication: English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>Quantitative Reasoning: Math 141*-142*</td>
<td>8</td>
</tr>
<tr>
<td>Cultures and Civilizations: Intermediate Foreign Language*</td>
<td>6</td>
</tr>
<tr>
<td>Natural Sciences*</td>
<td>6</td>
</tr>
<tr>
<td>Statistics 201 (Honors 207)</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
</tr>
<tr>
<td><strong>Total 120</strong></td>
<td></td>
</tr>
</tbody>
</table>

#### Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting 200 (Honors 207)</td>
<td>3</td>
</tr>
<tr>
<td>Social Sciences: Economics 201* (Honors 207*)</td>
<td>4</td>
</tr>
<tr>
<td>Statistics 320 and 330</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics 241 and 251</td>
<td>7</td>
</tr>
<tr>
<td>Oral Communication: Communication Studies 210* or 240*</td>
<td>3</td>
</tr>
<tr>
<td>Written Communication: English 255*, 295*, or 355*</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 201</td>
<td>4</td>
</tr>
<tr>
<td>Arts and Humanities*</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total 120</strong></td>
<td></td>
</tr>
</tbody>
</table>

#### Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration 331-332</td>
<td>4</td>
</tr>
<tr>
<td>Business Administration 341-342</td>
<td>4</td>
</tr>
<tr>
<td>Ethics: Philosophy 243, 244, or 443</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 365, 471, 474, and 475</td>
<td>12</td>
</tr>
<tr>
<td>Business Administration 353 and 361</td>
<td>6</td>
</tr>
<tr>
<td>Finance 301</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total 120</strong></td>
<td></td>
</tr>
</tbody>
</table>

#### Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statistics 566, 572, and 573 (for graduate credit)</td>
<td>9</td>
</tr>
<tr>
<td>Collateral</td>
<td>6</td>
</tr>
<tr>
<td>Business Law 301</td>
<td>3</td>
</tr>
<tr>
<td>Management 401</td>
<td>3</td>
</tr>
<tr>
<td>Arts and Humanities*</td>
<td>3</td>
</tr>
<tr>
<td>Social Sciences*</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total 120</strong></td>
<td></td>
</tr>
</tbody>
</table>

+ 9 hours graduate credit

### Statistics Collateral Options

- **ECONOMICS** – Economics 311 (312) or 313, 381.
- **FINANCE** – Finance 425 (Accounting 301 corequisite) and one of Finance 435, 453, 475, 485.
- **INFORMATION MANAGEMENT** – Information Management 341, 342.
- **LOGISTICS** – Logistics 310, 411.
- **MARKETING** – Marketing 340, 350.
- **OPERATIONS MANAGEMENT** – Operations and Management Science 341, 441 or 421.

### Fifth Year

- First summer – Internship; Comprehensive exam over Statistics 572, 573.
- Fall – Statistics 561 (1), 563 (3), 579 (3), 587 (1), 592 (1), and Elective (3).
- Spring – Statistics 564 (3), 578 (3), and Elective (3).
- Second summer – Statistics 593 (3); Comprehensive exam over Statistics 563, 564.

**Total hours for Master of Science 33**

1. Meets University General Education Requirement. Must be completed by the end of the First Year.
2. Students who complete English 118, Honors English Composition, with a grade of A or B will complete their English Composition requirement by choosing English 102 or a Second Year literature course in the English Department. If the Second Year literature course appears on the list for the Arts and Humanities requirement, the course may also be counted toward the Arts and Humanities requirement.
3. Mathematics – Mathematics 141 is a prerequisite for Statistics 201, which is taken during the second semester of the First Year. As a result, Mathematics 141 must be completed by the end of the first semester of the First Year.
The College of Communication and Information fosters among students a sense of the legal and ethical responsibilities of access to information and the exercise of expression in a democratic society. Additionally, the college serves the professional goals of preparing students for careers in communication and information.

The college includes four schools – School of Advertising and Public Relations, School of Communication Studies, School of Information Sciences, and School of Journalism and Electronic Media. Four undergraduate majors are offered – advertising, communication studies, journalism and electronic media, and public relations. The four academic sequences have a core curriculum. This permits specialization at the junior and senior level.

Programs for which accrediting is available are fully accredited. The advertising, journalism and electronic media, public relations, and master’s program are accredited by the Accrediting Council on Education in Journalism and Mass Communications. Information Sciences is accredited by the American Library Association and the National Council for Accreditation of Teacher Education.

Exchange programs with the Dutch School of Journalism and Communication, Utrecht, and the Danish School of Journalism, Arthus, offer students an opportunity for a European semester. Tennessee students study European journalism and communication in the Netherlands or Denmark, but maintain their enrollment at the University of Tennessee, Knoxville, and pay only room, board, and transportation costs. A similar exchange program with Escuela de Comunicacion Monica Herrera in Ecuador also exists. Students also have an opportunity to study abroad as part of a summer study abroad program in Paris or as part of a communication consortium at Paderno del Grappa in Italy.

The college, or one of its units, is a member of the Advertising Research Foundation; American Academy of Advertising; American Advertising Federation; American Library Association; Association for Education in Journalism and Mass Communication; Association of Library and Information Sciences Education; Association of Schools of Journalism and Mass Communication; Broadcast Education Association; National Communication Association; Public Relations Society of America; Society of Professional Journalists; Southern States Communication Association; Special Libraries Association; Tennessee Library Association; and Tennessee Press Association.

### College Core Areas

Students in the Schools of Advertising and Public Relations, Communication Studies, and Journalism and Electronic Media take the following core areas.

- Overview/survey
- Writing
- Theory and research
- Free speech, law and ethics

Each unit designates a course (or courses) to fulfill the requirements.

### Satisfactory/No Credit Option

No course that is part of the specific requirements of the college or of a student's major can be taken under this option. With the exception of field experience courses or practica, this option applies only to general electives.

### Progression Requirements

Entering and transfer students are first associated with the college as pre-majors. They may progress into a major in communication studies or journalism and electronic media after completing at least 30 hours of coursework, including the college gateway course (Communication and Information 150), with a minimum 2.5 cumulative GPA.

Entering students and students from other University of Tennessee colleges may be considered for progression into major in advertising or public relations after completing the first-year curriculum in advertising and public relations with a minimum 2.75 cumulative GPA in these courses. Transfer students must complete the first-year curriculum and earn a minimum of 15 credit hours at the University of Tennessee, Knoxville, with a minimum 2.75 cumulative GPA. All applicants must submit a completed school application, statement of career goals, and an academic history.

At the completion of 45 hours, undecided students must be affiliated with the college as pre-majors or majors. (See the University of Tennessee, Knoxville, policy on University Students under Academic Policies and Procedures.) Communication and Information pre-majors must be accepted into a major before completion of 60 hours. Students transferring from other
University of Tennessee colleges with 60 or more hours of coursework must be eligible for admission to a major upon completion of the college gateway course, Communication and Information 150. Until students progress into a major, they may not enroll in college courses numbered 300 or above without approval.

Requirements for Graduation

The Bachelor of Science in Communication is awarded to majors who complete a program of at least 120 hours prescribed under the advertising, journalism and electronic media, or public relations requirements. At least 80 hours must be taken in courses other than journalism and mass communication, with no fewer than 65 hours from the College of Arts and Sciences. Students must achieve a cumulative grade point average of at least 2.0 in all college courses used to fulfill graduation requirements.

The Bachelor of Arts in Communication is awarded to communication studies majors who successfully complete the 120 hours prescribed under the communication studies requirements. Students must earn at least a C in all communication studies courses completed for the hours to count toward requirements for the major.

For both the BA and BS, at least 18 hours in major courses must be taken at the University of Tennessee, Knoxville.

Minors

Disciplinary minors are offered in communication studies, information studies and technology, and journalism and electronic media. An interdisciplinary minor in communication and information is available to students majoring in communication studies and students in majors outside the College of Communication and Information. At least six of the credit hours required for a minor must be completed at the University of Tennessee, Knoxville.

Minor in Communication and Information*

| Communication and Information 150 | 3 |
| 6 hours from Advertising 250, Communication Studies 201, Information Sciences 102, Journalism and Electronic Media 200 or 275, or Public Relations 270 | 6 |
| 9 hours of 300-level or above courses from one or more of the following areas: advertising, communication studies, information sciences, journalism and electronic media, or public relations | 9 |

Total 18

* Communication studies majors may not use communication studies courses to fulfill requirements for the minor.

SCHOOL OF ADVERTISING AND PUBLIC RELATIONS

http://www.cci.utk.edu/~advpr/

Ronald E. Taylor, Director

Professors

Haley, E., PhD .................................................. Georgia
Hovland, R., PhD .................................................. Illinois
Hoy, M., PhD .................................................. Oklahoma State
Taylor, R.E., PhD .................................................. Illinois

Associate Professors

McMillan, S., PhD .................................................. Oregon
Morrison, M., PhD .................................................. Georgia
White, C.L., PhD .................................................. Georgia

Assistant Professors

Blakeman, R., MA .................................................. Southern Methodist
Fall, L.T., PhD .................................................. Michigan State
Haygood, D., PhD .................................................. North Carolina
Palenchar, M., PhD .................................................. Florida
Riechert, B.P., PhD .................................................. Tennessee

ADVERTISING MAJOR

Requirements for the Bachelor of Science in Communication • Advertising Major

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102*</td>
<td>.6</td>
</tr>
<tr>
<td>Communication and Information 150</td>
<td>3</td>
</tr>
<tr>
<td>Anthropology 130*</td>
<td>3</td>
</tr>
<tr>
<td>2Natural Science Electives*</td>
<td>.8</td>
</tr>
<tr>
<td>Mathematics 119 or 123*</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics 125* or 141*</td>
<td>3.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertising 250</td>
<td>3</td>
</tr>
<tr>
<td>Public Relations 270</td>
<td>3</td>
</tr>
<tr>
<td>History 241*, 242* or 261*, 262*</td>
<td>.6</td>
</tr>
<tr>
<td>English Literature Electives*</td>
<td>.6</td>
</tr>
<tr>
<td>Economics 201*</td>
<td>4</td>
</tr>
<tr>
<td>Statistics 201*</td>
<td>3</td>
</tr>
<tr>
<td>Accounting 200</td>
<td>3</td>
</tr>
<tr>
<td>Advertising 310</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration 201</td>
<td>4</td>
</tr>
<tr>
<td>Psychology 110*</td>
<td>3</td>
</tr>
<tr>
<td>Advertising 340</td>
<td>3</td>
</tr>
<tr>
<td>Advertising 350</td>
<td>3</td>
</tr>
<tr>
<td>Advertising 360</td>
<td>3</td>
</tr>
<tr>
<td>Communication Studies 240*</td>
<td>3</td>
</tr>
<tr>
<td>Marketing 300</td>
<td>3</td>
</tr>
<tr>
<td>Management 300</td>
<td>3</td>
</tr>
<tr>
<td>Arts and Sciences Electives</td>
<td>3.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychology 360</td>
<td>3</td>
</tr>
<tr>
<td>Advertising 380</td>
<td>1</td>
</tr>
<tr>
<td>Advertising 450</td>
<td>3</td>
</tr>
<tr>
<td>Advertising 470</td>
<td>3</td>
</tr>
<tr>
<td>Advertising 480</td>
<td>3</td>
</tr>
<tr>
<td>Communication and Information Elective</td>
<td>3</td>
</tr>
<tr>
<td>Arts and Sciences Electives</td>
<td>6</td>
</tr>
<tr>
<td>General Electives</td>
<td>3.4</td>
</tr>
</tbody>
</table>

Total 120

* Meets University General Education Requirement.
1 Six hours of foreign language (same language) at the intermediate level.
2 This requirement is met by taking two courses from the General Education Natural Sciences (NS) list. At least one of the courses must have a laboratory.
3 Completion of one sequence. History 241-242 is the preferred sequence.
4 English Literature Electives – English 201 or 207, 202 or 208, 221, 222, 231 or 237, 232 or 238, 233, 251, 252, 253, 254.
5 Any course in Arts and Sciences not currently required.
6 Any course not taught in the College of Communication and Information.

NOTE: Students must meet the University General Education Requirement for Communicating through Writing by selecting a course with a (WC) designation. This course may be from the major or from another discipline.
### PUBLIC RELATIONS MAJOR

**Requirements for the Bachelor of Science in Communication • Public Relations Major**

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102*</td>
<td>.</td>
<td>6</td>
</tr>
<tr>
<td>Communication and Information 150</td>
<td>.</td>
<td>3</td>
</tr>
<tr>
<td>1Foreign Language*</td>
<td>.</td>
<td>3</td>
</tr>
<tr>
<td>Anthropology 130*</td>
<td>.</td>
<td>3</td>
</tr>
<tr>
<td>2Natural Science Electives*</td>
<td>.</td>
<td>8</td>
</tr>
<tr>
<td>Mathematics 119 or 123*</td>
<td>.</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics 125* or 141*</td>
<td>.</td>
<td>3-4</td>
</tr>
</tbody>
</table>

**Second Year**

| Advertising 250 | . | 3 |
| Public Relations 270 | . | 3 |
| 3History 241*, 242* or 261*, 262* | . | 6 |
| Journalism and Electronic Media 200* | . | 3 |
| Economics 201* | . | 4 |
| Statistics 201* | . | 3 |
| Accounting 200 | . | 3 |
| 4English Literature Electives* | . | 6 |

**Third Year**

| Business Administration 201 | . | 4 |
| Psychology 110* | . | 3 |
| Journalism and Electronic Media 333 | . | 3 |
| Advertising 340 | . | 3 |
| Advertising 310 | . | 3 |
| Public Relations 320 | . | 3 |
| Public Relations 370 | . | 3 |
| Communication Studies 240* | . | 3 |
| Marketing 300 | . | 3 |
| 5Arts and Sciences Elective | . | 3 |

**Fourth Year**

| Psychology 360 | . | 3 |
| Public Relations 470 | . | 3 |
| Public Relations 380* | . | 1 |
| Communication Studies 440 or Psychology 440 | . | 3 |
| Communication and Information Elective | . | 3 |
| Journalism and Electronic Media 400 | . | 3 |
| 5Arts and Sciences Electives | . | 9 |
| 6General Elective | . | 1 |

Total 120-121

---

* Meets University General Education Requirement.
* 1 Six hours of foreign language (same language) at the intermediate level.
* 2 This requirement is met by taking two courses from the General Education Natural Sciences (NS) list. At least one of the courses must have a laboratory.
* 3 Completion of one sequence. History 241-242 is the preferred sequence.
* 4 English Literature Electives – English 201 or 207, 202 or 208, 221, 222, 231 or 237, 232 or 238, 233, 251, 252, 253, 254.
* 5 Any course in Arts and Sciences not currently required.
* 6 Any course not taught in the College of Communication and Information.

### COMMUNICATION STUDIES MAJOR

**Requirements for the Bachelor of Arts in Communication • Communication Studies Major**

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication and Information 150</td>
<td>.</td>
<td>3</td>
</tr>
<tr>
<td>Communication Studies 201</td>
<td>.</td>
<td>3</td>
</tr>
<tr>
<td>English 101*, 102*</td>
<td>.</td>
<td>3</td>
</tr>
<tr>
<td>Quantitative Reasoning Elective*</td>
<td>.</td>
<td>3</td>
</tr>
<tr>
<td>Psychology 110*</td>
<td>.</td>
<td>3</td>
</tr>
<tr>
<td>2Natural Sciences*</td>
<td>.</td>
<td>8</td>
</tr>
<tr>
<td>3Arts and Humanities Elective*</td>
<td>.</td>
<td>3</td>
</tr>
<tr>
<td>General Elective</td>
<td>.</td>
<td>1</td>
</tr>
</tbody>
</table>

**Second Year**

| Communication Studies 210* or 240* | . | 3 |
| Communication Studies 250 or 270 | . | 3 |
| 4Social Sciences Elective* | . | 3 |
| History 241*, 242* or 261*, 262* | . | 6 |
| Mathematics 115* or Statistics 201* | . | 3 |
| 3Arts and Humanities Elective* | . | 3 |
| 4Foreign Language* | . | 6 |
| 7Advanced Composition Elective* | . | 3 |

**Third Year**

| Communication Studies 300, 310, 320, or 330 | . | 3 |
| Communication Studies 340 | . | 3 |
| Communication Studies 350 | . | 3 |
| 6Communication Studies Electives | . | 6 |
| College Elective | . | 3 |
| 8Arts and Sciences Electives | . | 6 |
| General Electives | . | 6 |

**Fourth Year**

| Communication Studies 499 | . | 3 |
| 8Communication Studies Elective | . | 3 |
| 9Arts and Sciences Electives | . | 6 |
| 10College Electives | . | 6 |
| General Electives | . | 6 |

Total 120

---

* Meets University General Education Requirement.

* 1 Quantitative Reasoning (QR) Electives – Mathematics 113, 123, 125, 141, 142, 151, or 152.
* 2 This requirement is met by taking two courses from the General Education Natural Sciences (NS) list. Both the courses must have a laboratory.
* 3 Arts and Humanities Electives are any two courses from the Arts and Humanities (AH) General Education list.
* 4 Social Sciences Elective to be chosen from the Social Sciences (SS) General Education list.
* 5 Completion of one sequence. History 241-242 is the preferred sequence.
* 6 Six hours of one intermediate foreign language is required.
* 7 Three courses, two of which (6 hours) must be 400-level courses, and no more than one of which (3 hours) may be a 200-level course. Students who complete Communication Studies 210 may not count Communication Studies 240 toward the major. Students who complete Communication Studies 240 may not count Communication Studies 210 toward the major.
* 8 Three courses from the 200-level technical core may be counted toward the major. A total of no more than 3 hours each of Communication Studies 491 and 493 may be counted toward the major.

---

### SCHOOL OF COMMUNICATION STUDIES

http://www.cci.utk.edu/~commstudies/

John W. Haas, Director

**Associate Professors**

- Ambrester, M.L., PhD - Ohio
- Glenn, R.W., PhD - Northwestern
- Haas, J.W., PhD - Kentuck
- Violanti, M.T., PhD - Kansas

**Assistant Professors**

- Ambler, R.S., PhD - Ohio State
- Halone, K.K., PhD - Oklahoma
- Levine, K.J., PhD - Michigan State
HONORS PROGRAM IN COMMUNICATION STUDIES

The School of Communication Studies offers an honors program that provides an intense educational experience by challenging superior participating students. All students must complete the college prerequisite course, Communication and Information 150, and Communication Studies 207; 210 or 240; 250 or 270; 340 and 350. After completing these required courses with a cumulative GPA of 3.5, students are eligible to apply for admission to the communication studies honors program. Application forms are available in the school office, 293 Communications Building, and may be downloaded at http://www.cci.utk.edu/~commstudies.

Upon acceptance into the program, students are required to complete the following.

• Communication Studies 407 (9 hours to include three of four topics – health communication, interpersonal communication, organizational and team communication, public communication).
• Communication Studies 497, 498 (3, 3).
• Communication Studies 499 (3).

To graduate with honors, students must maintain a 3.5 cumulative GPA in all courses in the major and a 3.25 cumulative GPA in all university courses.

Minor in Communication Studies

Prerequisite to Minor

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication and Information 150</td>
<td>3</td>
</tr>
</tbody>
</table>

Required

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication Studies 201 or 207</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication studies courses (6 credit hours must be at the 400 level; no more than 3 hours may be at the 200 level; 210, 240, 445, 491, and 493 do not count toward the minor)</td>
<td>12</td>
</tr>
</tbody>
</table>

Total 18

SCHOOL OF INFORMATION SCIENCES

http://www.sis.utk.edu/

Edwin M. Cortez, Director

Professors

Cortez, E.M., PhD .................................................. Southern California
Pemberton, J.M., PhD .............................................. Tennessee
Tenopir, C., PhD ................................................. Illinois

Associate Professors

Bilal, D., PhD ....................................................... Florida State
Robinson, W.C., PhD ............................................. Illinois
Wang, P., PhD ...................................................... Maryland
Watson, J., EdD ................................................. Vanderbilt
Whitney, G., PhD ................................................. Michigan

Assistant Professors

Albright, K., PhD .................................................. Tennessee
Allard, S.L., PhD .................................................. Kentucky
Mehra, B., PhD ...................................................... Illinois
Sandusky, R.J., PhD ............................................. Illinois

Emeritus Faculty

Clark, N., PhD ...................................................... Ohio
Legg, J.R., PhD ................................................... Ohio
LePre, L., PhD ..................................................... Florida

JOURNALISM AND ELECTRONIC MEDIA MAJOR

Requirements for the Bachelor of Science in Communication • Journalism and Electronic Media Major

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>Communication and Information 150</td>
<td>3</td>
</tr>
<tr>
<td>Intermediate Foreign Language*</td>
<td>6</td>
</tr>
<tr>
<td>Psychology 110*</td>
<td>3</td>
</tr>
<tr>
<td>Natural Sciences Electives*</td>
<td>7-8</td>
</tr>
<tr>
<td>Quantitative Reasoning Electives*</td>
<td>6-8</td>
</tr>
</tbody>
</table>

118
Second Year
Journalism and Electronic Media 200* .................................. 3
Journalism and Electronic Media 275 .................................... 3
Political Science 102* ....................................................... 3
Economics 201* .............................................................. 4
4Cultural Studies Electives* .................................................. 6
Communication Studies 210* or 240* ..................................... 3
5English Literature Electives* .................................................. 6
6Arts and Sciences Elective ..................................................... 3

Third Year
Journalism and Electronic Media 457 or 465 .......................... 3
7Journalism and Electronic Media Track ................................ 6
8Journalism and Electronic Media Elective ............................ 3
Journalism and Electronic Media 367 .................................... 3
9Political Science Elective .................................................... 3
6Arts and Sciences Electives .................................................. 6
10General Electives ........................................................... 3-6

Fourth Year
Journalism and Electronic Media 400 ................................. 3
11Communication and Information Elective ........................... 3
Journalism and Electronic Media 492 .................................... 1
7Journalism and Electronic Media Track ................................ 6
8Journalism and Electronic Media Elective (Upper-Level) ........ 3
6Arts and Sciences Electives .................................................. 6
10General Electives ........................................................... 3-6

Total 120

* Meets University General Education Requirement.
1 Six hours of intermediate foreign language (same language).
2 This requirement is met by taking two courses from the Natural Sciences (NS) General Education list. At least one of the courses must have a laboratory.
3 Mathematics 113 or 117, 115, 123, 125, 141 or 147, 142 or 148, 151, 152, 202.
4 Two courses from the Africana Studies 235, 236; Anthropology 120; Asian Studies 101, 102; History 241, 242, 255, 256, 261, 262; Medieval Studies 201, 202.
5 English 201 or 207, 202 or 208, 221, 222, 231 or 237, 232 or 238, 233, 251, 252, 253, 254.
6 Any course from the College of Arts and Sciences not currently required.
7 Any four courses listed within one track.

Media Management – Journalism and Electronic Media 302, 311 or 315, 320, 420, 480, 485.
8 Any journalism and electronic media course(s).
9 Political Science 315, 320, 321.
10 Any course not taught in the College of Communication and Information.
11 Any course within the College of Communication and Information (including journalism and electronic media courses).

NOTE: At least 30 credit hours in courses numbered 300 or above must be completed.

Minor in Journalism and Electronic Media

Prerequisite to Minor Hours Credit
Communication and Information 150 ................................. 3

Required
Journalism and Electronic Media 200 ................................. 3
Journalism and Electronic Media 333 or 275 ........................ 3

Electives
Journalism and Electronic Media courses
(6 credit hours must be at the 300-400 level) ....................... 9

Total 18

A student seeking a minor in journalism and electronic media must submit a petition to the Director of the School of Journalism and Electronic Media no later than the last semester prior to graduation. The petition should be accompanied by a list of taken and current courses that meet requirements for the minor, an academic history, and a current course schedule.
The College of Education, Health, and Human Sciences was created in 2002 from a merger of the former College of Education and the former College of Human Ecology. The merger of these two colleges, both with rich histories and exemplary records of achievement, resulted from a recognition of complementary institutional missions and a belief that the two colleges, as one, would become more effective in dealing with the complex challenges facing families, schools, and communities in the 21st century.

The union of Education and Human Ecology to form the College of Education, Health, and Human Sciences honors past independent accomplishments but is now focused on an interdependent future. The College of Education, Health, and Human Sciences is a people-centered college that is intent on enhancing significant aspects of the human condition.

The college, with its disciplines located at the intersection of many of society’s greatest challenges, is positioned to make a significant difference through its programs of study, research, and outreach. Recognizing that the strength of the college is greater than the sum of its parts, the college is subdivided into the following academic departments – Child and Family Studies; Educational Psychology and Counseling; Instructional Technology, Health, and Educational Studies; Nutrition; Exercise, Sport, and Leisure Studies; Retail, Hospitality, and Tourism Management; and Theory and Practice in Teacher Education.

Degrees and Majors

**Bachelor of Science in Education** – art education major; special education major (concentrations in education of the deaf and hard of hearing, educational interpreting, modified and early childhood special education); exercise science major; recreation and leisure studies major (concentrations in recreation and leisure administration, therapeutic recreation); and sport management major.

**Bachelor of Science in Human Ecology** – child and family studies major and nutrition major.

**Bachelor of Science in Service Management** – hotel, restaurant, and tourism major (concentrations in hotel and tourism management, restaurant and foodservice management); and retail and consumer sciences major.

Minors

The academic departments within the College of Education, Health, and Human Sciences offer minors in adolescent health, child and family studies, community health education, dance, elementary education (for Arts and Sciences students only), engineering communication and performance (for Engineering students only), gerontology (intercollegiate/interdisciplinary), middle grades education (for Arts and Sciences students only), nutrition, restaurant and foodservice management, retail and consumer sciences, secondary education, and tourism and hospitality management.

Students pursuing a minor must complete at least one-half of the required classes at the University of Tennessee, Knoxville, and all courses must be taken for a letter grade unless otherwise specified.

Admission to the College of Education, Health, and Human Sciences

Entering freshmen and transfer freshmen students (i.e., with fewer than 30 credit hours and a minimum 2.0 GPA) are eligible for admission to the College of Education, Health, and Human Sciences. Transfer students, with 30 or more credit hours completed and a minimum 2.3 GPA are eligible for admission to the college.

Typically, students who are admitted to the college are expected to have attained the minimum GPA (ranging from 2.4-2.7) necessary for admission/progression to the major, concentration, or program by the completion of 59 credit hours or the completion of lower division coursework (i.e., 100- and 200-level). Normally, students who fail to progress by the completion of 59 credit hours will be ineligible to enroll in most upper-division and specialized courses and, as a result, will significantly extend the time needed or negate their ability to earn a baccalaureate degree.

College advisors will assist students who fail to progress to identify other academic alternatives and, if necessary, to facilitate the transfer of those students to other academic units.
Progression to a Major, Concentration, or Program

Progression refers to the process during which a student demonstrates an aptitude to complete an academic major, concentration, or academic program. Typically, progression requirements include completion of prerequisite courses and attainment of a minimum grade point average. Some majors, concentrations, and programs also require applicants to attain certain minimum performance levels on standardized aptitude or achievement tests and a favorable recommendation from an interview panel. Academic majors, concentrations, and programs involving teaching or other interaction with children require applicants to submit to security checks. Upon successful progression (i.e., admission) to a major, concentration, or program, students must meet additional criteria in order to maintain good standing and to graduate or complete a program.

Complete progression requirements for each major or concentration are located in the following sections of this catalog. Progression requirements for the Teacher Education Program appear in the section entitled, Teacher Education at the University of Tennessee, Knoxville.

Advising

The mission of the Student Services Center is to provide academic program planning and related services to students in the College of Education, Health, and Human Sciences. The center, located in Claxton Complex A332, maintains a full-time staff of academic advisors to respond to students’ concerns regarding progression to academic programs, courses of study, academic petitions (e.g., course substitutions, etc.), and referrals to other campus services.

Course Load

Undergraduate students may enroll in a maximum of 19 credit hours during fall and spring semesters and for no more than 12 credit hours during summer term. Appeals to exceed these maximums should be directed to the college’s Assistant to the Dean for Student Services or to the Director of Undergraduate Student Services; decisions to approve overloads are based on a review of each student’s academic record but, typically, will not be granted to students with less than a 3.0 GPA.

Students who are granted permission by the university’s Dean of Graduate Studies to earn graduate credits (see Seniors Eligible for Graduate Credit) prior to earning a bachelor’s degree may enroll in no more than 15 credit hours per semester.

Course Credit

With permission of the instructor, an undergraduate student who has a minimum 3.0 GPA may enroll in a 500-level course for undergraduate credit. Exclusions include courses numbered 500, 502, and independent or directed study courses for which there are appropriate undergraduate course alternatives.

Grading

Students enrolled in the College of Education, Health, and Human Sciences may take courses graded on a Satisfactory/No Credit (S/NC) basis when letter grading (i.e., A–F) is not an option or in non-specified (i.e., free electives). Additionally, students must earn at least a C in major prefix courses and in any other course so identified by the major area faculty (see departmental sections for specific progression requirements for each major).

General Education Test for Seniors

The Tennessee Higher Education Commission (THEC) requires each public institution of higher education to evaluate the general education skills of the senior class. The College of Education, Health, and Human Sciences requires each of its senior students to take this general education test prior to graduation. The test results enable the University of Tennessee, Knoxville, to evaluate its general education program and to qualify for needed funding from the State of Tennessee. Students enrolled in programs that are scheduled to take a major field test are exempt from the general education testing.

Major Field Test for Seniors

The Tennessee Higher Education Commission (THEC) requires that each public institution for higher education to assess the knowledge and expertise of students within each major area of study. Each year, a subset of all major fields of study on campus is required to test all graduating seniors from those respective fields. The results from these tests enable the University of Tennessee, Knoxville, to evaluate and, where necessary, improve the quality of major fields of study. Students are informed in their senior year if they are required to take a major field test. Students enrolled in a major field of study that is scheduled to test majors are exempt from the general education testing that particular year.

Seniors Eligible for Graduate Credit

Students intending enter certain graduate programs and teacher education students who are required to finish a post-baccalaureate (5th Year) before earning a teacher license may qualify as seniors to take graduate courses that may be applied to a master’s degree.

Subject to approval by the Dean of Graduate Studies, a senior at the University of Tennessee, Knoxville, who needs fewer than 30 semester hours to complete requirements for a bachelor’s degree and has at least a B average (3.0) may enroll in graduate courses for graduate credit, provided the combined total of undergraduate and graduate courseworkwork does not exceed 15 credit hours per semester.

- Senior privilege is extended only to students working toward a first bachelor’s degree.
- Students who have met all requirements for graduation are not eligible for senior privilege.
- Approval must be obtained each semester at the Office of Graduate Student Services, P-105 Andy Holt Tower; (865) 974-2475. Form available online at: http://gradstudies.tennessee.edu.
- A maximum of nine hours of graduate credit at the 400- and 500-level can be obtained in this status.
- Some departments do not permit seniors to register for graduate courses without prior permission.
- Courses taken for graduate credit may not be used toward both the baccalaureate and a graduate degree.

Teacher Education at the University of Tennessee, Knoxville

The College of Education, Health, and Human Sciences is the administrative base for the majority of the university’s preparation programs for educators; the college has oversight responsibilities for those programs attached to other academic units. The Teacher Education Program at the University of Tennessee is accredited by the National Council for the Accreditation of Teacher Education (NCATE), www.ncate.org. This accreditation covers the initial teacher preparation programs and advanced educator preparation programs.

Admission to Teacher Education

A student desiring to become a teacher, regardless of college affiliation or academic major must be admitted to the Teacher Education Program. Admission to Teacher Education allows a student to enroll in upper-division professional courses. Admission includes, but is not limited, to the following.

1. Academic achievement – (a) minimum 2.7 cumulative GPA (except agriculture education, 2.5) including transfer
courses; (b) GPA based on completion of 45 credit hours in Agriculture Education and Special Education, 60 hours in Elementary Education and PreK-K, 75 hours in Secondary Education, and 90 hours in Early Childhood Education; (c) completion of specific courses prior to admission to the following teaching areas: mathematics education – Mathematics 141-142, plus at least six hours in 200-level mathematics; science education – at least eight hours of laboratory natural science; music education – Music Theory 210 and at least one semester in 200 level (applied) music; English education and foreign language education – minimum nine hours in 300-level in respective fields with minimum 3.0 GPA.

2. Standardized test performance – minimum 22 ACT (enhanced version)/21 ACT composite score; 1020 SAT (revised version)/920 total score; or State Board of Education determined passing scores on PRAXIS I (contact the college’s Student Services Center for current PRAXIS I scores).

3. Speech and hearing screening – prospective teachers, except for deaf applicants to deaf education, must perform within normal limits on measures of speech and hearing proficiency or participate in remedial therapy through the university’s Hearing and Speech Center. Deaf applicants need to inform the college’s Office of Teacher Education Admissions.

4. Security check – Criminal background checks will be performed to determine the appropriateness of each applicant’s request to enter teaching and, thus, to interact with children and youth.

Boards of Admission in Teacher Education

Applicants performing satisfactorily on the above criteria will be invited by the Office of Teacher Education Admissions to interview with a Board of Admission. Admission decisions will be based on the above admission criteria, as well as each applicant’s written application, oral expression, and expressed interest in teaching.

Admission is competitive and certain teaching fields have more qualified applicants than space available. Admission limitations are a function of the availability of faculty to serve students and to provide appropriate field placements. Interviews are conducted during fall and spring semesters; each board is comprised of content and pedagogy specialists, as well as a practitioner and an advanced student.

Maintaining Good Academic Standing in Teacher Education

To maintain good standing in the Teacher Education Program and to qualify for a degree and/or licensure as a teacher, students must perform adequately both in the university classroom and in the school(s). Students must maintain a minimum 2.7 cumulative GPA, establish or maintain a minimum 2.5 GPA in professional courses.

Complete details on maintaining good standing and completing the teacher licensure program are available through the College of Education, Health, and Human Sciences. Information regarding specific teaching fields and educational specialties is available at the following campus locations.

- Agriculture Education – 325 Morgan Hall
- Art Education – 1715 Volunteer Boulevard, 213 Art and Architecture Building
- Music Education – 1741 Volunteer Boulevard, 211A Music Building
- School Counseling – A525 Claxton Complex
- School Psychology – A525 Claxton Complex
- Speech and Hearing Education – 457 South Stadium Hall
- Social Work – 221 Henson Hall

Inquiries regarding business education, family and consumer sciences education, marketing education, and technology education are directed to 310 Jessie Harris Building.


Title II, HEA Compliance Report

Per requirements of Title II of the Higher Education Act, the College of Education, Health, and Human Sciences reports the following pass rates on State required licensure tests for the 2002-2003 Academic Year: The University of Tennessee 97%; State of Tennessee 95%.

DEPARTMENT OF CHILD AND FAMILY STUDIES

http://cfs.he.utk.edu

Vey M. Nordquist, Head

Professors

Barber, B., PhD ..........................  Brigham Young
Blanton, P., EdD ..........................  Tennessee
Cunningham, J., PhD ..........................  Michigan State
Fouts, H., PhD ..........................  Washington State
Fox, G., PhD ..........................  Michigan
Moran, J., PhD ..........................  Oklahoma State
Moran, J., PhD ..........................  Tennessee
Twardosz, S., PhD ..........................  Kansas

Associate Professors

Brandon, D., PhD ..........................  Tennessee
Malia, J.A., PhD ..........................  Iowa State
Smith, D., PhD ..........................  Oklahoma State
Tegano, D., PhD ..........................  Virginia Tech

Assistant Professors

Bordeaux, M., PhD ..........................  Tennessee
Hallam, R., PhD ..........................  Delaware
Stolz, H., PhD ..........................  Brigham Young
Moran, M., PhD ..........................  New Hampshire
Wass, T., PhD ..........................  Denver

ECE Internship Coordinators

Justice, D., MS ..........................  Tennessee
Stolt, A., MS ..........................  Tennessee

Undergraduate Practicum Coordinators

Fitzgerald, K., MS ..........................  New York
Malia, J.E., PhD ..........................  Iowa State
Prerequisites for the Practicum

The department’s major is designed for students whose educational and career goals are focused on studying and working with children and families within educational programs, community services, and other professional settings. The major is designed to accommodate the special interests or strengths of students and allows for flexibility and individualization. Students design a program of study in consultation with their advisor that includes a core of required courses, a complement of specialty courses supportive of individual interests, and a 12-hour practicum that will complete their program of study. All students graduating with a child and family studies major will have in-depth knowledge about children and families, a broad integrative perspective, and means for application.

In consultation with their faculty advisor, students will select at least 27 credit hours from the list of courses meeting departmental requirements for specialty areas. Students must complete a total of three specialty areas of 9 credit hours each.

Students electing to pursue the Early Childhood Education Teacher Licensure (PreK-K) or the Early Childhood Education Teacher Licensure Preparation (PreK-3) specialty areas will take a total of 34 credit hours in this specialty area plus an additional 3 credit hours from their advanced social science electives.

Students wishing to emphasize the advanced child development specialty area may satisfy two of their three specialty areas by taking 18 credit hours in that area. A course may be counted in one specialty area only and may not be used to fulfill any other elective requirement.

Progression Requirements

Students are expected to know the criteria they must meet in order to progress into a practicum (Child and Family Studies 470, 472, 480, or 490) and to regularly monitor their progress in meeting these criteria. Students will not be allowed to progress into the practicum until these criteria are met. If students do not appear able to meet these criteria, they are encouraged to work closely with their advisor to plan an alternative educational program. Specific information on how to apply for the practicum is available from the student’s advisor. Students must work closely with their advisor to ensure that they understand the requirements for progression and that they strictly follow the application process for the practicum experience of their choice.

Prior to the Practicum

• Obtain written permission from the academic advisor to apply for the practicum and complete the application one year prior to the intended practicum semester.
• Complete the self-disclosure forms allowing university personnel to obtain student conduct and criminal background information one year prior to the intended practicum semester. The department’s Undergraduate Committee will evaluate any negative background check.

Prerequisites for the Practicum

• Completion of all prerequisites enforced by the registration system.
• A cumulative GPA of at least 2.5 (A cumulative GPA of at least 2.7, including transfer credits, is required for students electing the Child and Family Studies 470 or 472 practicum option).
• A minimum grade of C in all child and family studies courses.

Certified Family Life Educator

Students interested in applying for certification as a Family Life Educator through the National Council on Family Relations must complete 5 courses from the Family Life Education specialty area: Child and Family Studies 240, 345, 360, 440, and Counselor Education 480. These courses are in addition to the Child and Family Studies core courses. Contact your advisor for specific information about becoming a Certified Family Life Educator through the department’s approved program of study.

Early Childhood Education Teacher Licensure (PreK-K)

The child and family studies major provides the undergraduate preparation needed for a student who would like to be licensed to teach early childhood education in the State of Tennessee (Pre-K-K). This licensure program prepares students to teach children with and without disabilities, birth through age 5. Students who wish to pursue this licensure must complete the Early Childhood Education Teacher Licensure: Pre-K-K specialty area. Upon completion of 60 undergraduate hours, including completion of Child and Family Studies 350, students will complete the admission process to Pre-K-K Teacher Education. Students interested in this licensure should work closely with their advisor to ensure that they understand and meet teacher education program requirements and that they strictly follow the application process.

Early Childhood Education Teacher Licensure (PreK-3)

The child and family studies major can provide the undergraduate preparation needed for a student who would like to be licensed to teach early childhood education in the State of Tennessee (Pre-K-3). The early childhood education licensure option is offered in conjunction with a master’s degree in child and family studies (early childhood education concentration). Students who wish to pursue this option must take the early childhood education-licensure specialty area as an undergraduate. Upon attainment of senior status (i.e., 90 hours), students will complete the admission to Teacher Education process (see details in the teacher education section of this catalog) and simultaneously make application for admission to the MS with a major in child and family studies (See the Graduate Catalog for details.) Acceptance into the teacher licensure program is contingent upon acceptance into the department’s master’s program. Students interested in this option should work closely with their advisor to ensure that they understand and meet the Teacher Education Program requirements and the requirements for graduate study and that they strictly follow the application process.

Requirements for the Bachelor of Science in Human Ecology • Child and Family Studies Major

<table>
<thead>
<tr>
<th>Year</th>
<th>First Year</th>
<th>Second Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hours</td>
<td>Credit</td>
</tr>
<tr>
<td>First Year</td>
<td>Child and Family Studies 101</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>1Natural Sciences Electives*</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>2Arts and Humanities Electives*</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Mathematics 113* or 123*</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Mathematics 115* or 202*</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td>Second Year</td>
<td>Child and Family Studies 101</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>1Natural Sciences Electives*</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>2Arts and Humanities Electives*</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Mathematics 113* or 123*</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Mathematics 115* or 202*</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Elective</td>
<td>3</td>
</tr>
</tbody>
</table>
Third Year
8 Child and Family Studies 211 or 213 .................................................. 3
Child and Family Studies 320 .......................................................... 3
Child and Family Studies 385 .......................................................... 3
Child and Family Studies 395 .......................................................... 3
6 Specialty Area Electives ................................................................. 15
6 Advanced Social Sciences Electives .................................................. 6

Fourth Year
Child and Family Studies 405* ........................................................... 3
10 Child and Family Studies 470, 472, 480, or 490 .............................. 12
6 Specialty Area Electives ................................................................. 6
9 Advanced Social Sciences Electives .................................................. 6
7 Electives ....................................................................................... 4

Total 125

* Meets University General Education requirement.

Note: Students must meet the General Education Requirement for Communicating through Writing and Communicating Orally by selecting a course with a (WC) designation and a course with an (OC) designation. These courses may be in the major or from another discipline.

1 Select one of the following courses – Astronomy 161-162, Biology 101-102, 111-112, Chemistry 100-110, Chemistry 120-130, Geography 131-132, or Geology 101 and 102, or 103.

2 Select two courses from the list of courses meeting the University General Education Requirement for Arts and Humanities (AH).

3 Any two History-prefix courses may be chosen. (A non-U.S. History sequence is needed to meet the College of Arts and Science’s history requirement.)

4 A sequence of a modern foreign language at the 200-level or above must be selected. Consult the University General Education Requirement for the intermediate foreign language courses listed under the Cultures and Civilizations (CC) category for courses approved to meet this requirement.

5 Select one of the following sequences – Psychology 110-220 or Sociology 110-120 (The sociology sequence meets the Social Science General Education Requirement).

6 A minimum of 27 hours must be chosen, in consultation with a faculty advisor, from a list of courses meeting departmental requirements for specialty areas. Teacher Licensure students, both PreK-K and PreK-3, must take 34 hours of specialty area electives plus 3 additional hours from their Advanced Social Science elective requirement.

7 At least 48 hours in 300-400 level courses are required.

8 Early Childhood Education Teacher Licensure students, both PreK-K and PreK-3, must take Child and Family Studies 211.

9 A total of 12 hours selected from 300-400 level CFS courses or 300-400 level Sociology, Psychology, Political Science, or Anthropology courses. Early Childhood Education Teacher Licensure students must take Child and Family Studies 353 to fulfill 3 of the required 12 hours.

10 Child and Family Studies 480 and 490 require a cumulative GPA of 2.5 (2.7 for Child and Family Studies 470 and 472, including transfer credits); completion of all prerequisites enforced by the registration system; a minimum grade of C in all child and family studies courses; completed application; student conduct and criminal background clearance. Child and Family Studies 470, 472, and 480 must be completed in one semester. Child and Family Studies 490 may be completed over several semesters.

Specialty Areas
Specialty electives are grouped into specialty areas. Students must complete a total of three specialty areas of 9 credit hours each. Students electing to pursue the Early Childhood Education Teacher Licensure (PreK-K) or the Early Childhood Education Teacher Licensure Preparation (PreK-3) specialty areas will take a total of 34 credit hours in this specialty area plus an additional 3 credit hours from their advanced social science electives. Students wishing to emphasize the advanced child development specialty area may satisfy two of their three specialty areas by taking 18 credit hours in that area. A course may be counted in one specialty area only and may not be used to fulfill any other elective requirement. Check the Undergraduate Catalog for any prerequisites required for these courses.
Minor in Child and Family Studies

Child and Family Studies 210, 220, and one of 211, 213, or 320 . . . . .9
Select 9 hours from Child and Family Studies 211, 213, 240, 312, 320, 345, 360 . 9

Total 18

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY AND COUNSELING

R. Steve McCallum, Head
Tricia McClam, Associate Head

Professors
Bogue, E.G., Ed.D ...................................................... Memphis State
Brockett, R., Ph.D ....................................................... Syracuse
George, T. (Associate Dean), Ed.D .................................... Tennessee
Greenberg, K., Ph.D ..................................................... George Peabody
Huck, S., Ph.D .......................................................... Northwestern
Kronick, R., Ph.D ......................................................... Tennessee
McCallum, R.S., Ph.D .................................................. Georgia
McClam, T., Ph.D ...................................................... South Carolina
Mertz, N., Ed.D .......................................................... Columbia
Peters, J., Ed.D .......................................................... North Carolina State
Peterson, M., Ph.D ....................................................... Ohio State
Skinner, C., Ph.D ......................................................... Lehigh
Williams, R., Ph.D ....................................................... George Peabody
Woodside, M., Ed.D ...................................................... Virginia Tech

Associate Professors
Bain, S., Ph.D .......................................................... Southern Mississippi
Diambra, J., Ed.D ....................................................... William & Mary
Studer, J., Ed.D .......................................................... Toledo
Ziegler, M., Ed.D ........................................................ Columbia

Assistant Professors
Paulus, T., Ph.D ........................................................ Indiana
Skinner, A., Ph.D ......................................................... Mississippi State
Strayhorn, T.L., Ph.D ................................................... Virginia Tech

Research Professors
Colvin, C., Ed.D ........................................................ Virginia
Grubbs, L.A., Ph.D ...................................................... Tennessee
Mulkey, S., Ph.D ........................................................ Florida State

Minor in Engineering Communication and Performance

The engineering communication and performance minor is available for engineering students desiring additional training and certification in team facilitation and organizational communication. (See College of Engineering – Engineering Fundamentals section of this catalog.)

Hours Credit
Counselor Education 206 .................................................. 3
Counselor Education 308 .................................................. 3
Counselor Education 406 .................................................. 3
Two of the following courses – Psychology 360, Management 440, Communication Studies 420, 440 .................................. 6

Total 15

DEPARTMENT OF EXERCISE, SPORT, AND LEISURE STUDIES

http://web.utk.edu/~sals/

Joy T. DeSensi, Head

Professors
Bassett, Jr., D., PhD ...................................................... Wisconsin
DeSensi, J.T., Ed.D ....................................................... North Carolina (Greensboro)
Hayes, G.A., PhD ......................................................... North Texas State
Howley, E., PhD ........................................................ Wisconsin
Wrisberg, C.A., PhD ..................................................... Michigan

Associate Professors
Kelley, D.R., PhD ......................................................... Georgia State
Thompson, D., PhD ..................................................... Virginia
Zhang, S., PhD ........................................................ Oregon

Assistant Professors
Bemiller, J., JD .......................................................... Tennessee
Fairbrother, J., Ph.D ...................................................... Florida State
Fisher, L.A., Ph.D ......................................................... California (Berkeley)
Fitzhugh, E., Ph.D ......................................................... Alabama
Hardin, R.L., Ph.D ......................................................... Tennessee
Klein, D., Ph.D .......................................................... Arizona State
Ko, P., Ph.D .............................................................. Florida State
McCutchen, M.G., Ed.D ................................................ North Carolina (Greensboro)
Milner, C.E., PhD ......................................................... Leeds (UK)
Waller, S.N., PhD ......................................................... Michigan State

Faculty Associate
Wirtz, M., MS ............................................................. Florida

Internship Coordinator
Brown, L.Y., MS ........................................................ Tennessee

PEAP Program Coordinator
Caltignani, E., MS ......................................................... Tennessee

EXERCISE SCIENCE MAJOR

Progression Requirements

Progression to the exercise science major requires a minimum undergraduate cumulative GPA of 2.5 after a minimum of 45 hours of coursework and completion of Exercise Science 100, Chemistry 120, and Physics 221.

Any professional course, taken before or after progression into the exercise science program, must be passed with a minimum letter grade of C. No professional courses with a grade below C will be counted toward the major. Professional courses are Biochemistry and Cellular and Molecular Biology 230, all exercise science courses, and all professional electives.

Students admitted into the exercise science major must maintain a minimum cumulative GPA of 2.5 thereafter to remain in good academic standing. Students with less than a 2.5 GPA for two consecutive semesters will be dropped from the program.

Students must have a minimum cumulative 2.5 GPA to be able to register for all 400-level exercise science classes.

Requirements for the Bachelor of Science in Education

Exercise Science 100 ....................................................... 1
English 101*, 102* ....................................................... 8
Mathematics 123* and 125* or 141*-142* or 151*-152* ............ 6-8
Chemistry 120*, 130* ..................................................... 8
Psychology 110* .......................................................... 3
Agriculture and Natural Resources 290 .................................. 3
Arts and Humanities Elective* .......................................... 3

*Proficiency in two activities
### Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physics 221*, 222*</td>
<td>8</td>
</tr>
<tr>
<td>Biochemistry and Cellular and Molecular Biology 230</td>
<td>5</td>
</tr>
<tr>
<td>Nutrition 100* or 300</td>
<td>3</td>
</tr>
<tr>
<td>Health 310</td>
<td>3</td>
</tr>
<tr>
<td>Communication Studies 210* or 240*</td>
<td>3</td>
</tr>
<tr>
<td>English 250* or 360*</td>
<td>3</td>
</tr>
<tr>
<td>Arts and Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Electrical Engineering Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Communication Studies 210* or 240*</td>
<td>3</td>
</tr>
</tbody>
</table>

### Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exercise Science 325, 332, 350</td>
<td>9</td>
</tr>
<tr>
<td>Sport Studies 290</td>
<td>3</td>
</tr>
<tr>
<td>Sport Studies 231, 335, or 336</td>
<td>3</td>
</tr>
<tr>
<td>English Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Marketing 300</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Professional Electives</td>
<td>6</td>
</tr>
<tr>
<td>Statistics 210* or Mathematics 115*</td>
<td>3</td>
</tr>
</tbody>
</table>

### Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exercise Science 411, 414, 422, 480</td>
<td>12</td>
</tr>
<tr>
<td>Health 425 or 435 or 465</td>
<td>3</td>
</tr>
<tr>
<td>Professional Electives</td>
<td>14</td>
</tr>
<tr>
<td>CPR Certification</td>
<td></td>
</tr>
</tbody>
</table>

Total 120-122

---

* Meets University General Education Requirement.

1. Proficiency in at least four activities. Proficiency: passing an activity course with a minimum grade of C or participation in an intercollegiate varisty sport. See advisor.

2. Professional elective courses passed with a minimum C grade. See advisor for appropriate courses.

3. Exercise Science students must have cumulative minimum GPA of 2.5 to register for and complete these courses.

4. Evidence of current CPR certification at time of graduation.

---

### RECREATION AND LEISURE STUDIES MAJOR

The professional disciplines that comprise recreation and leisure studies prepare students for management and administrative positions in recreation and leisure. The recreation and leisure administration concentration provides students with an understanding of the role and impact of recreation and leisure in achieving and sustaining socioeconomic and political order in an increasingly culturally diverse society. A business minor is built into the curriculum, which makes graduates more competitive in the job market. Graduates of the program pursue careers with city-county parks and recreation departments, state and national parks, resorts and theme parks, campus recreation and a variety of corporate settings.

The therapeutic recreation concentration prepares students for employment in management and leadership positions with agencies that deliver health care services. Graduates fulfill the eligibility requirements for National Council for Therapeutic Recreation Certification. Graduates are successful in securing employment in programs for mental health and mental retardation, physical rehab centers, drug and alcohol treatment centers and community-based programs.

A minimum of a 2.5 GPA is required for progression to and retention in the program.

### Requirements for the Bachelor of Science in Education

- Recreation and Leisure Studies Major - Therapeutic Recreation Concentration (Accredited in General Recreation by NRPA/AALR)

#### First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>Quantitative Reasoning*</td>
<td>6</td>
</tr>
<tr>
<td>Chemistry 100* or 110*</td>
<td>8</td>
</tr>
<tr>
<td>Child and Family Studies 210*</td>
<td>3</td>
</tr>
<tr>
<td>Recreation and Leisure Studies 201</td>
<td>4</td>
</tr>
<tr>
<td>Philosophy 246 *</td>
<td>3</td>
</tr>
<tr>
<td>Arts and Humanities*</td>
<td>6</td>
</tr>
<tr>
<td>Recreation and Leisure Studies 210*</td>
<td>4</td>
</tr>
<tr>
<td>Communication Studies 210* or 240*</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>4</td>
</tr>
</tbody>
</table>

#### Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recreation and Leisure Studies 310, 415</td>
<td>6</td>
</tr>
<tr>
<td>Sport Management 450, 370, Recreation and Leisure Studies 440, 470</td>
<td>6</td>
</tr>
<tr>
<td>Recreation and Leisure Studies 390</td>
<td>2</td>
</tr>
<tr>
<td>Health 310</td>
<td>3</td>
</tr>
<tr>
<td>Marketing 300</td>
<td>3</td>
</tr>
<tr>
<td>Finance 301</td>
<td>3</td>
</tr>
<tr>
<td>Management 300</td>
<td>3</td>
</tr>
<tr>
<td>Safety 443; Forestry 321, 423; Political Science 330, 340; Hotel and Restaurant 425</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Sciences Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Recreation and Leisure Studies 410, 430</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>9</td>
</tr>
</tbody>
</table>

Total 120-121

---

* Meets University General Education Requirement.

1. Must be a Communicating through Writing (WC) course.

2. Recreation and Leisure Studies 290 and 390 are for majors only and are required prior to enrolling in senior internship.

3. A 2.5 GPA is required for enrollment in Recreation and Leisure Studies 310 and 490.

4. Courses must be in addition to those specified for the major.


NOTE: A 2.5 GPA is required for progression to the major. A minimum of 48 upper-division hours is required for graduation.

### Requirements for the Bachelor of Science in Education

- Recreation and Leisure Studies Major - General Recreation Concentration (Accredited in General Recreation by NRPA/AALR)

#### First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>Quantitative Reasoning*</td>
<td>6</td>
</tr>
<tr>
<td>Chemistry 100* or 110*</td>
<td>8</td>
</tr>
<tr>
<td>Child and Family Studies 210*</td>
<td>3</td>
</tr>
<tr>
<td>Recreation and Leisure Studies 201</td>
<td>4</td>
</tr>
<tr>
<td>Psychology 110*</td>
<td>3</td>
</tr>
<tr>
<td>Health 310</td>
<td>3</td>
</tr>
<tr>
<td>Recreation and Leisure Studies 201</td>
<td>4</td>
</tr>
<tr>
<td>Social Sciences Elective*</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recreation and Leisure Studies 310, 415</td>
<td>6</td>
</tr>
<tr>
<td>Recreation and Leisure Studies 390</td>
<td>2</td>
</tr>
<tr>
<td>Recreation and Leisure Studies 310, 330</td>
<td>6</td>
</tr>
<tr>
<td>Recreation and Leisure Studies 390</td>
<td>2</td>
</tr>
<tr>
<td>Sport Studies 290</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
</tr>
<tr>
<td>4Electives</td>
<td>9</td>
</tr>
</tbody>
</table>

Total 123-124

---

1. Must be a Communicating through Writing (WC) course.

2. Recreation and Leisure Studies 290 and 390 are for majors only and are required prior to enrolling in senior internship.

3. A 2.5 GPA is required for enrollment in Recreation and Leisure Studies 310 and 490.

4. Courses must be in addition to those specified for the major.

* Meets University General Education Requirement.
1 Recreation and Leisure Studies 290 and 390 are for majors only and are required prior to enrolling in senior internship.
2 Courses must be in addition to those specified for the major and must be elected from child and family studies, psychology, sociology, health, safety, recreation and leisure studies, special education, exercise science, sport studies.
3 A 2.5 GPA is required for enrollment in Recreation and Leisure Studies 310 and 490.
4 Must select one course from this group.
5 Must meet guidelines for national NCTRC certification.

NOTE: A 2.5 GPA is required for progression to the major. A minimum of 48 upper-division hours is required for graduation.

SPORT MANAGEMENT MAJOR

The sport management major is designed for students interested in working in the sport industry. The program combines sport management and sport studies with a minor in business administration. The program concludes with a semester-long internship experience.

Progression Requirements

Students must submit an application upon meeting the following minimum criteria.

- Minimum of 30 semester hours earned.
- Minimum 2.5 GPA for all college work.
- Completion of Sport Management 100 and 250 with a grade of C or better.
- Completion of English 101 and 102, and Mathematics 125 or 141.

Board of Admissions

The Board of Admissions consists of the sport management program faculty and will meet at the end of each term to review applications. Applications must be submitted by December 1, May 1, or August 1 to be considered for the following term.

The Board of Admissions will base admissions decisions on applicants' academic qualifications, oral and written communication skills, experience in sport management, and expressed interest in sport management.

Retention

Students admitted to the sport management major must maintain a minimum cumulative GPA of 2.5 to remain in good academic standing. Students who drop below the minimum for one semester will be advised of their status by letter. Students who are below the minimum for two semesters will be advised by letter that they have dropped from the major.

Requirements for the Bachelor of Science Education

*Sport Management Major*

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>Cultures and Civilization Electives*</td>
<td>6</td>
</tr>
<tr>
<td>Social Science Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Sport Management 100</td>
<td>3</td>
</tr>
<tr>
<td>Arts and Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 101</td>
<td>1</td>
</tr>
<tr>
<td>Mathematics 125* or 141*</td>
<td>3-4</td>
</tr>
<tr>
<td>General Electives</td>
<td>7</td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting 200</td>
<td>3</td>
</tr>
<tr>
<td>Economics 201*</td>
<td>4</td>
</tr>
<tr>
<td>Business Administration 201</td>
<td>4</td>
</tr>
<tr>
<td>Natural Sciences Electives*</td>
<td>7-8</td>
</tr>
<tr>
<td>Communication Studies 210* or 240*</td>
<td>3</td>
</tr>
<tr>
<td>Sport Management 250, 290*</td>
<td>6</td>
</tr>
<tr>
<td>Statistics 201*</td>
<td>3</td>
</tr>
</tbody>
</table>

**Third Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1Management 300</td>
<td>3</td>
</tr>
<tr>
<td>1Finance 301</td>
<td>3</td>
</tr>
<tr>
<td>1Marketing 300</td>
<td>3</td>
</tr>
<tr>
<td>Sport Management 350*, 390**</td>
<td>6</td>
</tr>
<tr>
<td>Arts and Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Sport Studies 335</td>
<td>3</td>
</tr>
<tr>
<td>Communicating through Writing Elective*</td>
<td>3</td>
</tr>
<tr>
<td>General Electives</td>
<td>6</td>
</tr>
</tbody>
</table>

Total 120-122

* Course may be repeated for up to 12 credit hours.
** Course may be repeated for up to 16 credit hours.

Minor in Dance

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dance 480</td>
<td>.3</td>
</tr>
<tr>
<td>Dance 490</td>
<td>.3</td>
</tr>
<tr>
<td>Dance 440</td>
<td>.2</td>
</tr>
<tr>
<td>Dance 445</td>
<td>.2</td>
</tr>
<tr>
<td>Select from Dance 310*, 320*, 330*, 340, 410**, 420**, 430**</td>
<td>.10</td>
</tr>
<tr>
<td>Dance 415</td>
<td>.2</td>
</tr>
<tr>
<td>Dance 440</td>
<td>.2</td>
</tr>
<tr>
<td>Dance 445</td>
<td>.2</td>
</tr>
<tr>
<td>Dance 495</td>
<td>.3</td>
</tr>
</tbody>
</table>

Total 21

* Meets University General Education Requirement.
1 Business Administration minor requirement.

**DEPARTMENT OF INSTRUCTIONAL TECHNOLOGY, HEALTH, AND EDUCATIONAL STUDIES**

http://itis.tennessee.edu
http://hes.utk.edu
Barbara Thayer-Bacon, Interim Head

**Professors**

Counts, E., EdD ............................................ Texas A&M
Gorski, J., DrPH ........................................... UCLA
Hamilton, C., DrPH ......................................... Oklahoma
Petty, G., PhD ............................................. Missouri
Thayer-Bacon, B., PhD ................................... Indiana
Waugh, M., EdD ........................................... Georgia

**Associate Professors**

Connelly, M., EdD ......................................... Virginia Tech
O’Bannon, B., EdD ......................................... Memphis
Pursley, R., PhD ........................................... Iowa
Smith, S., EdD ............................................ Tennessee
Wright, H., PhD ........................................... Toronto (Canada)

**Assistant Professors**

Moyer, D., PhD ............................................. Ohio State
Plaffman, J., PhD ......................................... Vanderbilt
Skolits, G., EdD ........................................... ETSU
Minor in Adolescent Health

Health 305 (required) ............................................. 3
Select 9 hours from Health 310, 405, 406, 420, 430, 435; Nutrition 100, 300; Safety 443; Child and Family Studies 213 .......... 9
Total 12

Minor in Community Health Education

Required Courses Hours Credit
Health 300, 330, 426, 475 ........................................... 12
Public Health 300, 305 .................................................. 6
Psychology 430 ........................................................... 3
Total 21

Minor in Gerontology (Intercollegiate/Interdisciplinary)

An intercollegiate/interdisciplinary undergraduate gerontology minor is coordinated through the interdisciplinary Gerontology Colloquy group members from the College of Education, Health, and Human Sciences; the College of Nursing; and the College of Social Work. Courses from these colleges are available under the gerontology minor.

Required Courses Hours Credit
9 hours from Child and Family Studies; Health 406, 465; Sociology 415; Nursing 400; and other courses approved by the Interdisciplinary Gerontology Colloquy member coordinating the minor ......................................................... 9
3 hours from a practicum experience (within the home department) or Nursing 402 ........................................................... 3
Total 12

DEPARTMENT OF NUTRITION

http://nutrition.utk.edu

Jay Whelan, Head

Professors
Haughton, B., EdD .................................................. Columbia
Karlstad, M., PhD .................................................. Loyola
Moussa, N., PhD .................................................. Paris
Whelan, J., PhD .................................................. Penn State
Zemel, M., PhD .................................................. Wisconsin

Associate Professors
Bailey, J., PhD .................................................. Iowa State
Burney, J., PhD .................................................. Tennessee
Greer, B., PhD .................................................. Tennessee

Assistant Professors
Bittle, J., PhD .................................................. Tennessee
Hansen-Petrik, M., PhD ............................................. Tennessee
Jahns, L., PhD .................................................. North Carolina
Kim, J., PhD .................................................. Tennessee
Truett, G., PhD .................................................. Georgia

Lecturer
Wetterhall, K., MS .................................................. Boston

Emeritus Faculty
Sachan, D., PhD .................................................. Illinois
Skinner, J., PhD .................................................. Oregon State

The Department of Nutrition promotes an understanding of nutrition for the enhancement of the physiological and social well-being of individuals and families across the lifespan through teaching, research and service. Students learn about nutritional needs from the smallest unit of the cell to the individual's needs throughout the lifecycle; the ways that attitudes and beliefs influence food patterns; the management of resources in food service and the properties of foods. Thus, departmental programs service society through graduates who are able to interpret and contribute to social needs in regard to nutrition and wellness, both as professionals and as responsible citizens.

The professional discipline of nutrition is rooted firmly in general education and provides a clearly defined base of professional knowledge. The foundation for the major includes basic sciences, i.e., chemistry, microbiology, physiology, and psychology. The natural sciences provide a base for understanding nutrient functions in the body and the social sciences to better understand cultural aspects of food and food related consumer needs.

In addition, students with a strong research interest may prepare for research-oriented careers in laboratories or as graduate students in nutrition or other biomedical disciplines.

NUTRITION MAJOR

This major is designed for students interested in basic and applied sciences. Students are expected to acquire advanced education in chemistry. The Bachelor of Science in Human Ecology with a major in nutrition is currently granted approval status by the Commission of Accreditation/Approval for Dietetics Education of the American Dietetic Association, 120 S. Riverside Plaza, Chicago, Illinois 60606-6995, (312) 899-0040, url http://www.eatright.org/cade. These requirements are regarded as the basic education component for the preparation of persons entering the dietetic profession. The generalist emphasis of this program prepares individuals to enter the dietetic profession in general dietetics and includes nutrition, foodservice systems management, management theory and principles and communication sciences including computer and statistical applications. Graduates are prepared to enter accredited dietetic internships. An internship experience completes academic and practice requirements for eligibility as a member of The American Dietetic Association and qualifies the graduate to apply for the Registration Examination to become a Registered Dietitian (RD). Students may receive more information from the department about RD requirements. RDs work as members of health care teams in acute care hospitals and community-based settings, home health care programs, college and university foodservice facilities, wellness clinics and private practice. Extension Service and food companies are also avenues of employment.

Progression Requirements

Students should apply for progression after completing Nutrition 100, 301, and Chemistry 350, and prior to enrolling in Nutrition 313 and 314. Applications are available in the departmental office or from the departmental Web site.

For progression into the major, students must meet the following criteria.

- Cumulative grade point average 2.4 or greater.
- Grade of C or better in each required nutrition prefix course.

For graduation, students must earn a grade of C or better in all required nutrition courses.

Requirements for the Bachelor of Science in Human Ecology • Nutrition Major

First Year Hours Credit
Chemistry 120, 130* .................................................. 8
English 101*, 102* .................................................. 8
Cultures and Civilizations Elective* ................................... 3
Mathematics 1191 and 125* ......................................... 6
Psychology 110* .................................................. 3
Nutrition 100* .................................................. 3
Social Sciences Elective* ............................................. 3

Second Year Hours Credit
Nutrition 201, 302 .................................................. 4
Chemistry 350 .................................................. 3
Hotel, Restaurant and Tourism 210 .................................. 3

Electives .................................................. 7
Third Year

Accounting 200 ................................................. 3
Electives ..................................................... 6
Cultures and Civilizations Elective* ................................. 3
Arts and Humanities Elective* .................................. 3
Nutrition 310, 313, 314 ................................... 10
Communication Studies 240* .................................. 3
Microbiology 210* ........................................... 3

Fourth Year

Electives ..................................................... 6
Hotel, Restaurant and Tourism 326, 341 ....................... 3
Arts and Humanities Elective* .................................. 3
Nutrition 303, 410, 412*, 415, 416, 420 ..................... 17

Total 120

* Meets University General Education Requirement.
Students must meet the University General Education Requirement for Communicating through Writing by selecting a course with a (WC) designation.
If a student successfully completes the proficiency exam for Math 119, those credit hours must be replaced with additional elective credit hours.

Minor in Nutrition

Nutrition 100, 302, 310, 313, 314 .................................. 16

Total 16

NOTE: All course prerequisites are required. A student must earn a grade of C or better in each course to successfully complete the requirements for this minor.

DEPARTMENT OF RETAIL, HOSPITALITY, AND TOURISM MANAGEMENT

http://rhtm.utk.edu
Nancy B. Fair, Head

Professors
Costello, C., PhD ........................................ Tennessee
Fair, N., PhD .................................................. North Carolina State
Fairhurst, A., PhD ........................................ Oklahoma State
Jolly, L., PhD .................................................. Oklahoma State

Associate Professors
Kim, Y., PhD .................................................. North Carolina
Morse, Steve, PhD .......................................... Tennessee
Wise, D., PhD ............................................... Texas A&M

Assistant Professors
Antun, J., PhD ............................................... South Carolina
Chen, R., PhD ................................................ North Carolina State
Costen, W., PhD .............................................. Washington State
Lim, H., PhD .................................................. Purdue

Internship Coordinators
Aasen, D., MS ............................................... Wisconsin (Stout)
Simpson, L., MS .............................................. Tennessee

Executive-in-Residence
Piper, C., BA .................................................. Maryville College

The mission of the Department of Retail, Hospitality, and Tourism Management is to provide nationally and internationally recognized interdisciplinary programs that prepare professionals and serve organizations in the public and private sectors through teaching, research, and technology transfer.

HOTEL, RESTAURANT, AND TOURISM MAJORS

The hotel, restaurant, and tourism major focuses on meeting the middle- and upper-level management needs of the food and lodging industry. It is a program that assists students in getting the breadth of knowledge, responsibility and creativity to meet the changing environment of complex management problems in industry. A business minor is built into the degree requirements.

The major requires extensive field experience. The curriculum provides a strong base in management and practical application of these skills. The general education electives help students to sharpen their analytical, conceptual, and communications abilities. Graduates may start as management trainees in restaurants, foodservice, hotels, support industries, or in tourism operations with subsequent upward mobility into management positions.

Progression Requirements

Students should apply for progression into the major after completing Hotel, Restaurant, and Tourism 210 or 211 and prior to entering Hotel, Restaurant, and Tourism 390. Applications for progression are available in the departmental office.

For progression into each concentration, students must meet the following criteria.

- Cumulative grade point average 2.3 or greater for at least 30 semester hours completed.
- Grade of C or better in all hotel, restaurant, and tourism prefix courses.
- Completion of English 102, 102, and Mathematics 125.
- Complete 300 post-secondary school hours of industry related work for the chosen major. A list of appropriate work experiences is available in the departmental office.

For graduation, students must earn a grade of C or better in all hotel, restaurant, and tourism courses.

Requirements for the Bachelor of Science in Service Management • Hotel, Restaurant, and Tourism Major

• Hotel and Tourism Management Concentration

First Year

English 101*, 102* ............................................. 6
Natural Sciences Electives* .................................... 7-8
Mathematics 119 or 123* and 125* ......................... 6
Arts and Humanities Electives* ............................... 6
Cultures and Civilizations Elective* ......................... 3

Second Year

Accounting 200 .................................................. 3
Statistics 201* .................................................. 3
Economics 201* ............................................... 4
Social Sciences Elective* ...................................... 3
Business Administration 201 ................................ 4
Hotel, Restaurant, and Tourism 210 ....................... 3
Hotel, Restaurant, and Tourism 211 ....................... 3
Hotel, Restaurant, and Tourism 224 ....................... 3
Hotel, Restaurant, and Tourism 311 ....................... 3
Elective ....................................................... 3

Third Year

Marketing 300 .................................................. 3
Management 300 ............................................... 3
Communication Studies 240* ............................... 3
Cultures and Civilizations Elective* ......................... 3
Retail and Consumer Sciences 341 ....................... 3
Hotel, Restaurant, and Tourism 326 ....................... 3
Hotel, Restaurant, and Tourism 360 ....................... 3
Hotel, Restaurant, and Tourism 423 ....................... 3
Hotel, Restaurant, and Tourism 390* ..................... 3
Hotel, Restaurant, and Tourism 392 ....................... 6
Hotel, Restaurant, and Tourism 450 ....................... 3

Fourth Year

Finance 301 ..................................................... 3
Hotel, Restaurant, and Tourism 410 ....................... 3
Hotel, Restaurant, and Tourism 425 ....................... 3
Hotel, Restaurant, and Tourism Elective .................. 3
Hotel, Restaurant, and Tourism 492 ....................... 9
Electives ....................................................... 4

Total 121-122
### Requirements for the Bachelor of Science in Service Management • Hotel, Restaurant, and Tourism Major
### • Restaurant and Foodservice Management Concentration

#### First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>Natural Sciences Electives*</td>
<td>7-8</td>
</tr>
<tr>
<td>Mathematics 119 or 123* and 125*</td>
<td>6</td>
</tr>
<tr>
<td>Arts and Humanities Electives*</td>
<td>6</td>
</tr>
<tr>
<td>Hotel, Restaurant, and Tourism 101</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting 200</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 201*</td>
<td>3</td>
</tr>
<tr>
<td>Economics 201*</td>
<td>4</td>
</tr>
<tr>
<td>Social Sciences Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 201</td>
<td>4</td>
</tr>
<tr>
<td>Culture and Civilizations Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Hotel, Restaurant, and Tourism 210</td>
<td>3</td>
</tr>
<tr>
<td>Retail and Consumer Sciences 341</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing 300</td>
<td>3</td>
</tr>
<tr>
<td>Management 300</td>
<td>3</td>
</tr>
<tr>
<td>Communication Studies 240*</td>
<td>3</td>
</tr>
<tr>
<td>Finance 301</td>
<td>3</td>
</tr>
<tr>
<td>Culture and Civilizations Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Hotel, Restaurant, and Tourism 311</td>
<td>3</td>
</tr>
<tr>
<td>Hotel, Restaurant, and Tourism 326</td>
<td>3</td>
</tr>
<tr>
<td>Hotel, Restaurant, and Tourism 341</td>
<td>1</td>
</tr>
<tr>
<td>Hotel, Restaurant, and Tourism 360</td>
<td>3</td>
</tr>
<tr>
<td>Hotel, Restaurant, and Tourism 423</td>
<td>3</td>
</tr>
<tr>
<td>Hotel, Restaurant, and Tourism 390*</td>
<td>3</td>
</tr>
<tr>
<td>Hotel, Restaurant, and Tourism 392</td>
<td>6</td>
</tr>
</tbody>
</table>

#### Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotel, Restaurant, and Tourism 410</td>
<td>3</td>
</tr>
<tr>
<td>Hotel, Restaurant, and Tourism 425</td>
<td>3</td>
</tr>
<tr>
<td>Hotel, Restaurant, and Tourism 445</td>
<td>3</td>
</tr>
<tr>
<td>Hotel, Restaurant, and Tourism Elective</td>
<td>3</td>
</tr>
<tr>
<td>Hotel, Restaurant, and Tourism 492</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total 121-122**

* Meets University General Education Requirement.

### Minor in Restaurant and Foodservice Management

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotel, Restaurant and Tourism 101, 210, 311, 326, 341, 445</td>
<td>15</td>
</tr>
</tbody>
</table>

**Total 15**

### Minor in Tourism and Hospitality Management

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotel, Restaurant and Tourism 210, 211, 224</td>
<td>9</td>
</tr>
<tr>
<td>Select two from Hotel, Restaurant, and Tourism 311, 423, 435, 450</td>
<td>6</td>
</tr>
</tbody>
</table>

**Total 15**

---

**RETAIL AND CONSUMER SCIENCES MAJOR**

Through a combination of classroom instruction and field-based experience, students prepare for entry-level positions in diverse occupations and for advanced education. The retail and consumer sciences major is one of the largest programs of this type in the southeast. Retailing is one of the fastest growing segments of our economy, and opportunities for employment will continue to be excellent through the 21st century.

Retail and consumer sciences provides students with knowledge of the retailing industry and the principles and theories involved in managing personnel and merchandising goods for the consumer. A business minor is built into the degree requirements. The progressive direction that this program takes provides graduates with excellent management opportunities in the retail sector.

This program requires field study experiences where students are guided by faculty in the selection of locations for on-the-job experiences related to their career area as a part of their educational program. Professional contacts made in field study experiences often lead to opportunities for career placement upon graduation.

### Progression Requirements

Students should apply for progression into the major after completing Retail and Consumer Sciences 210, and prior to entering Retail and Consumer Sciences 390. Applications for progression are available in the department office.

For progression into the major, students must meet the following criteria:

- Cumulative grade point average 2.3 or greater with a minimum of 30 semester hours completed.
- Grade of C or better in all retail and consumer sciences prefix courses.
- Completion of English 101, 102, and Mathematics 125.
- Complete 300 post-secondary school hours of industry-related work for the chosen major. A list of appropriate work experiences is available in the department office.

For graduation, students must earn a grade of C or better in all retail and consumer sciences courses.

### Requirements for the Bachelor of Science in Service Management • Retail and Consumer Sciences Major

#### First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>Natural Sciences Electives*</td>
<td>7-8</td>
</tr>
<tr>
<td>Mathematics 119 or 123*, and 125*</td>
<td>6</td>
</tr>
<tr>
<td>Arts and Humanities Electives*</td>
<td>6</td>
</tr>
<tr>
<td>Hotel, Restaurant, and Tourism 101</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture and Civilizations Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 201*</td>
<td>3</td>
</tr>
<tr>
<td>Economics 201*</td>
<td>4</td>
</tr>
<tr>
<td>Social Sciences Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 201</td>
<td>4</td>
</tr>
<tr>
<td>Retail and Consumer Sciences 341</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing 300</td>
<td>3</td>
</tr>
<tr>
<td>Management 300</td>
<td>3</td>
</tr>
<tr>
<td>Communication Studies 240*</td>
<td>3</td>
</tr>
<tr>
<td>Finance 301</td>
<td>3</td>
</tr>
<tr>
<td>Culture and Civilizations Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Hotel, Restaurant, and Tourism 311</td>
<td>3</td>
</tr>
<tr>
<td>Hotel, Restaurant, and Tourism 326</td>
<td>1</td>
</tr>
<tr>
<td>Hotel, Restaurant, and Tourism 341</td>
<td>3</td>
</tr>
<tr>
<td>Hotel, Restaurant, and Tourism 360</td>
<td>3</td>
</tr>
<tr>
<td>Hotel, Restaurant, and Tourism 423</td>
<td>3</td>
</tr>
<tr>
<td>Hotel, Restaurant, and Tourism 390*</td>
<td>3</td>
</tr>
<tr>
<td>Hotel, Restaurant, and Tourism 392</td>
<td>6</td>
</tr>
</tbody>
</table>

#### Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotel, Restaurant, and Tourism 410</td>
<td>3</td>
</tr>
<tr>
<td>Hotel, Restaurant, and Tourism 425</td>
<td>3</td>
</tr>
<tr>
<td>Hotel, Restaurant, and Tourism 445</td>
<td>3</td>
</tr>
<tr>
<td>Hotel, Restaurant, and Tourism Elective</td>
<td>3</td>
</tr>
<tr>
<td>Hotel, Restaurant, and Tourism 492</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total 121-122**

* Meets University General Education Requirement.

Students must meet the General Education requirement for Communicating through Writing by selecting a course with a (WC) designation. This course may be in the major or from another discipline.

**Major Electives**

- Business Electives
- Economics Electives
- Finance Electives
- Management Electives
- Marketing Electives
- Mathematics Electives
- Social Science Electives
- Social Sciences Electives

**Cultures and Civilizations Elective**

- Business Administration Elective
- Communication Studies Elective
- Culture and Civilizations Elective
- Economics Elective
- English Elective
- Finance Elective
- Management Elective
- Mathematics Elective
- Social Sciences Elective

**Elective Courses**

- Business Administration Elective
- Communication Studies Elective
- Culture and Civilizations Elective
- Economics Elective
- English Elective
- Finance Elective
- Management Elective
- Mathematics Elective
- Social Sciences Elective
Minor in Retail and Consumer Sciences

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail and Consumer Sciences 210, 341</td>
<td>6</td>
</tr>
<tr>
<td>Select 3 from Retail and Consumer Sciences 310, 346, 376, 412, 415, 421, 480</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

DEPARTMENT OF THEORY AND PRACTICE IN TEACHER EDUCATION

Susan M. Benner, Head

Professors

<table>
<thead>
<tr>
<th>Name</th>
<th>PhD/Academic Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allington, R.</td>
<td>Michigan State</td>
</tr>
<tr>
<td>Benner, S.</td>
<td>Columbia</td>
</tr>
<tr>
<td>Brewer, E.</td>
<td>Tennessee</td>
</tr>
<tr>
<td>Davis-Wiley, P.</td>
<td>Houston</td>
</tr>
<tr>
<td>Hargis, C.</td>
<td>Northern Colorado</td>
</tr>
<tr>
<td>Hatch, J.</td>
<td>Florida</td>
</tr>
<tr>
<td>Judge, S.</td>
<td>California (Santa Barbara)</td>
</tr>
<tr>
<td>Long, V. (Associate Dean), EdD</td>
<td>Missouri (Columbia)</td>
</tr>
<tr>
<td>McGill-Franzen, A.</td>
<td>State University of New York (Albany)</td>
</tr>
<tr>
<td>Rider, R. (Dean)</td>
<td>North Carolina</td>
</tr>
<tr>
<td>Rowell, C.</td>
<td>George Peabody</td>
</tr>
<tr>
<td>Turner, T.</td>
<td>Penn State</td>
</tr>
<tr>
<td>Ubben, G.</td>
<td>Minnesota</td>
</tr>
</tbody>
</table>

Associate Professors

<table>
<thead>
<tr>
<th>Name</th>
<th>PhD/Academic Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anfara, V.</td>
<td>New Orleans</td>
</tr>
<tr>
<td>Barclay-McLaughlin, M.</td>
<td>Michigan</td>
</tr>
<tr>
<td>Cagle, L. (Associate Dean), EdD</td>
<td>North Carolina</td>
</tr>
<tr>
<td>Davis, J.</td>
<td>New Mexico</td>
</tr>
<tr>
<td>Gilrane, C.</td>
<td>Illinois</td>
</tr>
<tr>
<td>Melear, C.</td>
<td>Ohio State</td>
</tr>
</tbody>
</table>

Assistant Professors

<table>
<thead>
<tr>
<th>Name</th>
<th>PhD/Academic Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bell, S.</td>
<td>Tennessee</td>
</tr>
<tr>
<td>Broemmels, A.</td>
<td>Southern Illinois</td>
</tr>
<tr>
<td>Brown, C.</td>
<td>George Washington</td>
</tr>
<tr>
<td>Gady, J.</td>
<td>Illinois State</td>
</tr>
<tr>
<td>Groenke, S.</td>
<td>Virginia Tech</td>
</tr>
<tr>
<td>Hendricks, D.</td>
<td>Alabama</td>
</tr>
<tr>
<td>Patterson, F.</td>
<td>Tennessee</td>
</tr>
<tr>
<td>Rearden, K.</td>
<td>Texas A&amp;M</td>
</tr>
<tr>
<td>Scherff, E.</td>
<td>Florida State</td>
</tr>
<tr>
<td>Taylor, M.</td>
<td>Mississipi</td>
</tr>
<tr>
<td>Wooten, D.</td>
<td>New York</td>
</tr>
</tbody>
</table>

ART EDUCATION MAJOR

Students seeking licensure to teach art in the schools pursue the Bachelor of Fine Arts degree with a major in studio art or the Bachelor of Arts Degree with a major in studio art in the College of Arts and Sciences and will complete a major in art education at the undergraduate level. The undergraduate major in art education includes the following.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art Education 301</td>
<td>3</td>
</tr>
<tr>
<td>Art Education 302</td>
<td>3</td>
</tr>
<tr>
<td>Art Education 303</td>
<td>3</td>
</tr>
<tr>
<td>Art Education 400</td>
<td>3</td>
</tr>
<tr>
<td>Art Education 350</td>
<td>1</td>
</tr>
<tr>
<td>Cultural Studies in Education 400</td>
<td>2</td>
</tr>
<tr>
<td>Educational Psychology 401</td>
<td>2</td>
</tr>
<tr>
<td>Special Education 402</td>
<td>2</td>
</tr>
<tr>
<td>Educational Psychology 210</td>
<td>3</td>
</tr>
<tr>
<td>Instructional Technology 486</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>25</strong></td>
</tr>
</tbody>
</table>

The following courses are taken during the post-baccalaureate professional year. Students must apply to and be admitted by the Office of Graduate and International Admissions prior to registration.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education 574</td>
<td>2</td>
</tr>
<tr>
<td>Education 575</td>
<td>12</td>
</tr>
<tr>
<td>Education 591</td>
<td>4</td>
</tr>
<tr>
<td>Art Education 530</td>
<td>3</td>
</tr>
<tr>
<td>Art Education 540</td>
<td>3</td>
</tr>
</tbody>
</table>

**Graduate Total 24**

NOTE: Teacher licensure is granted at the successful completion of the professional year: 12 additional hours may be taken to complete the master’s degree. For details, see the Graduate Catalog.

SPECIAL EDUCATION MAJOR

Requirements for the Bachelor of Science in Education

- Special Education Major
- Educational Interpreting Concentration

**First Year**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calculus 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>Arts and Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Social Sciences Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Natural Sciences Electives*</td>
<td>6-8</td>
</tr>
<tr>
<td>Sociology Elective</td>
<td>3</td>
</tr>
<tr>
<td>Physical Education Activity or Recreation Therapy Elective</td>
<td>2-3</td>
</tr>
<tr>
<td>Quantitative Reasoning Electives*</td>
<td>6</td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication Studies 210* or 240*</td>
<td>3</td>
</tr>
<tr>
<td>Communicating through Writing (WC) Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Counselor Education 380</td>
<td>3</td>
</tr>
<tr>
<td>Psychology Elective</td>
<td>3</td>
</tr>
<tr>
<td>History 241*, 242*</td>
<td>6</td>
</tr>
<tr>
<td>Arts and Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Social Sciences Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Educational Interpreting 223 and 226</td>
<td>6</td>
</tr>
</tbody>
</table>

**Third Year**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructional Technology 486</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy 340*</td>
<td>3</td>
</tr>
<tr>
<td>Educational Psychology 210</td>
<td>3</td>
</tr>
<tr>
<td>Psychology 300</td>
<td>3</td>
</tr>
<tr>
<td>Cultural Studies in Education 400</td>
<td>2</td>
</tr>
<tr>
<td>Educational Psychology 401</td>
<td>2</td>
</tr>
<tr>
<td>Educational Interpreting 431, 432</td>
<td>6</td>
</tr>
<tr>
<td>Educational Interpreting 335</td>
<td>3</td>
</tr>
<tr>
<td>Educational Interpreting 340</td>
<td>3</td>
</tr>
<tr>
<td>Educational Interpreting 350</td>
<td>3</td>
</tr>
<tr>
<td>Educational Interpreting 355</td>
<td>3</td>
</tr>
</tbody>
</table>

**Fourth Year**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultures and Civilizations Electives*</td>
<td>6</td>
</tr>
<tr>
<td>Education of the Deaf/Hard of Hearing 415, 416, 425</td>
<td>9</td>
</tr>
<tr>
<td>Educational Interpreting 345</td>
<td>3</td>
</tr>
<tr>
<td>Special Education 402</td>
<td>2</td>
</tr>
<tr>
<td>Educational Interpreting 435</td>
<td>3</td>
</tr>
<tr>
<td>Educational Interpreting 440</td>
<td>6</td>
</tr>
</tbody>
</table>

**Total 122-125**

* Meets University General Education Requirement.

NOTE: Progression to the educational interpreting concentration requires a 2.7 cumulative GPA after a minimum of 30 semester hours of coursework and completion of Educational Interpreting 223 and 226 with a grade of B or better in both courses. A Board of Admissions will meet once each fall and spring to review applications and conduct interviews with each applicant. Students admitted to the program must maintain a minimum cumulative GPA of 2.7 while in the program. Students with less than a 2.7 GPA for two consecutive semesters will be dropped from the program. Students who fail to meet the standards for professional conduct during the course of their fieldwork will not be retained in the major.
### Requirements for the Bachelor of Science in Education

**Special Education Major • Education of the Deaf and Hard of Hearing Concentration**

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>Arts and Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Anthropology 130*</td>
<td>3</td>
</tr>
<tr>
<td>Cultures and Civilizations Electives*</td>
<td>3-4</td>
</tr>
<tr>
<td>Natural Sciences Elective*</td>
<td>.6</td>
</tr>
<tr>
<td>Educational Methods (see advisor)</td>
<td>.3</td>
</tr>
<tr>
<td>Physical Education Activity or Recreation Therapy Electives</td>
<td>2-3</td>
</tr>
<tr>
<td>Mathematics 113*-115* or 123*-125*</td>
<td>.6</td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication Studies 210* or 240*</td>
</tr>
<tr>
<td>Literature Elective</td>
</tr>
<tr>
<td>Counselor Education 380</td>
</tr>
<tr>
<td>Psychology Elective</td>
</tr>
<tr>
<td>History 241*, 242*</td>
</tr>
<tr>
<td>Biological Science Elective</td>
</tr>
<tr>
<td>Natural Sciences Elective*</td>
</tr>
</tbody>
</table>

**Third Year**

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communicating through Writing Elective*</td>
</tr>
<tr>
<td>Instructional Technology 486</td>
</tr>
<tr>
<td>Philosophy/Religious Studies 246*</td>
</tr>
<tr>
<td>Social Sciences Elective*</td>
</tr>
<tr>
<td>Educational Psychology 210</td>
</tr>
<tr>
<td>Health 305 or 306</td>
</tr>
<tr>
<td>Cultures and Civilizations Electives*</td>
</tr>
<tr>
<td>Cultural Studies in Education 400</td>
</tr>
<tr>
<td>Educational Psychology 401</td>
</tr>
<tr>
<td>Special Education 402</td>
</tr>
<tr>
<td>Educational Methods (see advisor)</td>
</tr>
</tbody>
</table>

**Fourth Year**

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts and Humanities Elective*</td>
</tr>
<tr>
<td>Educational Interpreting 223</td>
</tr>
<tr>
<td>Audiology and Speech Pathology 303 and 473 or Education of the Deaf/Hard of Hearing 424</td>
</tr>
<tr>
<td>Audiology and Speech Pathology 491</td>
</tr>
</tbody>
</table>

**Total: 121-124**

The following courses are taken during the post-baccalaureate professional year. Students must apply to and be admitted by the Office of Graduate and International Admissions prior to registration.

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education 574</td>
</tr>
<tr>
<td>Education 575</td>
</tr>
<tr>
<td>Education 591</td>
</tr>
<tr>
<td>Education of the Deaf/Hard of Hearing 528, 529</td>
</tr>
</tbody>
</table>

**Graduate Total: 24**

1 A physical or biological science course to complete science sequence.
2 Any course with a (WC) designation satisfies this requirement.

### Requirements for the Bachelor of Science in Education

**Special Education Major • Modified and Early Childhood Special Education Concentration**

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102*</td>
<td>.6</td>
</tr>
<tr>
<td>Anthropology 130*</td>
<td>.3</td>
</tr>
<tr>
<td>Quantitative Reasoning Elective*</td>
<td>6</td>
</tr>
<tr>
<td>Psychology Electives</td>
<td>.6</td>
</tr>
<tr>
<td>Sociology Elective</td>
<td>.3</td>
</tr>
<tr>
<td>Political Science Elective</td>
<td>.3</td>
</tr>
<tr>
<td>Economics Elective</td>
<td>.3</td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philosophy 246*</td>
</tr>
<tr>
<td>Philosophy or Religious Studies Elective</td>
</tr>
<tr>
<td>Educational Psychology 210</td>
</tr>
<tr>
<td>Non-US History</td>
</tr>
<tr>
<td>Geography Elective</td>
</tr>
<tr>
<td>Physical Science Electives</td>
</tr>
<tr>
<td>Biological Science Electives</td>
</tr>
</tbody>
</table>

**Third Year**

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Sciences 330</td>
</tr>
<tr>
<td>Recreation and Leisure Studies 425</td>
</tr>
<tr>
<td>Health 306</td>
</tr>
<tr>
<td>Foreign Language*</td>
</tr>
<tr>
<td>Arts and Humanities*</td>
</tr>
<tr>
<td>Communication Studies 210* or 240* or other Oral Communication (OC) General Education Elective*</td>
</tr>
<tr>
<td>Educational Psychology 401</td>
</tr>
<tr>
<td>Special Education 402</td>
</tr>
<tr>
<td>Cultural Studies in Education 400</td>
</tr>
<tr>
<td>Audiology and Speech Pathology 320</td>
</tr>
</tbody>
</table>

**Fourth Year**

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructional Technology 486</td>
</tr>
<tr>
<td>Special Education 419</td>
</tr>
<tr>
<td>Special Education 471</td>
</tr>
<tr>
<td>Special Education 420</td>
</tr>
<tr>
<td>Elementary Education 422</td>
</tr>
<tr>
<td>Reading Education 430</td>
</tr>
<tr>
<td>Special Education 456 or 410</td>
</tr>
</tbody>
</table>

**Undergraduate Total: 121**

The following courses are taken during the post-baccalaureate professional year. Students must apply to and be admitted by the Office of Graduate and International Admissions prior to registration.

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education 575</td>
</tr>
<tr>
<td>Elementary Education 505</td>
</tr>
<tr>
<td>Education 574</td>
</tr>
<tr>
<td>Education 591</td>
</tr>
</tbody>
</table>

**Graduate Total: 24**

1 At least two of these three (Sociology, Political Science, Economics) should be from those Social Sciences courses that are approved for partial fulfillment of the University General Education requirement.
2 Students must include a total of 2 lab sciences from the Natural Sciences list.
3 Intermediate-level competence.

### Teaching Minors

Students who are earning a baccalaureate degree in the College of Arts and Sciences and who are also seeking teacher licensure in elementary education, English education, foreign language education, mathematics education, music education, science education, or social science education are urged to earn a minor in either elementary or secondary education. Students who do not earn a minor as a part of their undergraduate studies will be required to complete the equivalent of a minor as a prerequisite to entering the fifth year of professional study.

Students should note that courses taken to satisfy the minor will not fulfill teacher licensure requirements.

### Minor in Elementary Education

Students interested in becoming elementary school teachers (K-grade 6) earn a Bachelor of Art or a Bachelor of Science in the College of Arts and Sciences. While completing requirements for the baccalaureate degree, students are encouraged to take a minor in elementary education.
Minor in Middle Grades Education

Students interested in becoming middle school teachers (grades 4-8) earn a BA or BS in the College of Arts and Sciences in either mathematics, English, an area of science (e.g., astronomy, biology, chemistry, geology, physical geography, physics, environmental science) or one of the social sciences (e.g., history, geography, political science, anthropology, sociology, economics). Students who have pursued programs in engineering or forestry may have coursework that may count in this area.

Students also complete a minor in middle grades education which consists of a minimum of 12 credit hours in one of the other four content areas: mathematics, science, social science, or English, as well as the professional education core courses (6 hours) as outlined below. Contact advisors in the college’s Student Services Center, A332 Claxton Complex, for more information about specific requirements. The coursework listed below leads to middle grades licensure.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Education Core</td>
<td></td>
</tr>
<tr>
<td>Cultural Studies in Education</td>
<td>2</td>
</tr>
<tr>
<td>Educational Psychology</td>
<td>2</td>
</tr>
<tr>
<td>Special Education</td>
<td>2</td>
</tr>
<tr>
<td>Coursework in Second Content</td>
<td></td>
</tr>
<tr>
<td>Area</td>
<td>12</td>
</tr>
</tbody>
</table>

Undergraduate Total 18

Minor in Secondary Education

Students interested in becoming secondary school teachers (K-grade 6) earn a Bachelor of Arts or a Bachelor of Science in the College of Arts and Sciences (e.g., English, mathematics, etc.). While completing requirements for the baccalaureate degree, students are encouraged to take a minor in secondary education.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Theory and Practice in Teacher</td>
<td>1</td>
</tr>
<tr>
<td>Education</td>
<td>2</td>
</tr>
<tr>
<td>Cultural Studies in Education</td>
<td>2</td>
</tr>
<tr>
<td>Educational Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Special Education</td>
<td>2</td>
</tr>
<tr>
<td>Instructional Technology</td>
<td>3</td>
</tr>
</tbody>
</table>

Undergraduate Total 16

The following courses are taken during the post-baccalaureate professional year. Students must apply to and be admitted by the Office of Graduate and International Admissions prior to registration.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>2</td>
</tr>
<tr>
<td>Education</td>
<td>4</td>
</tr>
<tr>
<td>English Education</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Education</td>
<td>3</td>
</tr>
<tr>
<td>Education</td>
<td>3</td>
</tr>
</tbody>
</table>

Graduate Total 24

NOTE: Teacher licensure is granted at the successful completion of the Professional Year; 12 additional hours may be taken to complete the master’s degree. For details, see the Graduate Catalog.
Engineers solve problems. To do so, they apply science, mathematics, and creativity to invent, design, test, build, and operate engineering systems that will meet the needs of society. In the latter half of the 20th century, engineers developed the personal computer, the space shuttle, artificial hearts, and many other “high-tech” products. The opportunities to use technology for the benefit of 21st century society will be even greater.

Engineers use the same problem-solving strategies whether designing a bridge, troubleshooting a computer chip problem or developing a more efficient automobile engine. This commonality of approach makes it easy for an engineer to move from one specialization to another, and it happens frequently. The engineer’s can-do, problem solving outlook is also good preparation for management, and many engineers follow this career path.

Increasingly, engineers must also have good interpersonal skills to work effectively in the interdisciplinary groups required to tackle modern engineering projects. They must understand the ethical, environmental, social, political, and business implications of their work. Engineers must work comfortably among the cultures, customs and languages of multi-national enterprises.

In light of modern society’s ever-increasing dependence on technology, there is a continuing and urgent need for engineering graduates who possess the high levels of technical competence and social understanding that will enable them to fulfill their responsibilities as professional engineers. The College of Engineering prepares men and women to face these challenges and to seize their opportunities to become the technology leaders of the 21st century.

Graduates of the Bachelor of Science curricula offered by the college may enter directly into a position in industry, government, or private practice, or may pursue advanced study in graduate school. Their professional activities include research, development, design, operations analysis, construction, production supervision, and technical sales. Many practice their profession in Tennessee; but engineering knows no geographical bounds, and graduates of the college serve throughout the nation and in other countries as well.

The college offers eleven undergraduate majors – aerospace engineering, biomedical engineering, chemical engineering, civil engineering, computer engineering, electrical engineering, engineering physics, industrial engineering, materials science and engineering, mechanical engineering, and nuclear engineering.

Biosystems engineering is based in the College of Agricultural Sciences and Natural Resources with facilities located on the Agricultural Campus. The biosystems engineering curriculum is offered cooperatively by the College of Agricultural Sciences and Natural Resources and the College of Engineering. Details of the curriculum may be found in the College of Agricultural Sciences and Natural Resources section of this catalog.

The college, in cooperation with industrial sponsors, established the Minority Engineering Scholarship Program in 1973 and in 1999 renamed it the Diversity Engineering Scholarship Program. The program’s goal is to increase significantly the number of qualified minority engineering graduates.

College Admission Requirements
To promote the maximum opportunity for success among entering freshmen, the College of Engineering has established college admission requirements in addition to the general university admission requirements. These additional admission criteria are based upon both high school and standardized test performance, with an emphasis upon assessment of mathematics skills.

For admission to the College of Engineering, entering freshmen students must meet the requirements for admission to the University of Tennessee, and they must also have a Success Prediction Indicator (SPI) of at least 57.0. The SPI is calculated by adding an individual’s ACT mathematics score to 10 times their high school core GPA (based on a 4.0 scale). Thus, a student with a core GPA of 3.5 and a mathematics ACT score of 28 would have an SPI of 63 = (28 + 10x3.5). SAT scores are converted to an equivalent ACT score to perform this calculation.

Students who wish to pursue an engineering degree at the University of Tennessee, Knoxville, but do not meet the SPI criterion may enroll as University Undecided students and complete appropriate mathematics, science, and other courses before applying for admission to the College of Engineering. (See the statement regarding Transfer Students later in this section.) The college welcomes qualified transfer students from community and other colleges.
Facilities
Most of the college's facilities are on the southeastern corner of The Hill. Administration and Civil and Environmental Engineering are in Perkins Hall; Electrical and Computer Engineering are in Ferris Hall; Industrial and Information Engineering and the Interdisciplinary Engineering Research Centers are in East Stadium Hall; Nuclear Engineering is in the Pasqua Engineering Building; Mechanical, Biomedical, Aerospace, Chemical, and Materials Science are in Dougherty Hall. The Engineering Fundamentals Division and Engineering Diversity Programs office are located in Estabrook Hall. The Co-op office is in Perkins Hall. The Engineering Physics program is administered through the Physics Department in the Nielsen Physics Building.

Office of Professional Practice
The Office of Professional Practice which administers cooperative engineering program (Co-op) provides an augmented engineering education that includes significant experience in industry as well as superior academic preparation. Our cooperative engineering program was established in 1926. The University of Tennessee was one of the early pioneers in this valuable type of education.

Co-op work assignments differ from part-time or summer employment in that they involve regularly scheduled cycles of full-time academic terms alternating with full-time work periods, resulting in planned, career-related work terms of progressive complexity and responsibility. In introducing the student to engineering employment, the college and industry join together to offer a broader and richer preparation for postgraduate employment than can be provided by a conventional academic program. This experience in an industrial and professional environment contributes to the student's maturity, accelerates professionalism, offers an opportunity to apply engineering coursework in a real-world setting, and enables the student to define more clearly educational and career interests and objectives. All positions are paid positions, and most students are able to offset a substantial amount of their college expenses with Co-op savings.

Introduction to the cooperative engineering program (for new students, transfers, second-degree students, and re-entry students) begins in the first semester at the university. Assignments are determined by employer and student. All engineering students are encouraged to visit the program office.

Further details may be obtained from the Office of Professional Practice, 310 Perkins Hall, The University of Tennessee, Knoxville, TN 37996-2030. You may also contact the Co-op office via e-mail at coop@engr.utk.edu or via the program home-page at http://www.coop.utk.edu

International Engineering Program
The United States, like most countries throughout the world, can no longer thrive economically with only a domestic market for its goods and services. To compete in the global marketplace, engineers must understand how to design and manufacture products for world-wide use. The College of Engineering works with several organizations, both on and off campus, to enable interested students to participate in significant engineering experiences abroad. Students interested in making an international experience part of their engineering education should begin exploring opportunities and develop plans during the freshman year. Language preparation to a level of substantial proficiency may be required. Thus, language preparation should be started immediately. For further information on international engineering educational programs, contact the Center for International Education, 1620 Melrose Avenue.

Graduate Program
Graduate programs leading to the Master of Science are offered in eleven majors – aerospace engineering, biomedical engineering, chemical engineering, civil engineering, electrical engineering, engineering science, environmental engineering, industrial engineering, materials science and engineering, mechanical engineering, nuclear engineering, and polymer engineering. The Doctor of Philosophy is offered in eleven majors – aerospace engineering, biomedical engineering, chemical engineering, civil engineering, electrical engineering, engineering science, industrial engineering, materials science and engineering, mechanical engineering, nuclear engineering, and polymer engineering. Information concerning graduate programs is given in the Graduate Catalog.

Tau Beta Pi National Headquarters
The college is honored to have the national headquarters of Tau Beta Pi, the Engineering Honor Society, housed on our campus since 1907. This honor was earned in part through the untiring efforts of R.C. "Red" Matthews, Secretary-Treasurer for the organization from 1905 to 1947. The suite of offices, located in Dougherty Hall, is occupied by Mr. J.D. Froula, Secretary-Treasurer, R.E. Hawks, Assistant Secretary-Treasurer, and eight additional staff members.

National Accreditation
Since 1936, engineering programs at institutions of higher learning have been accredited by an organization formed by many engineering societies and known as the Accreditation Board for Engineering and Technology (ABET). ABET accreditation ensures that graduates of the University of Tennessee, Knoxville, engineering programs are adequately prepared to enter and continue the practice of engineering. Accredited engineering programs at the University of Tennessee, Knoxville, include aerospace, biomedical, biosystems, chemical, civil, computer, electrical, industrial, mechanical, materials science, and nuclear.

Accreditation criteria require each engineering degree program to design a curriculum and educational process that will achieve defined educational objectives consistent with ABET criteria and the mission of the University of Tennessee, Knoxville. The educational objectives of each degree program are presented by the department responsible for the program later in this chapter. In each case the objectives are consistent with the mission of the College of Engineering. That mission is to

• Provide high quality education in the major engineering disciplines from the undergraduate through doctoral levels through a creative balance of academic, professional, and extracurricular programs.
• Foster and maintain mutually beneficial partnerships with our alumni, friends, industry, and local, state, and federal governments through public services, assistance, and collaborative research.
• Be a major contributor to our nation's technology base through scholarship and research.

In addition, the educational objectives of each degree program are also guided by and consistent with the strategic objectives of the College of Engineering. Two particularly relevant strategic objectives are "to continuously provide quality delivery of courses, programs, extracurricular activities, assistance, and support that enhances each student's desire to learn and that excites each student's interest in engineering and the work environment" and "to continuously provide and improve the education and working abilities that employers want our engineering graduates to have."
ABET accreditation criteria also require an assessment process to ensure that program outcomes critical to successful engineering practice are being achieved. Assessment of eleven program outcomes common to all engineering disciplines are required by ABET. Specifically, each engineering degree program must demonstrate that its graduates have

- An ability to apply knowledge of mathematics, science, and engineering.
- An ability to design and conduct experiments, as well as to analyze and interpret data.
- An ability to design a system, component, or process to meet desired needs.
- An ability to function on multi-disciplinary teams.
- An ability to identify, formulate, and solve engineering problems.
- An understanding of professional and ethical responsibility.
- An ability to communicate effectively.
- The broad education necessary to understand the impact of engineering solutions in a global/societal context.
- A recognition of the need for, and an ability to engage in life-long learning.
- A knowledge of contemporary issues.
- An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

The College of Engineering has embraced these program outcomes as valid and valuable indicators of educational program effectiveness. Thus, the college prepares students to demonstrate sufficiency and to strive for excellence in each of these areas. This goal is achieved by ensuring that instruction and other learning experiences are provided that will produce each program outcome. Engineering courses, mathematics and natural science courses, and the humanities and social sciences each provide essential contributions to the achievement of this goal. Program outcomes that are critically dependent on humanities and social science courses are discussed in the General Education Requirement section to follow. Additional program outcomes selected by individual degree programs to supplement ABET outcomes are also discussed in subsequent sections.

### Designation of a Minor

An engineering undergraduate may declare a minor in a non-engineering subject area and have the minor listed on the permanent record under the following conditions.

- Minors must be officially approved and described in the Undergraduate Catalog. No unofficial minors will be recognized.
- Courses taken to satisfy the minor may also be used to satisfy engineering degree requirements provided that the courses would be a part of engineering degree requirements even if no minor was declared. Completion of a minor often involves the taking of some courses which cannot be used to satisfy the minimum requirement for an engineering degree.
- A student should notify his or her advisor and major department office when beginning work on a minor. The intention to complete a minor must be declared at the time of application for graduation if the minor is to appear on the final transcript. Graduation applications are available in the Office of the University Registrar.

### Minor in Reliability and Maintainability Engineering

A coursework program leading to a minor in reliability and maintainability engineering is offered by the College of Engineering. Fifteen hours of coursework are required as listed below. The grade in each of the required classes must be at least a C. Students should consult with their advisor for the appropriate elective courses in their major.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Engineering 483 or Mechanical Engineering 483 or Nuclear Engineering 483</td>
<td>Industrial Engineering</td>
<td>.6</td>
</tr>
<tr>
<td>Industrial Engineering 484 or Mechanical Engineering 484 or Materials Science and Engineering 484 or Nuclear Engineering 484</td>
<td>Industrial Engineering</td>
<td>.6</td>
</tr>
<tr>
<td>Statistics or Math Requirement (choose 1)</td>
<td>Statistics</td>
<td>.3</td>
</tr>
<tr>
<td>Chemical Engineering 301</td>
<td>Chemical Engineering</td>
<td>3.0</td>
</tr>
<tr>
<td>Electrical and Computer Engineering 313</td>
<td>Electrical Engineering</td>
<td>3.0</td>
</tr>
<tr>
<td>Mathematics 323</td>
<td>Mathematics</td>
<td>3.0</td>
</tr>
<tr>
<td>Statistics 251</td>
<td>Statistics</td>
<td>1.0</td>
</tr>
<tr>
<td>Electives (choose at least 2)</td>
<td>Electives</td>
<td>3.0</td>
</tr>
</tbody>
</table>

**Total 15**

### Course Load

The maximum number of hours which can be taken by an undergraduate engineering student without special permission is 19. The Associate Dean for Student Affairs must give permission to take 20 hours or more. In general, this decision is based on the student's previous performance at the University of Tennessee, Knoxville.

### General Requirements

Students are advised to consult the university's degree requirements as stated in the front section of this catalog, as well as departmental requirements.

### Transfer Students

Transfer students, including internal University of Tennessee, Knoxville, transfers, must meet the minimum requirements stated below to be considered for admission to a major within the college.

- Must have earned a minimum 2.30 cumulative average and a C or better in each of these specific courses, or their equivalent: English 101, Chemistry 120, and Mathematics 141 (and subsequent courses in the three sequences, if taken).
- The overall record will be evaluated for quality and seriousness of purpose. An excessive number of withdrawals, incompletes, repeated courses, or failures may result in denial.

Any University of Tennessee, Knoxville, student desiring association with one of the departments of the College of Engineering should go to the departmental office for the desired major. An interview with the department head or his/her designee is held, with the major items of consideration being the same as for external transfer students. If association is granted, a College/Major/Advisor Change form is processed by the department to officially change the student's academic home.

### Transfer Credit

Every attempt will be made to give maximum credit for courses taken elsewhere and transferred to the college. Discussions concerning the evaluation of transfer credits should be conducted with the head of the department (or designee) into which the student is to transfer, but only after receiving the evaluation of transfer credits by the Admissions Office.
Second Bachelor of Science Degree
Upon approval by the Dean of Engineering and the Committee on Degrees of a program of study recommended by the major engineering department, a student who already holds a bachelor’s degree may obtain a degree in engineering upon meeting all of the course requirements of the selected engineering program. In no case will the minimum requirement be less than 30 semester credits. The prevailing university regulations shall apply.

Satisfactory/No Credit Courses
Engineering majors may take half of the minimum hours required (nine) of general education electives on a Satisfactory/No Credit (S/NC) grading basis. No other courses specified as part of the minimum degree requirements may utilize Satisfactory/No Credit grading, unless a course is offered only on that grading basis. Students are encouraged to take courses of interest which are not part of the minimum degree requirements, and to fully utilize the Satisfactory/No Credit grading option for such coursework.

Correspondence Courses
A student should check with his or her major department to see what restrictions there are, if any, on the use of correspondence course credit to meet the minimum degree requirements.

University General Education Requirement
The University of Tennessee has established a University General Education Requirement that includes emphases upon building basic skills and developing broadened perspectives. These requirements apply to all undergraduate students and are listed at the front of this catalog. Engineering students should consult with their advisor and carefully select General Education Electives to insure that courses meet the general education needs of their program and courses meet the University General Education Requirement.

American History Requirement
Engineering students, regardless of national origin, must fulfill the American history requirement described elsewhere in this catalog. Those students who have not had the required year of American history in high school may choose the required 6 hours from History 221 and 222, or other courses deemed suitable by the Department of History. See additional information about the American History Requirement in the Academic Policies and Procedures section of this catalog.

Technical Electives
Technical electives are to be selected with the advice and approval of the student’s major department. In some of the curricula tabulations a choice of such electives is indicated, and regulations in regard to their selection are stated.

The Voluntary ROTC Program
Engineering students may participate in the ROTC Program. Advanced ROTC courses (300- and 400-series) may be counted as technical elective credit toward an engineering degree up to a total of 6 hours. Normally, military science and leadership courses cannot be used as humanities/social science electives. Individual departments determine the appropriate substitutions.

Approval of Electives and Substitutions
Each student shall discuss with an advisor the status of the program of study no later than the beginning of the second semester prior to anticipated graduation. Any necessary additions to or substitutions in the program or electives requiring special approval must be approved in writing at that time. It is each student’s responsibility to see that all necessary approvals are secured. Inattention to such matters will most likely delay graduation.

Curricula
Course requirements for the various engineering curricula are listed in each department’s section. Individual course prerequisites should be strictly adhered to, even if courses are not taken in the semester indicated. Although the requirements for each major can be completed in four academic years (five for the cooperative program), the quality of the learning experience is much more important than the speed with which the curricula are completed.

Questions about individual courses should be directed to the department responsible for the course. Questions about a particular curriculum should be directed to the major department.

Prerequisites
Before registering for any engineering course, a student should make certain that any necessary background work has been completed. In addition to specific prerequisites listed, it is assumed that a student taking sophomore engineering courses has completed all freshman courses, whether specifically listed as a prerequisite or not. When this is not the case, a student should seek advice from the advisor or department responsible for the course in question before registration in order to minimize the chances of academic difficulty. Students who do not have prescribed prerequisites may be dropped from a course at any time during a semester when the lack of prerequisites is discovered.

ENGINEERING FUNDAMENTALS DIVISION
J. R. Parsons, Director

Professors
Bennett, R.M., Civil and Environmental Engineering
Parsons, J.R., Mechanical, Aerospace and Biomedical Engineering

Associate Professors
Pionke, C.D., Mechanical, Aerospace and Biomedical Engineering
Scott, T.H., Nuclear Engineering

Instructor
Schleter, W.R., Engineering Fundamentals

The Engineering Fundamentals Division is the academic home for all first-year engineering students. Located in Estabrook Hall, the division serves as a focus for all freshman student activities. The faculty of the division act as academic advisors and teach the principal courses in Engineering Fundamentals. These courses are designed to prepare students for entry into the sophomore year of every major in the college. Academic standards in the first year are necessarily high. To assist students with deficient academic backgrounds in the necessary mathematics and computer skills, supplementary courses are offered as needed.

New freshman students are assigned to the Engineering Fundamentals Division for academic advising and career counseling until they have completed the freshman curriculum. Freshman students admitted to the College of Engineering are required to designate a field of study by the end of their freshman year. As sophomores, students are assigned faculty advisors in their selected departments.
Minor in Engineering Communication and Performance

The division co-administers, with the College of Education, Health, and Human Sciences, the engineering communication and performance minor for engineering students desiring additional training and certification in team facilitation and organizational communication. (See College of Education, Health, and Human Sciences – Department of Educational Psychology and Counseling catalog section for requirements.)

BIOSYSTEMS ENGINEERING

(See College of Agricultural Sciences and Natural Resources – Department of Biosystems Engineering and Soil Science)

Biosystems engineers use engineering science and mathematics to address opportunities and problems in biological, environmental, ecological, and agricultural systems. This ABET accredited program is offered by the Department of Biosystems Engineering and Science in the College of Agricultural Sciences and Natural Resources in cooperation with the College of Engineering.

DEPARTMENT OF CHEMICAL ENGINEERING

http://www.che.utk.edu/
John R. Collier, Head
Fred E. Weber, Undergraduate Liaison

Professors
Bienkowski, P.R., PhD ........................................... Purdue
Collier, J.R., PhD ............................................. Case Institute of Technology
Counce, R.M., PhD ................................................ Tennessee
Moore, C.F. (Distinguished Service Professor),
PhD, PE ................................................. Louisiana State
Sheth, Antul C. (UTSI), PhD ................................. Northwestern

Associate Professors
Bruns, D.D., PhD ............................................... Houston
Edwards, B.J., PhD ........................................ Delaware
Frymier, P.D., PhD ............................................... Virginia
Keffer, D.J., PhD ................................................ Minnesota
Petrovan, S. (Research), PhD ................................. Iasi Tech
Wang, T,W, PhD ........................................ Massachusetts Institute of Technology
Weber, F.E., PhD ................................................ Minnesota

Adjunct Faculty
Steele, W.V., PhD ................................................ Queens (Belfast)

Emeriti Faculty
Holmes, J.M., PhD ............................................... Tennessee
Prados, J.W., PhD, PE ...................................... Tennessee

Chemical engineering deals with the development, design, operation, and management of plants and processes for economical, safe conversion of chemical raw materials to useful products. It is a broadly based discipline with heavy emphasis on chemistry and mathematics, with supporting study in areas such as physics, materials, and humanities.

Chemical engineering graduates of the University of Tennessee, Knoxville, possess the knowledge base, intellectual skills, and professional commitment that prepare them for innovative technical leadership, graduate study, productive service to society, and continued professional growth through lifelong learning. Preparation is based in the learning objectives identified below, regular evaluation of the achievement of these objectives, and use of evaluation results to improve the educational process.

- Graduates of the UT Knoxville chemical engineering program who pursue full-time graduate or advanced professional study will complete their programs of study successfully.
- Graduates of the UT Knoxville chemical engineering program will continue their professional growth through lifelong learning.

The curriculum provides a central core of required courses with flexibility in the upper-division years to permit emphasis on preparation for graduate school or professional employment. To graduate in chemical engineering, students must complete the published curriculum with a grade of C or better in all required chemical engineering courses.

A minimum of 18 hours of general education courses are required. These courses must meet the University General Education Requirement. A writing course (WC) and oral communication course (OC) must be included in the general education electives.

Honors Program

The honors program encourages highly-motivated students to experience a more rigorous preparation in chemical engineering. Admission is selective. Application to the honors program is made when the student applies for upper-division status. Honors requirements are credit for three of the four honors seminars (Chemical Engineering 307, 308, 407 and 408), Chemical Engineering 447, one of Chemical Engineering 467, 477, 488 or 498 as a technical elective and Chemistry 483 as a chemistry option. Students interested in the honors program should consult the department’s Honors Coordinator.

Progression to Upper Division

Progression of chemical engineering students to departmental courses numbered 310 or above is competitive and is based on capacity. Factors considered include overall grade point average, performance in selected lower-division courses, and evidence of satisfactory and orderly progress through the prescribed curriculum.

Upper-Division Status

A lower-division student may apply for progression to upper-division status after completing Chemical Engineering 200, 230, 240 and 250 with a grade of C or better in each course and an overall GPA of 2.5 or better.

Provisional Status

Students who have completed Chemical Engineering 200, 230, 240, and 250 with an overall GPA of at least 2.1 may apply for provisional status. The granting of provisional upper-division status is based on the availability of space in the departmental programs after upper-division status students have been accommodated. Provisional students are required to demonstrate the ability to perform satisfactorily in upper-division courses by completing a total of seven departmental courses with a grade of C or better in each course (including the four required for upper-division status). Permission to continue with upper-division classes depends on this minimum level of performance.

Any student with an overall GPA below 2.1 will not be admitted to upper-division chemical engineering courses. Students who have not been admitted to upper-division or provisional status will be dropped from upper-division departmental class rolls.

Transfer Students

The upper-division level students are admitted on a provisional status basis only.
CHEMICAL ENGINEERING MAJOR

Requirements for Bachelor of Science in Chemical Engineering

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>Chemistry 120*, 130*</td>
<td>8</td>
</tr>
<tr>
<td>Mathematics 141*, 142*</td>
<td>8</td>
</tr>
<tr>
<td>Engineering Fundamentals 105, 151 or 157, 152 or 158</td>
<td>8</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Engineering 200, 215, 230, 240, 250</td>
<td>16</td>
</tr>
<tr>
<td>Mathematics 200, 231, 241</td>
<td>8</td>
</tr>
<tr>
<td>Chemistry Option I</td>
<td>3</td>
</tr>
<tr>
<td>Arts and Humanities Electives*</td>
<td>6</td>
</tr>
</tbody>
</table>

Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Engineering 301, 310, 340, 360, 380</td>
<td>13</td>
</tr>
<tr>
<td>Chemistry 310-319</td>
<td>4</td>
</tr>
<tr>
<td>Chemistry 350</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry Option II</td>
<td>3</td>
</tr>
<tr>
<td><em>Technical Elective (OC)</em></td>
<td>3</td>
</tr>
<tr>
<td>Social Sciences Electives*</td>
<td>6</td>
</tr>
</tbody>
</table>

Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Engineering 401, 410 or 411, 445, 450, 480, 488 or 490</td>
<td>17</td>
</tr>
<tr>
<td>Physics 231*</td>
<td>3</td>
</tr>
<tr>
<td><em>Technical Electives (one course must be WC)</em></td>
<td>6</td>
</tr>
<tr>
<td>Cultures and Civilizations Electives*</td>
<td>6</td>
</tr>
</tbody>
</table>

Total 128

* Meets University General Education Requirement.
All electives must be pre-approved by the advisor and the department head.

Students must meet the University General Education Requirement for Communicating through Writing and Communicating Orally by selecting a course with a WC designation and a course with an OC designation.

DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING

http://www.engr.utk.edu/civil/

Gregory D. Reed, Head

Professors
Bennett, R.M., PhD, PE   Illinois
Burdette, E.G. (Fred N. Peebles Professor), PhD, PE   Illinois
Chatterjee, A., PhD, PE   North Carolina State
Davis, W.T. (Associate Dean), PhD   Tennessee
Drumm, E.C., PhD, PE   Arizona
Penumadu, D., PhD   Georgia Tech
Reed, G.D., PhD, PE   Arkansas
Robinson, R.B. (Fisher Professor), PhD, PE   Iowa State
Urbanik, T. (Condra Professor and Goodrich Chair), PhD, PE   Texas A&M

Associate Professors
Cox, C.D., PhD, PE   Penn State
Han, L.D., PhD   California (Berkeley)
Miller, T.L., PhD, PE   Tennessee
Richards, S.H., PhD, PE   Tennessee
Robinson, K.G., PhD   Virginia Tech

Assistant Professors
Agnihotri, S., PhD   Illinois
Gentry, R., PhD, PE   Memphis
Ma, Z., PhD, PE   Nebraska
Huang, B., PhD, PE   Louisiana State
Schwartz, J., PhD, PE   Illinois
Zhao, Q., PhD   California (Berkeley)

The department offers a Bachelor of Science Degree in Civil Engineering, accredited by the Accreditation Board for Engineering and Technology (ABET).

Undergraduate Education Mission

To prepare students to enter the general practice of civil engineering and/or pursue graduate education, the department's undergraduate education mission is to provide a high-quality teaching and learning environment in recognized areas of civil engineering with proficiency in environmental, geotechnical, structural, transportation, and water resources engineering.

Educational Objectives

Consistent with the mission of the Department of Civil and Environmental Engineering at the University of Tennessee, Knoxville, graduates of the civil engineering program will have technical competency to pursue professional practice or graduate education; and professional competency to function in a team environment, effectively communicate, and engage in life-long learning.

The curriculum in civil engineering provides training in fundamental engineering sciences and in basic subjects in related fields. Technical electives are available in construction, environmental engineering, geotechnical, material, structures, transportation, or water resources.

Graduation Requirements

Students are required to be advised every semester. Students are required to maintain a cumulative grade point of at least 2.00 in all civil engineering and environmental engineering courses taken at the University of Tennessee, Knoxville, used to satisfy the graduation requirements. No more than two civil and environmental engineering courses in which a D is the highest grade earned may be counted toward graduation.

Electives

Electives are chosen to meet student career objectives and program accreditation requirements. Students must consult with their advisor and have their selections pre-approved. A student must have a GPA of 2.75 or higher or approval of the instructor to take 500-level courses for undergraduate credit.

CIVIL ENGINEERING MAJOR

Requirements for the Bachelor of Science in Civil Engineering

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 120*, 130*</td>
<td>8</td>
</tr>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>Engineering Fundamentals 105, 151 or 157, 152 or 158</td>
<td>8</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Fundamentals 105, 151 or 157, 152 or 158</td>
<td>9</td>
</tr>
<tr>
<td>Mathematics 141*, 142*</td>
<td>8</td>
</tr>
</tbody>
</table>

Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts and Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Civil Engineering 205*, 210, 261</td>
<td>9</td>
</tr>
<tr>
<td>Engineering Fundamentals 202</td>
<td>3</td>
</tr>
</tbody>
</table>

Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts and Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Civil Engineering 305, 321, 330, 351, 352, 361, 380, 390, 416</td>
<td>27</td>
</tr>
<tr>
<td>Civil Engineering/Technical Elective</td>
<td>3</td>
</tr>
<tr>
<td>Social Sciences Electives*</td>
<td>6</td>
</tr>
</tbody>
</table>

Total 128

* Meets University General Education Requirement.
All electives must be pre-approved by the advisor and the department head.
Minor in Environmental Engineering

The College of Engineering offers a minor in environmental engineering to those undergraduate students whose academic history provides the prerequisites for the courses required by the minor. The minor requires the completion of a minimum of 21 credits in coursework which builds the foundation of an environmental engineering perspective. Some of the courses used in the minor may also satisfy a requirement for a major. Students are advised that the first professional degree in environmental engineering at the University of Tennessee, Knoxville, is the Master of Science with a major in environmental engineering which builds on the minor.

Students are asked to file their intent to complete the minor with the office of the Department of Civil and Environmental Engineering, 223 Perkins Hall. The student’s home department advisor will then be supplied with the information about the minor requirements to assist with prerequisite sequencing. A copy of the form will be filed with the Office of the University Registrar so that, upon completion, the minor will be shown on the student’s transcript.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental or Soil Sciences 444</td>
<td>3</td>
</tr>
<tr>
<td>Science with a major in environmental engi-</td>
<td>3</td>
</tr>
<tr>
<td>endangered species, and soil sciences</td>
<td>3</td>
</tr>
<tr>
<td>Engineering 486</td>
<td>3</td>
</tr>
<tr>
<td>Microbiology 210</td>
<td>3</td>
</tr>
<tr>
<td>Select one from Chemistry 230, 310, or 350</td>
<td>3</td>
</tr>
<tr>
<td>Select two from Chemical Engineering 200;</td>
<td>3</td>
</tr>
<tr>
<td>Biosystems</td>
<td>3</td>
</tr>
<tr>
<td>Engineering 221; Civil Engineering 380, 395,</td>
<td>6</td>
</tr>
<tr>
<td>416</td>
<td></td>
</tr>
<tr>
<td>Select one from Geology 202 or Philosophy 245</td>
<td>3</td>
</tr>
<tr>
<td>Select one from Geology 485; Civil Engineering 485; Environmental or Soil Sciences 444</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Total 21</td>
</tr>
</tbody>
</table>

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING

http://www.ece.utk.edu/

Samir El-Ghazaly, Head
Paul B. Crilly, Undergraduate Liaison

Professors

Abid, M., PhD ........................................................ Tennessee
Birdwell, J.B., PhD ........................................... Massa- chusetts Institute of Technology
Bomar, B.W. (UTSI), PhD ..................................... Tennessee
Bouldin, D.W., PhD ........................................... Vanderbilt
El-Ghazaly, S.M., PhD ........................................ Texas
Kuo, W. (Dean and University Distinguished Professor), PhD ......................... Kansas State
Lawler, J.S., PhD ............................................. Michigan State
Pace, M.O., PhD ................................................. Georgia Tech
Peterson, G.D., DSc  ........................................ Tennessee
Pujol, S.A., (UTSI), PhD ...................................... Vanderbilt
Roberts, M.J., PhD ........................................... Tennessee

Associate Professors

Crilly, P.B., PhD ................................................ New Mexico State
Fathy, A., PhD .................................................. Polytechnic Institute of New York
Islam, S.K., PhD ................................................. Connecticut
Qi, H., PhD ..................................................... North Carolina State
Smith, L.M. (UTSI), PhD ...................................... Tennessee
Tolbert, L.M., PhD ........................................... Georgia Tech

Assistant Professors

Blalock, B.J., PhD ................................................ Georgia Tech
Djouadi, S. M., PhD .......................................... McGill (Canada)
Elhanany, I., PhD .............................................. Ben-Gurion (Israel)
Farquhar, E.D., PhD .......................................... Georgia Tech
Ferdjallah, M. P., PhD ........................................ Texas (Austin)
Kong, S.G., PhD ................................................ UCLA
Li, F., PhD ....................................................... Virginia Tech
Peterson, G.D., DSc ........................................... Washington University
Wu, J., PhD ........................................................ Notre Dame

Emeriti Faculty

Alexeff, I., PhD, PE .............................................. Wisconsin
Gonzalez, R.C., PhD ........................................... Texas A&M
Green, W.L., PhD ............................................... Texas A&M
Roth, J.R., PhD ................................................ Cornell

The goals of the Bachelor of Science programs in electrical and computer engineering are to prepare students for entry into the profession; instill in students the capabilities required by the discipline, the recognition of the need to enhance the discipline, and the desire for life-long learning; and to equip students with a general knowledge of technical and non-technical disciplines so that they are prepared for further study in other fields including professional and graduate education.

The Bachelor of Science programs are based on a series of integrated courses. Students advance through the program in a sequential manner guided by prerequisite and co-requisite courses in the showcase curriculum. This integrated sequentially-developed program is highlighted by the systematic inclusion of the design process introduced in the sophomore year.

Program Educational Objectives

The educational objectives of the electrical and computer engineering programs include an understanding of the engineering sciences necessary to analyze and design complex devices and systems containing hardware and software components; a progression of design projects and tasks throughout the program; an understanding of probability and statistics, including applications, and discrete mathematics; an understanding of mathematics through differential and integral calculus; an understanding of the basic sciences including chemistry and physics; an understanding of advanced mathematics in the areas of differential equations, numerical analysis, linear algebra, and advanced calculus; an orderly student progression through the program; and achievement of the objectives of the thirteen program outcomes.

Program Outcomes

In addition to the eleven program outcomes listed in the College of Engineering section on National Accreditation, electrical and computer engineering programs also include experience in using organizational skills in team management and negotiation; and ability to use creative and technical skills in analytical problem solving in the discipline and other engineering related fields. Both electrical and computer engineering programs are under continuous assessment and improvement based on Engineering Criteria 2000. The advisory committee to the department, which is made up of persons from industry, government, higher education students and recent graduates, provides constituent input for setting program educational objectives and outcomes and establishing the requisite assessment modes for the program.

General

The courses of study for the Bachelor of Science in Electrical Engineering and the Bachelor of Science in Computer Engineering are structured to provide a foundation in both the basic sciences and the specialized areas of the respective discipline. The programs also have sufficient general education electives to enhance the cultural growth of the student and develop professionals with a strong social awareness. The faculty seeks to keep classes small enough to allow effective interaction with students.

The selection of general education elective courses is left to each student but must be made in accordance with established College of Engineering policy.

Generally, all sophomore- and junior-level courses taught in the department are taught at least twice per year. Senior-level courses are normally offered in either the fall or spring semester. Courses for which a senior course is a prerequisite will be normally offered in the spring semester with the prerequisite senior course being offered in the fall semester. In all courses which have prerequisites indicated, the prerequisite must be completed prior to enrollment in the course. This scheduling arrangement allows for flexibility since the student may elect the normal four-year schedule, an accelerated schedule, or choose to participate in the cooperative engineering program.
The Electrical and Computer Engineering Department maintains a number of laboratory facilities to support the undergraduate teaching program. The laboratories are devoted specifically to circuits and systems, communications, computer networks, digital systems, electronics, image processing, machinery, machines, and power electronics and drives. Microcomputer and personal computer facilities are provided within the department.

The Electrical and Computer Engineering Department requires at least a C in every Electrical and Computer Engineering course used for either of our undergraduate degrees and in every required mathematics or computer science course.

Progression of electrical and computer engineering undergraduate majors to the upper-division programs of the department is competitive and is based on the space available in the department. Factors considered in the decision include overall grade point average, grades earned in courses required in the lower-division curricula of the department and College of Engineering, and seriousness of purpose and interest in departmental programs as exemplified by regular and orderly progress through the prescribed curriculum without abuse of withdrawal and course repeat privileges.

Students who take Electrical and Computer Engineering 300 in the ECE department will be evaluated during the semester they are registered for it. Transfer students for whom ECE 300 transfer credit is given may take 9 semester hours in departmental courses before progression evaluation. All students, whether or not they transfer in, who are not accepted into the upper-division program of the department will either be put in a temporary probationary status or a non-progressed status in which they will not be permitted to register for any upper-division courses within the department.

**COMPUTER ENGINEERING MAJOR**

Students in the junior and senior years may choose from a wide spectrum of courses covering various aspects of electrical and computer engineering, computer science, and related fields. Students must meet the design, depth, and breadth requirements in the department in their selection of these courses. Students are encouraged to discuss an appropriate senior program with their advisors.

To be eligible for the Bachelor of Science in Computer Engineering, a student must achieve a cumulative grade point average of at least 2.0 in all electrical and computer engineering courses taken at the University of Tennessee, Knoxville. At least 30 hours of upper-division courses in electrical and computer engineering and computer science must be earned at the University of Tennessee, Knoxville.

**Requirements for the Bachelor of Science in Computer Engineering**

<table>
<thead>
<tr>
<th>Year</th>
<th>Hours Credit</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year</td>
<td>6</td>
<td>English 101*, 102* Math 141*, 142* Chemistry 120*</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Engineering Fundamentals I or 157 or 158 or 105 Electrical and Computer Engineering 206</td>
</tr>
<tr>
<td>Second Year</td>
<td>10</td>
<td>Mathematics 231, 241, 251 Physics 231*, 232* Electrical and Computer Engineering 255, 313 Electrical and Computer Engineering 300</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Computer Science 140</td>
</tr>
<tr>
<td>Third Year</td>
<td>7</td>
<td>Electrical and Computer Engineering 315, 335 Computer Science 302, 360 Mathematics 300</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Philosophy 241*, 243*, 244* Electrical and Computer Engineering 316, 342, 358, 395</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>2Arts and Humanities Elective 2Social Sciences Elective</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2Cultures and Civilizations Elective</td>
</tr>
<tr>
<td>Fourth Year</td>
<td>5</td>
<td>Electrical and Computer Engineering 400* Electrical and Computer Engineering 451-453 or 451-455</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>3Electrical Engineering Senior Electives</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>4Technical Electives</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>2Arts and Humanities Elective</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>2Social Sciences Elective 2Cultures and Civilizations Elective</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Engineering Fundamentals 402</td>
</tr>
</tbody>
</table>

Total 127

* Meets University General Education Requirements.
1 Engineering Fundamentals 157 and 158 are honors versions of Engineering Fundamentals and students in the Chancellor’s Honors Program are not required to take Engineering Fundamentals 402.
2 Can be taken at any time.
3 Must be in Electrical and Computer Engineering courses. At most, one Electrical Engineering Senior Elective can be from any 300-level Electrical and Computer Engineering courses. Approved Senior Electives are Electrical and Computer Engineering 325, 336, 341, 415, 416, 421, 422, 423, 431, 432, 441, 442, 443, 446, 453, 471, 472, 481 and 482.

**ELECTRICAL ENGINEERING MAJOR**

Students in the senior year may choose from a wide spectrum of courses covering all aspects of electrical and computer engineering. Students must meet the design, depth, and breadth requirements of the department in their selection of these courses. The design requirement is met through a major engineering design experience in Electrical and Computer Engineering 400, Senior Design, and through the design process being integrated into specified courses throughout the program. The breadth requirement is met by taking two courses in one of the five core areas of communications, computers, electronics, power, and systems. The breadth requirement is met by taking courses in other core areas, or courses in computer vision, power electronics, and emerging technologies. Students are encouraged to discuss an appropriate senior program with their advisors.

To be eligible for the Bachelor of Science in Electrical Engineering, a student must achieve a cumulative grade point average of at least 2.0 in all electrical and computer engineering courses taken at the University of Tennessee, Knoxville. At least 30 hours of upper-division electrical and computer engineering courses, including Electrical and Computer Engineering 400, and courses to meet the depth, and breadth requirements of the department must be earned at the University of Tennessee, Knoxville.

**Requirements for Bachelor of Science in Electrical Engineering**

<table>
<thead>
<tr>
<th>Year</th>
<th>Hours Credit</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year</td>
<td>6</td>
<td>English 101*, 102* Math 141*, 142*</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Chemistry 120*</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Engineering Fundamentals 157 or 158, 105 Electrical and Computer Engineering 206</td>
</tr>
<tr>
<td>Second Year</td>
<td>8</td>
<td>Mathematics 200, 231, 241 Physics 231*, 232*</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Electrical and Computer Engineering 255, 313 Electrical and Computer Engineering 300</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Philosophy 241*, 243*, or 244*</td>
</tr>
<tr>
<td>Third Year</td>
<td>14</td>
<td>Electrical and Computer Engineering 315, 325, 335, 341 Electrical and Computer Engineering 316, 336, 342, 358, 395</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>2Social Sciences Electives</td>
</tr>
<tr>
<td>Fourth Year</td>
<td>5</td>
<td>Electrical and Computer Engineering 400* Electrical and Computer Engineering 451-453 or 451-455</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>3Electrical Engineering Senior Electives</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>4Technical Electives</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>2Arts and Humanities Elective</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2Cultures and Civilizations Elective</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1Engineering Fundamentals 402</td>
</tr>
</tbody>
</table>

Total 127
ENGINEERING PHYSICS PROGRAM

Soren P. Sorenson, Director
Stuart B. Elston, Coordinator

Engineering physicists typically work in areas of applied science and emerging technology in which standard engineering practices are rapidly evolving to keep pace with advances in science; they are often involved in developing new engineering methods and principles. The goal of the engineering physics Bachelor of Science program is to prepare its students to apply the principles and problem-solving approaches of physics to the solution of engineering problems at the frontiers between science and technology by

• Providing students with a thorough knowledge of mathematics, science, and engineering science with an emphasis on the principles of physics and of the derived physical, chemical, and biological sciences as appropriate to individual career goals.
• Training students in the communication, team cooperation, and problem identification and solving skills needed to practice engineering art in the modern world.
• Preparing students through example and experience to apply those principles and skills to the design and conduct of experiments, the analysis and interpretation of measured results, and to the design of components, processes, and systems that meet specific, identified needs.
• Instilling in students understanding and appreciation of the cultural, historical, societal, economic, and environmental contexts in which problems of engineering and science arise, and to promote commitment to seek solutions which achieve appropriate balance of cultural, social, and technical value.

The program in engineering physics is designed to fulfill the educational requirements for professional work in various fields of applied science which are based upon a thorough knowledge of physics. The first two years of the curriculum are concerned with fundamental courses in engineering, science, mathematics, and general education. In the upper division, the curriculum allows some choice of courses in engineering and in physics depending on the interest and career goals of the student. The undergraduate program is a complete, professional program, equipping the student for entry into a variety of work in industry and research. The program also leads to graduate work in either physics or engineering.

* Meets University General Education Requirement.
1 Engineering Fundamentals 157 and 158 are Honors versions of Engineering Fundamentals and students in the Chancellor’s Honors Program are not required to take Engineering Fundamentals 402.
2 Can be taken at any time.
4 Chemistry 130; Industrial Engineering 405; Materials Science and Engineering 201, 410; Mechanical Engineering 231, 321, 331, 344; Nuclear Engineering 342.
industrial engineer is concerned with the design of integrated systems involving people, materials, finances, equipment, processes, energy, and information, so that the overall system functions efficiently and human needs are adequately met. Industrial engineering is distinctive in two respects – the industrial engineer typically works on problems or systems which include human beings as a major variable and the industrial engineer is by definition a systems engineer, whose unique combination of skills can be applied to many working environments.

It is this emphasis on people, science, and technology that distinguishes industrial engineering from the other engineering disciplines. The industrial engineer’s objective is to achieve the best possible results for the benefit of humankind in terms of safety, quality, and productivity. Industrial engineers create value through a total systems approach, scientific method, engineering design, and integration of new technologies. In common with all engineering disciplines, industrial engineering is based on mathematics and the physical sciences. However, industrial engineering also emphasizes the life sciences and social sciences. This concern for the human element leads to systems design that enhance the quality of life for all people, both as producers and consumers of products and services.

Career choices for industrial engineers range from retail distribution, banking, healthcare delivery, corporate management, municipal management, aerospace systems, research groups, government employment as well as manufacturing. In all areas of manufacturing, service, and government, there is increasing emphasis on the goal of improving quality and productivity. Industrial engineers work closely with the top management in these sectors to achieve this goal.

Industrial engineering graduates possess the knowledge, technical skills, and professionalism for their entry into industry or graduate study. They are prepared for life-long learning and for service to society. Many will achieve prominent roles in management.

Students majoring in industrial engineering are eligible to participate in the Engineering Cooperative Program and other student activities in the College of Engineering. Industrial engineering majors interested in the Engineering Cooperative Program should visit Office of Cooperative Engineering or consult with their faculty advisor.

NOTE – Any 400-level course required in the Bachelor of Science in Industrial Engineering program at the University of Tennessee, Knoxville, may not be used for graduate credit in the Master of Science degree program.

**Goals**

The goals of the industrial engineering undergraduate program are to prepare students to contribute to the profession of industrial engineering and to prepare them for further study, including professional and graduate education.

**Objectives**

The objectives of the industrial engineering program include enabling the students to obtain:

- An understanding of fundamental engineering principles, mathematics, science, and statistics.
- An understanding of and an ability to apply the following concepts to the multi-faceted problems associated with the production of, maintenance, and delivery of goods and services; fundamental human factors which influence engineering design, the economic analysis of alternative design choices, introductory economics and accounting, quality control techniques, manufacturing processes and materials, production and inventory system design and control, the mathematical modeling and simulation of complex systems, and the design and installation of information acquisition and control systems.
- An ability to communicate effectively, both orally and in writing, to function on multi-disciplinary teams, to have a knowledge of pertinent contemporary issues, and to recognize the need for a commitment to life-long learning.

This curriculum emphasizes the knowledge and skills necessary to design integrated systems of people, materials, equipment and energy, such that the overall systems functions at an optimal level and such that the needs of human components of the system are met. The solid, broad base in engineering, combined with education in applying engineering methodology to traditionally non-engineering problem areas as provided through the industrial engineering curriculum, leads to participation by industrial engineers in an unlimited range of fields including retail distribution, banking, health care delivery, corporate management, municipal management, food industry, as well as traditional areas of manufacturing.

**Outcomes**

The eleven program outcomes listed in the College of Engineering section on National Accreditation are the accepted outcomes of the Industrial and Information Engineering Department.

**INDUSTRIAL ENGINEERING MAJOR**

**Requirements for the Bachelor of Science in Industrial Engineering**

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 120*</td>
<td>4</td>
</tr>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 141*, 142*</td>
<td>8</td>
</tr>
<tr>
<td>Engineering Fundamentals 105, 151 or 157, 152 or 158</td>
<td>9</td>
</tr>
<tr>
<td>Engineering Fundamentals 202</td>
<td>2</td>
</tr>
<tr>
<td>General Education Elective*</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting 200</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 251</td>
<td>3</td>
</tr>
<tr>
<td>Math 200, 231, 241</td>
<td>8</td>
</tr>
<tr>
<td>Physics 231*</td>
<td>3</td>
</tr>
<tr>
<td>Engineering Fundamentals 230</td>
<td>2</td>
</tr>
<tr>
<td>Industrial Engineering 202, 250</td>
<td>4</td>
</tr>
<tr>
<td>Materials Science and Engineering 201</td>
<td>3</td>
</tr>
<tr>
<td>Mechanical Engineering 231</td>
<td>3</td>
</tr>
<tr>
<td>Nuclear Engineering 203</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economics 201*</td>
<td>4</td>
</tr>
<tr>
<td>Electrical and Computer Engineering 301</td>
<td>3</td>
</tr>
<tr>
<td>Industrial Engineering 300, 301, 304, 405</td>
<td>12</td>
</tr>
<tr>
<td>Industrial Engineering 310, 330, 340, 350*</td>
<td>10</td>
</tr>
<tr>
<td>Legal Studies 244 *</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Engineering 401, 402, 404, 406</td>
<td>10</td>
</tr>
<tr>
<td>Industrial Engineering 421, 422, 427, 450</td>
<td>10</td>
</tr>
<tr>
<td>Technical Elective</td>
<td>3</td>
</tr>
<tr>
<td>General Education Electives*</td>
<td>9</td>
</tr>
</tbody>
</table>

* Meets General Education Requirement
* All General Education electives must be pre-approved by the advisor and the department head.

* Technical electives must be taken from the Department of Industrial and Information Engineering list of approved courses or be approved by the advisor and the department head.
DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING

http://www.engr.utk.edu/mse/

George M. Pharr, Interim Head

Professors
Benson, R.S., PhD ........................................... Florida State
Bhat, G.S., PhD ................................................. Georgia Tech
Bresee, R.R., PhD ........................................... Florida State
Collier, B.J., PhD ............................................. Tennessee
Dahotre, N.B., PhD ............................................. Michigan State
Egami, T., PhD .................................................. Pennsylvania
George, E.P., PhD ............................................. Pennsylvania
Hansen, A.G., PhD .............................................. Illinois
Joy, D.C., DPhil ................................................... Oxford (UK)
Liaw, P.K., PhD .................................................. Northwestern
Lundin, C.D., PhD .............................................. Rensselaer Polytechnic Institute
McHargue, C.J., PhD ........................................... Kentucky
Nieh, T.G., PhD ................................................... Stanford
Pedraza, A.J., PhD ............................................. LaPlata (Argentina)
Pharr, G.M., PhD, PE ........................................ Stanford
Pharr, M., PhD .................................................... Tennessee
Spruill, J.E., PhD ............................................. Tennessee
Wadsworth, L.C., PhD ........................................ North Carolina State

Associate Professors
Kit, K., PhD ....................................................... Delaware
Meek, T.T., PhD .............................................. Ohio State
Morris, J.R., PhD ................................................ Cornell
Rack, P.D., PhD ................................................... Florida

Assistant Professors
Choo, H., PhD ................................................. Illinois Institute of Technology
Gao, Y. PhD ........................................................ Princeton
Hu, B., PhD ..................................................... Chinese Academy of Sciences
Keppens, V., PhD ........................................... Katholieke Universiteit Leuven (Belgium)
Rawn, C.J., PhD ..................................................... Arizona

Emeriti Faculty
Brooks, C.R., PhD .............................................. Tennessee
Fellers, J.F., PhD ................................................ Akron
Stansbury, E.E., PhD ......................................... Cincinnati

Materials science and engineering is concerned with the science and technology needed to develop and apply materials for the benefit of society. The undergraduate program is designed to prepare students to undertake materials science and engineering careers or to enter graduate programs in this or related disciplines. The following specific educational objectives were established in consultation with our students, faculty, potential employers, and alumni to assure that students are well prepared to undertake careers or graduate programs and that our graduates graduate with an undergraduate education that will sustain them for their lifetime.

During the initial stages of their careers, graduates will be prepared to

• Apply knowledge of the fundamentals of physical and chemical sciences, mathematics, and engineering sciences in the practice of materials science and engineering or in advanced professional studies.

• Design components, systems, or processes and/or select materials for specific applications with consideration of economic, safety, environmental, and social issues.

• Apply professional skills in such areas as communication, problem solving, and experience in working in diverse teams, to the practice of materials engineering in contemporary and global environs.

• Use the general education component of their education for the appreciation of cultural and social values, for understanding the impact of engineering solutions on society, and for personal development.

These educational objectives are consistent with the mission statement of the university. They particularly relate to “commitment to the development of individuals and society as a whole through the cultivation and enrichment of the human mind and spirit.” They are consistent with EAC/ABET General Criteria to assure quality and stimulate improvement.

The field of materials science and engineering is quite broad, encompassing metallic, ceramic, and polymeric materials, as well as composites made from combinations of materials and specialty application areas such as electronic and optical materials.

Consequently the curriculum contains a central core of courses that are applicable to all materials types with flexibility in the upper division years to permit concentration and in-depth coverage of specific materials categories. By judicious choice of electives the student may get a broad perspective or may develop a specialty area.

A minimum of 18 semester-hours of general education courses are required by all engineering degree programs in order to meet the University of Tennessee, Knoxville, General Education goals. (See The University General Education Requirement section in the front of this catalog). The major in materials science and engineering specifically requires Economics 201 (taken as one of the two courses required in the Social Sciences cluster); any two approved courses under the Arts or Humanities cluster; and any two approved courses under the Cultures and Civilizations cluster. The requirement for three courses in writing communication may be filled by English 101 and 102 plus Materials Science and Engineering 405 (or other approved writing intensive course). The requirement for one course in communicating orally may be filled with Materials Science and Engineering 489 (or other approved communicating orally course).

Graduation in materials science and engineering requires a minimum grade point average of 2.00 for all departmental courses.

Progression to Upper-Division Programs
Progression of students to departmental upper-division courses is competitive. Factors considered include overall grade point average, performance in selected lower-division courses and evidence of satisfactory and orderly progress through the prescribed curriculum.

Upper-Division Status
A lower-division student formally applies for upper-division status after completing 50 hours of lower-division engineering curriculum course work with an overall GPA of at least 2.4. This must include Materials Science and Engineering 201.

Provisional Status
Students who have completed 50 hours of lower-division engineering curriculum coursework with an overall GPA between 2.0 and 2.4 may apply for provisional status. The granting of provisional upper-division status is based on the availability of space in the departmental programs after upper-division status students have been accommodated. Provisional students are required to demonstrate their ability to perform satisfactorily in upper-division courses by attaining a minimum GPA of 2.0 in at least 8 hours of 300-level required courses specified by the department. Further progression to upper-division courses is dependent upon this minimum level of performance.

Transfer Students
At the upper-division level students are admitted on a provisional status basis only. Any student presenting more than 28 hours of lower-division engineering curriculum coursework by transfer credit is considered to be a transfer student.
MATERIALS SCIENCE AND ENGINEERING MAJOR

Requirements for the Degree of Bachelor of Science in Materials Science and Engineering

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials Science and Engineering 101</td>
<td>1</td>
</tr>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>Chemistry 120*, 130*</td>
<td>8</td>
</tr>
<tr>
<td>Mathematics 141*, 142*</td>
<td>8</td>
</tr>
<tr>
<td>Engineering Fundamentals 105, 151 or 157, 152 or 158</td>
<td>9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials Science and Engineering 201, 250, 260, 290, 291</td>
<td>11</td>
</tr>
<tr>
<td>Physics 231*, 232*</td>
<td>7</td>
</tr>
<tr>
<td>Mathematics 200, 231, 241</td>
<td>8</td>
</tr>
<tr>
<td>1 General Education Elective*</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials Science and Engineering 300, 301, 302, 304, 320, 340, 350, 360, 370, 390</td>
<td>26</td>
</tr>
<tr>
<td>1 General Education Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Technical Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials Science and Engineering 405*(WC), 480, 489</td>
<td>10</td>
</tr>
<tr>
<td>2 Materials Science and Engineering Electives</td>
<td>6</td>
</tr>
<tr>
<td>Electrical and Computer Engineering 301</td>
<td>3</td>
</tr>
<tr>
<td>Engineering Fundamentals 402</td>
<td>3</td>
</tr>
<tr>
<td>Technical Elective</td>
<td>3</td>
</tr>
<tr>
<td>1 General Education Elective*</td>
<td>9</td>
</tr>
</tbody>
</table>

Total 128

* Meets University General Education Requirement.
1 General Education courses must include Economics 201, any two approved courses under the Arts or Humanities cluster, any two approved courses under the Cultures and Civilizations cluster, and one approved course in the Social Sciences cluster.
2 Materials Science and engineering electives: 410, 421, 429, 445, 470, 472, 474, 484, 494, 495.
NOTE: Students must meet the University General Education Requirement for Communicating Orally by selecting a course with an OC designation.

Minor in Materials Science and Engineering

A minor in materials science and engineering is offered through the College of Engineering to those undergraduate students who have met the prerequisites for the courses required by the minor. The minor requires completion of a minimum of 18 hours in coursework which develops a foundation in materials science and engineering and allows concentration in materials science and engineering areas to be selected by the students (e.g., metallurgy, polymers, ceramics, composites, or electronic materials). Some of the courses used for the materials science and engineering minor may also satisfy requirements for the student’s major.

Students may enroll in the minor program by completing a form at the Department of Materials Science and Engineering, 434 Dougherty Engineering Building. A copy of the completed enrollment form and information on the minor requirements will be forwarded to the student’s home department advisor. A copy of the form also will be filed with the Office of the University Registrar so that, upon completion, the minor will be shown on the student’s transcript.

Required Courses

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials Science and Engineering 201 and 480</td>
<td>6</td>
</tr>
<tr>
<td>Choose at least one: Materials Science and Engineering 320, 340, 360, 402, 410, and 472</td>
<td>3</td>
</tr>
<tr>
<td>Select at least three, at least one of which must be at the 400-level -- any of the Materials Science and Engineering 300-400 courses; Biomedical Engineering 310, 408, 455, 469, 473 and 475; Chemistry 350, 360, 369, 430, 439, 450, 473, 483, 479, 489 and 490; Chemical Engineering 230, 301, 447 and 484; Civil and Environmental Engineering 321 and 421; Electrical and Computer Engineering 335; Industrial Engineering 330, 401, and 484; Mechanical Engineering 321, 366, 466 and 484; Nuclear Engineering 484; Physics 342, 411, 412, 421, 431 and 432. Other courses in this category may be acceptable, but must be approved in advance by the Department of Materials Science and Engineering</td>
<td>9</td>
</tr>
</tbody>
</table>

Total 18

DEPARTMENT OF MECHANICAL, AEROSPACE, AND BIOMEDICAL ENGINEERING

http://www.engr.utk.edu/mabe/

William R. Hamel, Head

Professors

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrinilli, R.V., PhD</td>
<td>Virginia Tech</td>
</tr>
<tr>
<td>Baker, A.J., PhD, PE</td>
<td>New York</td>
</tr>
<tr>
<td>Dareing, D.W., PhD, PE</td>
<td>Illinois</td>
</tr>
<tr>
<td>Frankel, J.I., PhD</td>
<td>Virginia Tech</td>
</tr>
<tr>
<td>Hamel, W.R., PhD</td>
<td>Tennessee</td>
</tr>
<tr>
<td>Jendrucko, R.J., PhD, PE</td>
<td>Virginia</td>
</tr>
<tr>
<td>Johnson, W.S., PhD, PE</td>
<td>Clemson</td>
</tr>
<tr>
<td>Keyhani, M., PhD</td>
<td>Ohio State</td>
</tr>
<tr>
<td>Kihm, K.D., PhD</td>
<td>Stanford</td>
</tr>
<tr>
<td>Komistek, R.D., PhD</td>
<td>Memphis</td>
</tr>
<tr>
<td>Landes, J.D., PhD, PE</td>
<td>Lehigh</td>
</tr>
<tr>
<td>Milligan, M.W., PhD, PE</td>
<td>Tennessee</td>
</tr>
<tr>
<td>Parang, M. (Associate Dean), PhD, PE</td>
<td>Oklahoma</td>
</tr>
<tr>
<td>Parsons, J.R., PhD, PE</td>
<td>North Carolina State</td>
</tr>
<tr>
<td>Smith, G.V., PhD, PE</td>
<td>Penn State</td>
</tr>
<tr>
<td>Soliman, O., PhD, PE</td>
<td>Tennessee</td>
</tr>
<tr>
<td>Weisman, J.P., PhD, PE</td>
<td>Cincinnati</td>
</tr>
<tr>
<td>Weitsman, Y.J. (Distinguished Professor), PhD</td>
<td>Rensselaer Polytechnic Institute</td>
</tr>
</tbody>
</table>

Associate Professors

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boulet, J.A.M., PhD</td>
<td>Stanford</td>
</tr>
<tr>
<td>Chellalbina, V.S., PhD</td>
<td>Georgia Tech</td>
</tr>
<tr>
<td>Lumdsden, A., PhD</td>
<td>Michigan</td>
</tr>
<tr>
<td>Karpog, J.E., M.E., PhD</td>
<td>North Carolina State</td>
</tr>
<tr>
<td>Madhukar, M.S., PhD</td>
<td>Drexel</td>
</tr>
<tr>
<td>Nguyen, K., PhD</td>
<td>Colorado</td>
</tr>
<tr>
<td>Pionke, C.D., PhD, PE</td>
<td>Georgia Tech</td>
</tr>
</tbody>
</table>

Assistant Professors

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>DeSmidt, H.A., PhD</td>
<td>Penn State</td>
</tr>
<tr>
<td>English, A., PhD</td>
<td>Harvard-MIT</td>
</tr>
<tr>
<td>Karpog, J.E., M.E., PhD</td>
<td>Southampton (UK)</td>
</tr>
<tr>
<td>Lee, D., PhD</td>
<td>Minnesota</td>
</tr>
<tr>
<td>Mahfouz, M.R., PhD</td>
<td>Colorado School of Mines</td>
</tr>
</tbody>
</table>

Emeriti Faculty

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carley, T.G., PhD, PE</td>
<td>Illinois</td>
</tr>
<tr>
<td>Forrester, J.H., PhD, PE</td>
<td>Iowa State</td>
</tr>
<tr>
<td>Hodgson, J., PhD, PE</td>
<td>Georgia Tech</td>
</tr>
<tr>
<td>Matthews, A., PhD, PE</td>
<td>Illinois</td>
</tr>
<tr>
<td>Shannon, T.E., PhD, PE</td>
<td>Tennessee</td>
</tr>
<tr>
<td>Snyder, W.T., PhD</td>
<td>Northwestern</td>
</tr>
<tr>
<td>Speckhart, F.H., PhD, PE</td>
<td>Georgia Tech</td>
</tr>
</tbody>
</table>

Speckhart, F.H., PhD, PE | Georgia Tech
The department offers a Bachelor of Science in Mechanical Engineering, Aerospace Engineering, and Biomedical Engineering. The mission of the department is to provide a broad base integration of courses and experiences that prepare graduates to practice their profession successfully, to apply their skills to solve current engineering problems collaboratively, and to help advance the knowledge and engineering practice in their fields.

Progression

The freshman year curriculum is common to all engineering majors. The sophomore curriculum is nearly identical for all students in the department. The first two years are considered to be lower-division and the two remaining years upper-division. Upon completion of the lower-division courses, the student must apply for progression to the upper-division in order to continue in the department. Students allowed to progress may be awarded full status or provisional status. Factors considered include overall grade point average, performance in lower division engineering and mathematics courses, and evidence of orderly progression through the lower-division curriculum.

Full Status

A lower-division student may apply for progression to upper-division after completing 47 hours of lower-division engineering curriculum course work with an overall GPA of at least 2.4.

Provisional Status

Students who have completed 47 hours of lower-division engineering curriculum course work with an overall GPA between 2.0 and 2.4 may apply for provisional status. The granting of provisional status is based on the availability of space in departmental programs after full status students have been accommodated. Provisional status students are required to demonstrate their ability to perform satisfactorily in upper-division by attaining a minimum GPA of 2.0 in the first 12 hours of 300-level required engineering courses. Award of upper-division full status is dependent upon this performance.

Students with an overall GPA less than 2.0 in 47 hours of lower-division engineering curriculum course work will not be admitted to upper-division. Students who have not progressed to upper-division will be dropped from departmental class rolls.

Transfer Students

Students transferring more than 26 hours from another institution are considered transfer students. Students transferring 47 hours or more will be admitted to upper-division, if eligible, with provisional status.

Loss of Full Status

Full status students are expected to maintain an overall GPA of 2.0 and a GPA of 2.0 in departmental courses. Failure to maintain these levels of performance will result in a review of the student’s progress and possible loss of full status.

Graduation Requirements

A minimum cumulative GPA of 2.0 in all departmental courses taken at the University of Tennessee, Knoxville, is required for graduation. This is in addition to the university’s graduation requirements.

AEROSPACE ENGINEERING MAJOR

Aerospace engineering uses the basic sciences and mathematics to develop the foundation for the design, development, production, testing, and applied research associated with aerospace vehicles. These vehicles include aircraft, spacecraft, and missiles. Auxiliary and propulsion systems are also an integral part of this education. These include guidance, control, environmental, ramjet, rocket, turbojet, and piston engine systems. Emphasis in the senior year is directed toward these topics, and the program culminates in a major aerospace design project.

The educational objectives of the aerospace engineering program are

• To provide students with a comprehensive education that includes in-depth instruction in aerodynamics, structures, flight mechanics, orbital mechanics, flight propulsion, and the design of aerospace systems.
• To prepare students for professional careers in aerospace engineering by developing the skills pertinent to problem solving, analysis, design, and those personal skills required for teamwork and effective communication.
• To provide opportunities to develop and cultivate life-long learning skills, individual professionalism and ethics.
• To prepare some students for graduate study at major universities limited by student desire and their mental ability and agility.

Requirements for the Bachelor of Science in Aerospace Engineering

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102*</td>
<td>.6</td>
</tr>
<tr>
<td>Chemistry 120*</td>
<td>.4</td>
</tr>
<tr>
<td>Mathematics 141*, 142*</td>
<td>.8</td>
</tr>
<tr>
<td>Engineering Fundamentals 105, 151 or 157, 152 or 158, 202</td>
<td>.11</td>
</tr>
<tr>
<td>Social Sciences Elective*</td>
<td>.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 200, 231, 241</td>
<td>.8</td>
</tr>
<tr>
<td>Aerospace Engineering 201</td>
<td>.1</td>
</tr>
<tr>
<td>Physics 231*, 232</td>
<td>.7</td>
</tr>
<tr>
<td>Mechanical Engineering 231, 321, 391</td>
<td>.9</td>
</tr>
<tr>
<td>Materials Science and Engineering 201</td>
<td>.3</td>
</tr>
<tr>
<td>Engineering Fundamentals 230</td>
<td>.2</td>
</tr>
<tr>
<td>Economics 201*</td>
<td>.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace Engineering 341, 345, 351, 363, 370</td>
<td>.16</td>
</tr>
<tr>
<td>Mechanical Engineering 331, 344, 363</td>
<td>.9</td>
</tr>
<tr>
<td>Electrical and Computer Engineering 301</td>
<td>.3</td>
</tr>
<tr>
<td>Philosophy 241*</td>
<td>.3</td>
</tr>
<tr>
<td>Arts and Humanities Elective*</td>
<td>.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace Engineering 410*, 422, 424, 425, 426, 429, 449</td>
<td>.21</td>
</tr>
<tr>
<td>Engineering Fundamentals 402</td>
<td>.1</td>
</tr>
<tr>
<td>Cultures and Civilizations Electives*</td>
<td>.6</td>
</tr>
</tbody>
</table>

Total 128

* Meets University General Education Requirement.
† Choose from the University General Education list.

Minor in Aerospace Engineering

A coursework program leading to a minor in aerospace engineering for students in other engineering degree programs is also offered.

Aerospace Engineering 341, Mechanical Engineering 231, 321, and 332 or equivalent background are prerequisites to a minor in aerospace engineering. The minor consists of five of the following six aerospace engineering courses: 351 (3), 363 (3), 370 (4), 422 (3), 424 (4), and 425 (4). The grade in each of the aerospace engineering courses must be at least 3.0. Prerequisites will be checked the first day of class every term for each of the aerospace engineering courses.

BIOMEDICAL ENGINEERING MAJOR

The biomedical engineering curriculum integrates selected engineering sciences and design methods with life science coursework. The program prepares students for careers in a variety of health care related professions including work for medical device manufacturers and regulatory governmental agencies. The course content of the biomedical engineering curriculum complements the departmental strengths in mechanical engineering and includes a comprehensive coverage of engineering materials and biomechanics applications. Elective courses are
available to allow students to specialize their curriculum to areas of particular current interest in the marketplace such as cellular and tissue engineering applications. The biomedical engineering program also allows students to meet medical school admission requirements with an appropriate selection of technical electives.

The educational objectives of the biomedical engineering program are

- To provide students with a solid foundation in mathematics, the basic and engineering sciences and engineering design methods.
- To provide students with a comprehensive integration of engineering methods of problem-solving and design with the biological sciences.
- To develop the skills needed for work in the medical device industry including a thorough coverage of engineering materials, biomaterials, biomechanics, medical device design, and work in interdisciplinary teams.
- To provide essential laboratory experience with commonly used biomedical devices and systems and to provide coverage of methods for the design of experiments in medical and life science applications.
- To provide a biomedical technology-based engineering background for students desiring admission to medical school with admission requirements being met through the appropriate selection of elective coursework.

Requirements for the Bachelor of Science in Biomedical Engineering

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Chemistry 120*, 130*</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Mathematics 141*, 142*</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Engineering Fundamentals 105, 151 or 157, 152 or 158, 202</td>
<td>11</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Fundamentals 230.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Physics 231*, 232*</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Mathematics 200, 231, 241</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Mechanical Engineering 231, 321</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Biology 140</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>1Cultures and Civilizations Elective*</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Biomedical Engineering 271</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical and Computer Engineering 300, 315</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Aerospace Engineering 341</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Biomedical Engineering 300, 310, 320</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Mechanical Engineering 331</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Philosophy 241*</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Materials Science and Engineering 201</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Economics 201*</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Fundamentals 402</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Biomedical Engineering 410*, 430, 455, 469</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>1Cultures and Civilizations Elective*</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>2Technical Elective</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>2Departmental Elective</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1Arts and Humanities Elective*</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1Social Sciences Elective*</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Statistics 251</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Total 128

* Meets University General Education Requirement.

1 Choose any course from the University General Education list.
2 Departmental and technical electives must be pre-approved by the advisor and department head.

MECHANICAL ENGINEERING MAJOR

Mechanical engineering involves the design, analysis, testing, and manufacture of mechanical and thermal systems. Mechanical engineers are employed in nearly every industry, from basic research through mass production of energy systems, computer software/hardware, robotics, and automobiles.

Mechanical engineering is a versatile and broadly based engineering discipline that also provides pathways into many exciting fields of specialization. It foundation is in the basic sciences, but mechanical engineers must further understand such subject areas as mechanical design, solid and fluid mechanics, thermodynamics, heat transfer, vibrations, manufacturing processes, instrumentation and automatic control. Design projects throughout the curriculum develop student skills in handling practical real-world problems. Because of the broad engineering foundation and design training in this program, graduates are found in nearly every industry and at different levels of research, design, and management.

The educational objectives of the mechanical engineering program are

- To educate students thoroughly in methods of analysis, including mathematical and computational skills appropriate for application to engineering problems.
- To develop the skills pertinent to the design process, including skills needed for formulation of problems, analysis, synthesis, and skills pertinent to effective communication and collaborative work.
- To teach students to use modern experimental and data analysis techniques for engineering application.
- To prepare students for lifelong learning, nourish creative talents, and provide understanding of professional and ethical responsibilities.

Requirements for the Bachelor of Science in Mechanical Engineering

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Chemistry 120*</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Mathematics 141*, 142*</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Engineering Fundamentals 105, 151 or 157, 152 or 158, 202</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>1Cultures and Civilizations Elective*</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 231, 241, 251</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Engineering Fundamentals 230</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Physics 231*</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Mechanical Engineering 231, 321, 391</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Materials Science and Engineering 201</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Economics 201*</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>1Cultures and Civilizations Elective*</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical Engineering 331, 343, 345, 363, 366, 466</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Electrical and Computer Engineering 301</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

2 3Departmental Elective

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical Engineering 410*, 475, 449, 450, 460</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Engineering Fundamentals 402</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Mechanical Engineering 365 or 463</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>3Technical Elective</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

2 3Departmental Elective

| Philosophy 241*                                 | 3     |        |
| 1Social Sciences Elective*                       | 3     |        |

Total 128

* Meets University General Education Requirement.

1 Choose any course from the University General Education list.
2 Must be chosen from Aerospace Engineering 351, 363, 422, 425; Mechanical Engineering 365, 406, 451, 452, 457, 463, 467, 480 or other departmentally approved course.
3 All departmental and technical electives must be pre-approved by the advisor and department head.
DEPARTMENT OF NUCLEAR ENGINEERING

www.engr.utk.edu/nuclear

H.L. Dodds, Head

Professors
Dodd, H.L. (IBM Professor), PhD, PE ........................................ Tennessee
Fontana, M.H. (Research), PhD, PE ........................................... Illinois
Grossbeck, M.L. (Research), PhD ................................................. Kansas
Hines, J.W., MBA, PhD ................................................................. Ohio State
Mihalczko, J.T. (Research), PhD ................................................. Tennessee
Miller, L.F., PhD, PE ................................................................. Texas A&M
Mynatt, F.R. (Research), PhD ...................................................... Tennessee
Pettingill, H.I. (Research), PhD ..................................................... Michigan
Ruggles, A.E., PhD ................................................................. Rensselaer Polytechnic Institute
Townsend, L.W., PhD ............................................................... Idaho
Upadhyaya, B.R., PhD, PE ............................................................. California (San Diego)

Associate Professors
Pevey, R.E., MBA (Emory), PhD, PE .................................................. Tennessee
Scott, T.H., PhD, PE ................................................................. Florida

Assistant Professors
Gribok, A.V. (Research), PhD ......................................................... IPPE (Russia)
Moussa, H.M. (Research), PhD ..................................................... Tennessee
Stephan, A.C. (Research), PhD ...................................................... Tennessee

Adjunct Faculty
DeHart, M.D., PhD .............................................................. Texas A&M
Gehin, J.C., PhD ............................................................. Massachusetts Institute of Technology
Inchonur, A.S., PhD .............................................................. Tennessee
Nichols, T.L., MD .............................................................. Tennessee
Ramsay, C.R., PhD .............................................................. Tennessee

Emeriti Faculty
Groer, P.G., PhD (Distinguished Professor), PhD, PE ........................................ Vienna (Austria)
Uhrig, R.E. ................................................................. Iowa State

Nuclear engineering is the engineering discipline that focuses on the application of nuclear and atomic processes for the benefit of mankind and the environment. Radiological engineering is a specialty of nuclear engineering that addresses biological applications such as radiation safety (health physics). Some examples of nuclear and radiological engineering are production of electric power with essentially no air pollution, production of radioisotopes for medical and industrial uses, and development of radiation based methods for the diagnosis and treatment of cancer.

The mission of the Nuclear Engineering Department is to

• Produce high quality nuclear and radiological engineering graduates from undergraduate through the doctoral level in order to help meet the manpower needs of our state, region, nation, and the international community.

• Conduct nuclear and radiological engineering related research to help meet the needs of society.

• Perform service for industry, government, professional organizations, and the public in areas related to nuclear and radiological engineering.

The program for the Bachelor of Science in Nuclear Engineering is nationally accredited by the Accreditation Board for Engineering and Technology (ABET) which is described earlier in this catalog. The educational objectives of the Bachelor of Science program are to

• Provide students with fundamental knowledge in mathematics, computer science, the basic sciences, and the engineering sciences that is necessary to solve state-of-the-art problems in nuclear and radiological engineering.

• Provide students with a real-world design and analysis experience in nuclear and radiological engineering that shall include environmental, societal, safety, and economic considerations.

• Provide students with appropriate skills in oral and written communication, teamwork, laboratory work, problem solving and the use of modern engineering tools that will prepare them to work productively in a contemporary and global environment.

• Provide students with a diverse general education in the humanities, ethics, and social sciences to complement their technological education in order to understand and appreciate the importance of each in society and in personal development.

• Foster a genuine desire for life-long learning in students.

Students majoring in nuclear engineering take courses in the basic sciences, engineering fundamentals, mathematics, computer science, humanities, and special areas of nuclear engineering including nuclear system design and safety; radiation transport and shielding; heat transfer and fluid flow; instrumentation and controls; fuel cycle and waste management; and health physics. Nuclear engineering students may concentrate in radiological engineering by substitution of three courses. The radiological engineering concentration also satisfies most of the requirements of pre-med, pre-vet, and pre-dentistry programs.

NUCLEAR ENGINEERING MAJOR

Requirements for the Bachelor of Science in Nuclear Engineering

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 120*, 130*</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Engineering Fundamentals 105, 151 or 157, 152 or 158</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Mathematics 141*, 142*</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts and Humanities Elective*</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Economics 201* or 207*</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Electrical and Computer Engineering 301</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Engineering Fundamentals 202, 230</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics 231, 241</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Nuclear Engineering 200, 203</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Physics 231*, 232*</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>

Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultures and Civilizations Elective*</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics 403</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Nuclear Engineering 301, 304*, 342, 351, 360, 431, 470</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>Physics 341</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Social Sciences Elective*</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultures and Civilizations Elective*</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Engineering Fundamentals 402</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Materials Science and Engineering 201</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Mechanical Engineering 321</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Nuclear Engineering 400*, 403*, 406, 472</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Philosophy 241*, 243*, or 244*</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Technical Electives</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

Total 126

* Meets University General Education Requirement.

† Technical electives are selected from upper-division mathematics and engineering courses and must be pre-approved by the department.

RADIOLOGICAL ENGINEERING CONCENTRATION

Requirements for the Bachelor of Science in Nuclear Engineering • Radiological Engineering Concentration

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 120*, 130*</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Engineering Fundamentals 105, 151 or 157, 152 or 158</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Mathematics 141*, 142*</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts and Humanities Elective*</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Economics 201* or 207*</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Electrical and Computer Engineering 301</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Engineering Fundamentals 202, 230</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics 231, 241</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Nuclear Engineering 200, 203</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Physics 231*, 232*</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>
### Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology 140</td>
<td>4</td>
</tr>
<tr>
<td>Cultures and Civilizations Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics 403</td>
<td>3</td>
</tr>
<tr>
<td>Nuclear Engineering 301, 304*, 342, 351, 431, 470</td>
<td>18</td>
</tr>
<tr>
<td>Physics 341</td>
<td>3</td>
</tr>
<tr>
<td>Social Sciences Elective*</td>
<td>3</td>
</tr>
</tbody>
</table>

### Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biochemistry and Cellular and Molecular Biology 230</td>
<td>5</td>
</tr>
<tr>
<td>Cultures and Civilizations Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Engineering Fundamentals 402</td>
<td>1</td>
</tr>
<tr>
<td>Mechanical Engineering 321</td>
<td>3</td>
</tr>
<tr>
<td>Nuclear Engineering 400*, 403*, 406, 472</td>
<td>11</td>
</tr>
<tr>
<td>Philosophy 241*, 243*, or 244*</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 251; Biochemistry and Cellular and Molecular Biology 310;</td>
<td>3</td>
</tr>
<tr>
<td>or Chemistry 350</td>
<td></td>
</tr>
<tr>
<td>†Technical Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total 129**

* Meets University General Education Requirement.
† Technical electives are selected from upper-division mathematics, chemistry, and engineering courses and must be pre-approved by the department. Pre-med, pre-vet, and pre-dentistry students must also take Chemistry 360 and Chemistry 369.
College of Nursing

Joan Creasia, Dean
Jan L. Lee, Associate Dean for Academic Affairs
Johnie Mozingo, Chair of Undergraduate Program
Beth Barret, Director of Student Services

http://nightingale.con.utk.edu/

Professors
Creasia, J., PhD .............................................. Maryland
Farr, G., PharmD ............................................ Tennessee
Hall, J., PhD .................................................. San Francisco
Lee, J., PhD ..................................................... Southern California
Mozingo, J., PhD .............................................. Walden
Thomas, S., PhD ............................................ Tennessee

Associate Professors
Chen, S., PhD .................................................. Utah
Davis, M., PhD ............................................... Tennessee
McGuire, S., EdD ............................................ Tennessee
Robinson, C.R., PhD ....................................... Tennessee
Shoffner, D., PhD ............................................ Tennessee
Speraw, S., PhD ............................................ California

Assistant Professors
Beebe, L., PhD ............................................... Kentucky
Bell, D., DNSc ............................................... Tennessee
Brown, A., MSN ............................................. Alabama (Birmingham)
Brown, M., PhD ............................................. Tennessee
Calien, B., PhD .............................................. Wisconsin
Dyess, R., MSN ............................................... Tennessee
Evans, G., MSN ............................................... Tennessee
Gaylord, N., PhD .......................................... Tennessee
Gunther, M., PhD ........................................... Tennessee
Helton, S., MSN ............................................... Texas Women’s
Kollar, M., PhD ............................................. Tennessee
Mefford, L., PhD ............................................ Tennessee
Nalle, M., PhD ............................................... Tennessee
Pierce, M., MSN ............................................ Tennessee
Preston, J., DNSc ............................................ Tennessee
Roman, M., PhD ............................................. Kentucky
Wituicki, J., PhD ............................................ Tennessee
Wyatt, T., PhD .............................................. Virginia

The College of Nursing at the University of Tennessee, Knoxville, was established in July 1971 in response to a long-recognized and well-established need for nurses prepared at the collegiate level. The undergraduate program combines the unique resources of the University of Tennessee, Knoxville, campus with those of the university’s comprehensive teaching hospital and other health care agencies in a manner that enables both faculty and students to participate fully in all facets of the health care delivery system. The program is accredited by the Commission on Collegiate Nursing Education at One Dupont Circle, NW, Suite 530, Washington, DC 20036, phone (202) 887-6791. The program is also unconditionally approved by the Tennessee Board of Nursing.

The baccalaureate nursing program has as its central foci the person, health, environment, and nursing. General education courses, nursing courses, and electives are organized in a manner designed to promote and develop creative thinking and other cognitive, affective, and psychomotor processes that are essential for effective nursing practice and for full and meaningful involvement as a contributing member of society. A broad base of general education, a thorough study of human behavior, an emphasis on health maintenance, health promotion, and health restoration, and a strong family and community orientation are essential components of baccalaureate education in nursing. By maintaining a high quality relevant program that is responsive to the increasing complexity of health care delivery, the ever changing health needs of society, and the changing and expanding role of the nurse, graduates of the program are able to (1) assume beginning leadership positions in nursing in a variety of settings; (2) work collaboratively with other health professionals; (3) function as socially conscious and contributing citizens; and (4) pursue advanced education on either a formal or an informal basis.

General Requirements

In order to obtain a Bachelor of Science in Nursing degree students are required to successfully complete eight semesters of full-time study or the equivalent in part-time study, for a total of 123-124 semester hours. 123 hours are required for graduation. The program also accommodates registered nurses who hold associate degrees in nursing or who are graduates of diploma nursing programs. All upper-division courses, with the exception of 314, 351, 400, 402, 406, and 480, are restricted to students who have been approved for progression. (See Progression Policies and Procedures.)

Nursing Substitutions

Child and Family Studies 210 or Psychology 300; Chemistry 100-110 or 120-130; Microbiology 210 or 310 with 319 lab; Nutrition 100.
Progression Policies and Procedures

Current standards are available from the Director of Student Services, College of Nursing, Room 203. Students, including registered nurses, who are admitted as nursing students in their freshman or sophomore years must apply for progression to the upper division prior to their junior year.

1. During the spring semester of the year the student expects to meet all lower-division course requirements, she/he must complete a Petition for Progression form and submit it to the college’s Student Services Office. Applicants for upper division nursing should submit their Petition for Progression with transcripts for all colleges attended no later than January 20. Students will be selected on the basis of (a) cumulative GPA for courses completed; (b) cumulative GPA for required science, social science, math, and English courses; (c) number of course withdrawals and repetitions; (d) grade improvement over time; (e) probability of completing all lower division requirements prior to the following fall; and (f) the availability of space.

2. If a student is selected for progression but then fails to successfully complete all lower division requirements (except for arts and humanities and cultural civilizations electives) prior to the fall semester, the student will not progress and must submit another petition for progression the following year.

3. Registered Nurses must be licensed to practice in the state of Tennessee or in one of the compact states.

Grading and Continuation Policies

1. The minimum acceptable grade for all courses in the curriculum is a C.

2. Satisfactory/No Credit grading option is not permitted to meet degree requirements in Nursing unless that is the only way the course is offered.

3. No nursing course may be repeated more than once. If a D, F, or NC grade is earned on the second attempt the student will be required to withdraw from the program.

4. Any student who receives a grade of D, F, or NC for more than one nursing course will be required to withdraw from the program even if the previous course for which D or F was awarded has been repeated with a grade of C or higher.

5. If a student receives an incomplete (I) in a nursing course, the I must be removed prior to enrolling in any course for which the uncompleted course is a prerequisite.

6. For undergraduate nursing students, 75% is the passing average grade in all nursing courses. To pass any clinical course, a student must achieve a minimum of 75% across all examinations in the course, regardless of any other grades earned in other components of the course. If a student fails to achieve the minimum 75% average on course examinations, the final course grade will be either D (67-74) or F (under 67). The following grading scale applies to all undergraduate nursing courses.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>92-100</td>
</tr>
<tr>
<td>B</td>
<td>88-91</td>
</tr>
<tr>
<td>B+</td>
<td>83-87</td>
</tr>
<tr>
<td>C</td>
<td>79-82</td>
</tr>
<tr>
<td>C+</td>
<td>75-78</td>
</tr>
<tr>
<td>D</td>
<td>67-74</td>
</tr>
<tr>
<td>F</td>
<td>&lt; 66</td>
</tr>
</tbody>
</table>

7. If a student’s clinical performance for any nursing course is found to be unsatisfactory, the grade for that course will be an F regardless of any other grades earned in other components of the course. If the unsatisfactory clinical performance is characterized by unethical, unprofessional, or unsafe behavior, behavior that actually or potentially places the client in jeopardy, the student will be required to withdraw from the program.

8. Requirements for competence in cardio-pulmonary resuscitation are included in the Undergraduate Student Handbook.

9. At periodic intervals specified by the faculty, students must take comprehensive examinations designed to predict success on the NCLEX (licensure) examination. Any student scoring less than 850 at the end of the junior year must take a one-hour independent study course during the summer before starting the senior clinical courses. Seniors will have two opportunities to achieve 850 on an exit exam given prior to graduation. A student who does not score 850 on the second exit exam at the end of spring term will be given an “I” in 490 (Specially Preceptorship). The student will be given the opportunity to remediate and take a third exit exam no sooner than six weeks after the second exit exam. If the student does not score 850 on the third exit exam, the student will receive a failing grade for 490 and may be eligible to retake 490 in the fall term. If a failure of 490 is a second failure in the nursing program for this student, then the student is dismissed from the BSN program.

The Bachelor of Science in Nursing program is designed to fulfill all General Education requirements of the university. Please see the current catalog for courses acceptable in the Arts and Humanities and Cultures and Civilizations categories.

Insurance Requirements

Students must meet specific physical examination and immunization requirements as specified by state law and by the rules and regulations set forth by the various clinical agencies. All non-nurse students must participate in the college’s group professional liability insurance program. All registered nurses must provide proof that they have appropriate professional liability insurance coverage. Specific information concerning these requirements will be provided to the students at appropriate times by the nursing faculty and/or the Director of Student Services.

Course Load

The maximum credit hours per semester for which a nursing student may register without special permission is 19.

Requirements for the Bachelor of Science in Nursing

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*, 102*</td>
<td>.6</td>
</tr>
<tr>
<td>Mathematics 125*</td>
<td>.3</td>
</tr>
<tr>
<td>Statistics 201*</td>
<td>.3</td>
</tr>
<tr>
<td>Chemistry 100*-110* or 120*-130*</td>
<td>.8</td>
</tr>
<tr>
<td>Arts and Humanities*</td>
<td>.6</td>
</tr>
<tr>
<td>Psychology 110*</td>
<td>.3</td>
</tr>
<tr>
<td>Sociology or Anthropology</td>
<td>.3</td>
</tr>
<tr>
<td>Biology 101*</td>
<td>.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecology and Evolutionary Biology 240 (Anatomy)</td>
<td>.4</td>
</tr>
<tr>
<td>Biochemistry and Cellular and Molecular Biology 230 (Physiology)</td>
<td>.5</td>
</tr>
<tr>
<td>Microbiology 210*</td>
<td>.3</td>
</tr>
<tr>
<td>Nutrition 100*</td>
<td>.3</td>
</tr>
<tr>
<td>Child and Family Studies 210*</td>
<td>.3</td>
</tr>
<tr>
<td>Nursing 201 (Introduction to Nursing)</td>
<td>.2</td>
</tr>
<tr>
<td>Cultures and Civilizations*</td>
<td>.6</td>
</tr>
<tr>
<td>Philosophy 246*</td>
<td>.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing 311, 319, 333, 341, 351, 361, 381, 382</td>
<td>.28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing 403*, 404, 406, 421, 451, 452, 461, 471, 490</td>
<td>.31</td>
</tr>
</tbody>
</table>

Total 124
* Meets University General Education Requirement. See catalog listing for approved courses in Arts and Humanities (AH) and Cultures and Civilizations (CC).
* Transfer students need a total of at least 8 credit hours in anatomy and physiology and may graduate with 123 hours.

NOTE: Students must meet the University General Education Requirement for Communicating Orally by selecting a course with an OC designation.

The following courses are open to all university students: Nursing 202, 314, 351, 400, 402, 406, and 480.

**RN TRACK FOR BACHELOR OF SCIENCE IN NURSING**

1. RNs must complete the same non-nursing requirements as other students. They are exempt from the sophomore level 201 Introduction to Nursing course and will be given proficiency credit based on RN status. (Satisfactory/No Credit.)

2. Students will take the NLN ACE examinations prior to starting upper division coursework. If a decision score of 100 is achieved (per section) the student will receive proficiency credit for five of the major clinical nursing courses exclusive of Community Health. Courses for which credit can be obtained in this manner include 361, 403, 404, 461, and 421, and are indicated with a double asterisk. (Satisfactory/No Credit.)

3. All students take the community course 382.

4. RN-BSN students can elect to challenge 333 Health Assessment by taking the NLN Physical Assessment Examination and passing a hands-on lab demonstration of assessment skills. Indicated with an asterisk. (Satisfactory/No Credit.)

5. Proficiency credit can be obtained in several other courses by passing instructor-made exams or preparing a portfolio as specified by the faculty. These courses include 319 Pathophysiology of Health Deviations, 351 Pharmacology I, and 406 Pharmacology II, (indicated by an asterisk). RN-BSN students also have the option to demonstrate proficiency in 490 Specialty Perceptorship via portfolio or through individual learning experiences developed in collaboration with their advisor. All proficiency credit not designated as Satisfactory/No Credit carries a letter grade.

6. The entire upper-division nursing curriculum can be completed in one calendar year. Students not enrolled in nursing courses for two consecutive semesters, excluding summer, will be administratively withdrawn from the program. Those seeking reentry must reapply to the College of Nursing. Students accepted for the master’s program can begin part-time graduate level study while in the final semester of the undergraduate program.

**Requirements for the RN Track for Bachelor of Science in Nursing**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>201</td>
<td>Introduction to Nursing (proficiency credit for all RNs)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>305</td>
<td>Transition to Professional Nursing</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>319**</td>
<td>Pathophysiology</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>333**</td>
<td>Health Assessment</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>341</td>
<td>Transcultural Nursing</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>351**</td>
<td>Pharmacology I</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>361**</td>
<td>Health Maintenance and Restoration: Adult</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>382</td>
<td>Health Promotion and Maintenance in Community</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>1403**</td>
<td>Health Promotion and Maintenance in Childbearing Families</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>404**</td>
<td>Health Promotion, Maintenance, and Restoratio in Children, Adolescents, and Their Families</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>406**</td>
<td>Pharmacology II</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>421**</td>
<td>Health Maintenance and Restoration in Mental Health</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>454*</td>
<td>Professional Leadership Issues</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>461**</td>
<td>Health Promotion: Adult</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>471</td>
<td>Nursing Research</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>490</td>
<td>Specialty Preceptorship</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Total 123

* Meets University General Education requirement.
** Courses with double asterisks may receive proficiency credit or be challenged.
1 RN-BSN students receiving proficiency credit for Nursing 403 (writing-intensive course) must meet the requirements for a third writing-intensive course by taking one of the courses so designated in the current Undergraduate Catalog. Philosophy 246 meets that requirement.

**Intercollegiate/Interdisciplinary Minor in Gerontology**

An intercollegiate/interdisciplinary undergraduate minor in gerontology is available. See Department of Instructional Technology, Health, and Educational Studies in the College of Education, Health, and Human Sciences for required courses.
College of Social Work

Karen M. Sowers, Dean
Frank Spicuzza, Director

http://www.csw.utk.edu/

SOCIAL WORK MAJOR

Social work is a helping profession which focuses on providing skilled intervention in the prevention and amelioration of individual and societal problems. It is a challenging and rewarding career involving the application of knowledge, skills, and professional values to assist individuals, families, groups, and communities in reaching their potential. The primary mission of the undergraduate social work program is to develop generalist social workers who are strategic thinkers, lifelong learners, and opinion shapers. It is the purpose of the college to provide an education which enhances individual and career development and fosters involvement on behalf of social and economic justice.

The program prepares students for social work careers in such diverse areas as schools, youth programs, family service agencies, nursing homes, courts, mental health, and welfare agencies. The degree provides graduates a competitive advantage in many jobs, the possibility of up to one year’s standing in some master’s degree programs in social work, and the potential to be licensed in a number of states throughout the nation.

The social work curriculum builds on a strong liberal arts base. The humanities and the social and behavioral sciences are emphasized to help students understand human diversity and the transactions between people and their environment. The curriculum combines classroom experience and agency-based field placements. Courses provide a knowledge base in social work practice theory, human behavior, social welfare policy, research. Educationally directed field placements, which consist of over 600 clock hours of supervised field instruction in agency settings throughout greater Knoxville, provide extensive and challenging opportunities for students to apply the lessons of the classroom to the needs of society. The program is accredited by the Council on Social Work Education.

The undergraduate social work program (Bachelor of Science in Social Work) started in 1982 in the College of Liberal Arts. It was granted initial accreditation by the Council on Social Work Education in January 1983, and reaffirmation was given in 1992 and 2001. The program was transferred to the College of Social Work in September 1985. The three programs, Bachelor of Science in Social Work, Master of Science in Social Work, and Doctor of Philosophy, in the college represent the full continuum of social work education.
Facilities
The College of Social Work is housed in Henson Hall, located on the corner of Cumberland Avenue and Volunteer Boulevard on the UT Knoxville campus. This building houses the administrative and faculty offices, along with classrooms for the BSSW, MSSW and PhD programs. Video and computer resources are available to facilitate instruction.

Graduate Program
The College of Social Work offers a fully accredited two year graduate professional degree at the master’s level (MSSW). The college also offers a graduate program leading to a Doctor of Philosophy in Social Work (PhD). Information concerning graduate programs is given in the College of Social Work Bulletin and also in the Graduate Catalog. Master’s degree programs are offered on the campus in Knoxville and in Nashville and Memphis. The PhD program is offered in Knoxville.

Grading Policy
The satisfactory/no credit option is not permitted in the major. The minimum acceptable grade for all social work courses is a C. Courses, other than field, in which a D or F is achieved may be repeated once. Field courses must be completed with a C or better, and may not be repeated.

A student receiving an incomplete (I) in any social work course must remove the incomplete before enrollment in subsequent field practice.

Course Load
The maximum credit hours per semester allowed for any student is 19. Special permission is needed for any overload.

Progression Requirements
Students admitted to the university may request a faculty advisor from the College of Social Work. Students in the college must move through Initial and Full Progression. The following factors identify progression criteria for all social work students.

Initial Progression**
1. Successful completion of Social Work 200 and 250 with a grade of C or better.
2. Cumulative grade point average of 2.0 or above.
3. Successful completion of a minimum of 60 semester hours. Initial progression must be completed prior to enrollment in any 300-level social work courses.
4. Favorable review of the student’s application for entry into the junior level social work courses by the faculty admissions committee. The application requires an essay discussing the student’s interest in and preliminary understanding of the profession.
5. Completion of 50 clock hours in community service at one public/private social service agency. The community service is to take place after enrollment in a higher education institution and in the twenty-four month period prior to application for initial progression.

** Initial progression is also determined by the number of available field practice slots in social service agencies and classroom space. If the number of students who fulfill the above criteria exceeds the number of students that can be accommodated, students will be selected on the basis of cumulative GPA for courses completed, the grades received in Social Work 200, 250, evaluation of community service, and writing skills demonstrated in the application essay.

Full Progression
1. Successful completion of junior level social work courses with a grade of C or better.
2. Cumulative grade point average of 2.0 or above.
3. Successful completion of a minimum of 90 semester hours. Full progression must be completed prior to enrollment in 400-level social work courses.
4. Favorable approval by the Bachelor of Science Social Work faculty prior to entry into senior-level classes. This process will include a review of the student’s performance in junior field practice.

Full progression is based on the recognition that social work has an intensive field component in which students demonstrate aptitude and ability to work with other people. While review is ongoing, full progression provides an additional opportunity to review the students’ potential for entry-level practice.

Requirements for the Bachelor of Science in Social Work

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101, 102*</td>
<td>.</td>
<td>6</td>
</tr>
<tr>
<td>Foreign Language (Intermediate Level)*</td>
<td>.</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 113*</td>
<td>.</td>
<td>3</td>
</tr>
<tr>
<td>Biology 101-102*</td>
<td>.</td>
<td>8</td>
</tr>
<tr>
<td>Social Work 200</td>
<td>.</td>
<td>3</td>
</tr>
<tr>
<td>Psychology 110*</td>
<td>.</td>
<td>3</td>
</tr>
<tr>
<td>Communication Studies 210*</td>
<td>.</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women’s Studies</td>
<td>.</td>
<td>3</td>
</tr>
<tr>
<td>Arts and Humanities (Literature)*</td>
<td>.</td>
<td>3</td>
</tr>
<tr>
<td>Arts and Humanities (Philosophy)*</td>
<td>.</td>
<td>3</td>
</tr>
<tr>
<td>Cultures and Civilization (History Sequence)*</td>
<td>.</td>
<td>6</td>
</tr>
<tr>
<td>Psychology 220</td>
<td>.</td>
<td>3</td>
</tr>
<tr>
<td>Social Work 250</td>
<td>.</td>
<td>3</td>
</tr>
<tr>
<td>Economics 201*</td>
<td>.</td>
<td>4</td>
</tr>
<tr>
<td>Political Science 101</td>
<td>.</td>
<td>3</td>
</tr>
<tr>
<td>Anthropology 130*</td>
<td>.</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Work 312, 313, 314*</td>
<td>.</td>
<td>9</td>
</tr>
<tr>
<td>Social Work 316</td>
<td>.</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Studies</td>
<td>.</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics 115*</td>
<td>.</td>
<td>3</td>
</tr>
<tr>
<td>Social Work 310, 380</td>
<td>.</td>
<td>6</td>
</tr>
<tr>
<td>Child and Family Studies 220*</td>
<td>.</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Work 412, 416</td>
<td>.</td>
<td>6</td>
</tr>
<tr>
<td>Social Work 480, 481</td>
<td>.</td>
<td>12</td>
</tr>
<tr>
<td>Social Work 460</td>
<td>.</td>
<td>3</td>
</tr>
<tr>
<td>Regional Studies</td>
<td>.</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>.</td>
<td>6</td>
</tr>
<tr>
<td>Total 120</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 Meets University General Education requirement.
2 Educational Interpreting 223 American Sign Language I and 226 American Sign Language II will fulfill the Foreign Language requirement but will not meet the General Education requirement.
3 One course selected from Women’s Studies 220, 310, 320, 332, 340, 375, 382, 425, 434, 453, 483.
4 One course selected from Classics 253; English 201, 202, 221, 222, 231, 232, 233, 251, 252, 253, 254.
5 One course selected from Philosophy 110, 111, 242, 244, 245, 246, 290.
6 One of the following sequences may be selected: Africana Studies 235-236; Asian Studies 101-102; History 241-242; History 261-262; Latin American Studies 251-252; Medieval Studies 201-202; Religious Studies 101-102.
7 One course selected from Anthropology 313, 316, 319; Classics 381, 382; English 302; Geography 372, 373, 379; German 363; History 320, 360, 361, 374, 375; Philosophy 326; Political Science 350, 361; Religious Studies 332, 386; French 432; Sociology 442, 446; Women’s Studies 360.
8 One course selected from Anthropology 312; English 441; Geography 363, 365; History 439, 444, 449; Political Science 315; Religious Studies 351.

Intercollegiate/Interdisciplinary Minor in Gerontology
An intercollegiate/interdisciplinary undergraduate minor in gerontology is available. See Department of Instructional Technology, Health, and Educational Studies in the College of Education, health, and Human Sciences for required courses.
The Chancellor’s Honors Program provides an outstanding curriculum for a community of engaged, academically superior scholars in any major. Specially designed interdisciplinary seminars fulfill part of the UT General Education requirements for Basic Skills and Broadened Perspectives. These courses, exclusively for Chancellor’s Honors students, explore significant themes as they are perceived by and represented in various disciplines. They are small, discussion-based, and directed by outstanding UT faculty. University Honors seminars add intellectual breadth to the depth obtained in a student’s major, by emphasizing the interrelatedness of human knowledge. All three-credit University Honors seminars also fulfill part of the general education requirements; therefore, graduating with the Honors distinction usually can be accomplished in the same amount of time as a non-honors degree.

The goals of the Chancellor’s Honors Program are
(1) to promote habits of serious, worthwhile, intellectual pursuit.
(2) to engender a lifelong appreciation of, and dedication to, learning.
(3) to help channel the energies of future leaders into service to the community.
(4) to help provide students with a global perspective.

Eligibility
The Chancellor’s Honors Program is available to entering freshmen and to qualified transfer and sophomore students. High school seniors with superior academic credentials (3.75 core high school grade point average and 29 ACT or 1280 SAT score) will be automatically sent an application for admission to the Chancellor’s Honors Program and are encouraged to apply.1

Transfer students who have earned at least a 3.7 GPA in another honors program are eligible to apply as are continuing UT students who have earned a minimum of 3.25 on courses taken at UT Knoxville.

Requirements
In addition to required work in their respective colleges, Chancellor’s Honors students complete
- English 118 (required), except for incoming students with a 4 or 5 on the Literature-Composition AP test, or with dual-enrollment credit for English 101 and 102.
- One 1-credit University Honors seminar (University Honors 100).
- Five 100- or 200-level honors courses selected from University Honors courses or departmental honors offerings.
- Two upper-division honors courses in their major (Honors-by-Contract or Honors Independent Study may be substituted).2
- One 3-credit Senior Project (University Honors 499).
TOTAL: 25-28 credit hours of honors coursework.

1 1280 SAT = combined Critical Reading and Mathematics subscores.
2 Honors-by-Contract: Customized approach in an upper-division course in the student’s academic major, through completion of a written contract delineating additional effort. The contract must be submitted to UHP by the third week of the semester. Limited to Chancellor’s Honors students.
University Libraries

Barbara I. Dewey, Dean
Aubrey H. Mitchell, Associate Dean
Jill Keally, Assistant Dean

http://www.lib.utk.edu/

Professors

Baker, G., MLS .................................. Alabama
Bayne, P., MSL .................................. North Carolina
Britten, W., MLS .................................. Clarion
Crowther, K., ML .................................. Emory
Dewey, B., MAL .................................. Minnesota
Felder-Hoehne, F., MLS ......................... Atlanta
Leach, S., ML .................................. Emory
Phillips, L., MLS .................................. Rutgers
Smith, R., MLS .................................. Illinois

Associate Professors

Atkins, D., MLIS .................................. Wisconsin
Berry, T., MSL .................................. Tennessee
Bridges, A., MLS .................................. Rhode Island
Deeken, J., MSL .................................. North Texas State
Dixon, L., MLS .................................. Tennessee
Garrett, M., MLS .................................. Vanderbilt
Johnson, K., ML .................................. Pittsburgh
Keally, J., MLS .................................. Tennessee
Mack, T., MLS .................................. Tennessee
Mitchell, A., MLS .................................. Tennessee
Prescod, J., MLS .................................. Western Michigan
Ratledge, D., MSL .................................. Tennessee
Row, J., MSL .................................. Tennessee
Royse, M., MSL .................................. North Carolina
Thomas, D., MSL .................................. George Peabody
Thomas, S., MSL .................................. Tennessee
Viera, A., MLIS .................................. California (Berkeley)
Wallace, A., MLI .................................. Washington
Williams, S., MSLIS ......................... Simmons
Wise, N., MSL .................................. Tennessee

Assistant Professors

Beals, J., MLS .................................. Kent State
Beltrend, L., MSL .................................. Tennessee
Braquet, D., MSL .................................. Louisiana State
Bright, K., MLIS .................................. Washington
Bullard, K., MLS .................................. North Carolina
Casado, M., MSL .................................. Tennessee
Gilmour, R., MSL .................................. North Carolina
Holden, D., MS .................................. Tennessee
Hristov, N., MLS .................................. Louisiana State
Manoff, M., MLS .................................. South Carolina
Mundava, M., MLS .................................. Buffalo
Purcell, A., MLS .................................. Maryland
Read, E., MS .................................. Tennessee
Smith, A., MS .................................. Tennessee
Stamer, M., MLIS .................................. Kentucky
Walker, T., MLIS .................................. Tennessee
Williamson, J., PhD .......................... North Carolina

The University of Tennessee Libraries own approximately 2.4 million volumes and subscribe to more than 32,000 periodicals and serial titles. The UT Libraries are committed to providing access to information in all formats. A strong collection of electronic resources are available through the Libraries' Web page at www.lib.utk.edu. UT's Digital Library Center hosts a growing number of digital collections. The Libraries' membership in the Association of Research Libraries reflects the university's support of large collections of library materials to meet the needs of a comprehensive university curriculum.

Experts at the reference desk in each library offer help and assistance in using the library for research. AskUs.Now (www.lib.utk.edu/refs/askusnow/) provides chat, e-mail, and telephone connections to librarians. Students will find a wide variety of materials and services in the main library (John C. Hodges Library), four branches on the Knoxville campus (Agriculture and Veterinary Medicine Library, Map Library, Music Library, and Special Collections), and the Social Work Library in Nashville. Students can search the library catalog and hundreds of databases at any library location – and through the UT Libraries' Web site. Interlibrary Services is available to help students find and retrieve materials that are not available in the UT Libraries. Workshops and classes are offered throughout the semester to help students learn how to get the most out of the Libraries' services. The services and facilities of the UT Libraries are accessible to persons with disabilities.

The John C. Hodges Main Library (1015 Volunteer Blvd.) is a 350,000 square-foot building housing collections in all subject areas. Reference assistance and research consultation are available in Reference Services (Room 135) and The Commons (Room 235). The Commons, which is jointly staffed by the University Libraries and the Office of Information Technology, offers a computer help desk, a wide range of software applications and computer equipment, spaces for individual and group study, and loaner laptops configured to access the wireless network. The Commons is open continuously from noon on Sunday to midnight on Friday, during Fall and Spring
Semesters. The second floor CyberCafe, with reading tables and a coffee shop, also is open for late night study. The Studio (Room 245) offers students a state-of-the-art lab for graphics, video and web production. Still and video cameras are available for checkout from The Studio. The Center for Children's and Young Adult Literature on the third floor provides a study collection of children's books.

The Agriculture and Veterinary Medicine Library (Room A-113, Veterinary Teaching Hospital) has a strong collection in agriculture; veterinary, comparative and human medicine; environmental studies and biodiversity; and related biological sciences.

The Map Library (Room 15, basement of the Hoskins Library, 1401 Cumberland Ave.) houses a large collection of sheet maps, atlases, journals, and digital resources related to cartography and GIS. Materials in print, film, and digital formats are gathered from commercial sources as well as the Government Depository program.

The Music Library (301 Music Bldg.) has a comprehensive collection of music and music literature, including books, scores, audio and video recordings, current periodicals, and microfilm. Most materials in the Library of Congress "M" classification are located here.

Special Collections (2nd floor, west wing, of the Hoskins Library) is dedicated to building collections of manuscripts, rare books, and other unique research materials. Collection strengths include Tennessee authors, Tennessee history and politics, Oak Ridge, and TVA. The Great Smoky Mountains Regional Collection is an ongoing effort to collect and preserve materials on the region. Students are welcome to use Special Collections. Materials from Special Collections cannot be checked out, but they can be used in the Special Collections Reading Room. The University Archives are also housed in the Hoskins Library. The Archives contain official records of the university; items published by its units, departments, and agencies; and materials that document University of Tennessee life.

The Social Work Library (Room 292, 193-E Polk Ave., Nashville) serves College of Social Work students in field practice across the state. The library has a working collection of materials in social work and related disciplines.

The Law Library on the Knoxville campus and the libraries located on the campuses in Chattanooga, Martin, Memphis, and Tullahoma are separately administered. The students and faculty of the university can use all of the libraries affiliated with The University of Tennessee.
University Studies has three general objectives – to foster interdisciplinary teaching and scholarship, especially across departmental and collegiate boundaries; to promote active and integrative learning; and to nurture the scholarly and creative development of faculty, staff, and students.

In pursuit of these objectives, University Studies sponsors several activities. Faculty colloquies are on-going, structured, interdisciplinary conversations on a topic or nexus of topics. Colloquies explore important contemporary issues which involve faculty and students from several disciplines and colleges. Advanced undergraduate and graduate students may attend by permission of colloquy coordinator.

Current colloquies include Applied Phenomenological Studies; Technology, Society, and the Common Good; the Gerontology Colloquy; the Interdisciplinary Colloquy on Rhetoric; Psychoanalysis and the Humanities; Evolution and Culture; the Creativity Group; Critical Theory; Appalachian Forum; Cultural Diversity; the Great Conversation; Spirituality and Health; and Educational Technology. Colloquies continue as long as they have faculty involvement and new colloquies form each year.

Interdisciplinary undergraduate courses are innovative offerings that are typically collaborative or team-taught. Most courses stem from the interdisciplinary colloquy discussions. There are several honors offerings for undergraduates. In addition, Chancellor’s Honors students are encouraged to take a University Studies (200-level or higher) course during their first two years to help fulfill their four honors courses requirement.

Centripetals are monthly faculty and staff luncheons held over the academic year designed to encourage conversation among faculty and staff about their creative and scholarly work. University Studies also works with other units across campus to facilitate visits by distinguished scholars of multidisciplinary interest. Such visiting scholars work with faculty groups on specific projects, participate in interdisciplinary forums, or present special lectures.

For further information, contact
Dr. Neil Greenberg, Chair
F239 Walters Life Science Building
Phone (865) 974-8177
FAX (865) 974-2665
E-mail unistudy@utk.edu
Mission

To commission the future officer leadership of the United States Army.

Purpose

Army ROTC is an educational program designed to provide the college student an opportunity to earn an army commission as a second lieutenant while completing the university requirements for a Bachelor’s degree. The program provides leadership training that will develop the skills and attitudes vital to the professional army officer. Upon successful completion of the program and graduation from the university, ROTC cadets are commissioned as second lieutenants and enter either the active Army, Army Reserve, or Army National Guard component.

Army ROTC at the University of Tennessee, Knoxville

The military program at the University of Tennessee, Knoxville, pre-dates that of any other state university in the country, having been introduced in 1844. In that year, Professor Albert Miller Lea, a United States Military Academy graduate, organized an infantry company. With the outbreak of the Mexican War, the entire company, as well as thousands of other Tennesseans, volunteered for service in the war. Thus, Tennessee became known as the Volunteer State.

When the University of Tennessee, Knoxville, reopened after the War Between the States, a system of military discipline was adapted. A code of military regulations was drawn up and a copy was provided each student when he matriculated. The whole institution was put under regular United States Military Academy discipline. The student body was organized into a battalion of cadets, which consisted of four companies fully officered, armed and equipped under the command of the commandant and his staff of cadet officers. UT Knoxville remained as a military garrison for a period of six years, until 1877. Military Science and Leadership continued to be taught since the university was a Land Grant Institution and the 1862 Act of Congress required instruction in military science and leadership.

The National Defense Act of 1916 changed the old military organization into an ROTC unit. For the first time, the federal government began to pay a part of the uniform cost for basic course students. The government provided uniforms and other equipment for juniors and seniors, and a monthly subsistence allowance was given to advanced course students.

From 1928-1930, Major (later Brigadier General) Robert R. Neyland was the Professor of Military Science and Leadership and football coach at the University of Tennessee, Knoxville. Objectives of the program are to provide students with an understanding of the fundamental concepts and principles of military art and science; to develop a basic understanding of associated professional knowledge; a strong sense of personal integrity, honor, and individual responsibility; an appreciation of the requirements for national security; and to establish a sound basis for the students’ future professional development.

ROTC draws young men and women for training from all geographical, economic, and social strata of our society, as well as from the many educational disciplines required for the modern army. The program ensures that men and women educated in a liberal and broad spectrum of American institutions of higher learning are commissioned annually into the officer corps.
The Army ROTC program are as follows.

Requirements for Enrollment and Continuance

- Students entering the basic course register for classes at the same time and in the same manner as they enroll in their other college courses. All four courses (Military Science and Leadership 101, 102, 201, and 202) are available to any UT Knoxville student as an elective course without any military obligation. Completion of the basic course, graduation from leader’s training course (Military Science and Leadership 200), or prior military service qualifies students for entry into the advanced course, which is normally taken during the last two years of college.

Advanced Course

The advanced course is designed to develop and mentor leaders of character, who, upon degree completion, will accept a commission in the United States Army. The advanced course requirement is that applicants have two academic years remaining at either the undergraduate or graduate levels, or a combination of both. Students normally enter the advanced course during the last two years of their degree program (junior year for undergraduates, first year of master’s program for graduate-level students). The advanced course is made up of five military science and leadership classes (Military Science and Leadership 301, 302, 400, 401, 402) and takes two years to complete. All classes except Military Science and Leadership 400 are offered during spring/fall semesters. Military Science and Leadership 400 is a paid five-week summer camp held in Seattle, Washington.

Army ROTC develops students under the whole person concept. Cadets must maintain academic standards while taking on the additional responsibilities of ROTC. Army ROTC cadets are required to participate in organized physical fitness training. Students enrolled in the advanced course are required to be full-time students, taking at least 12 hours each semester.

Placement Credit and Course Substitution

Placement credit and/or course substitution may be granted by the Professor of Military Science and Leadership on the basis of previous honorable active military service, participation in a junior ROTC program, completion of Military Science and Leadership 200, or completion of army basic training and advanced individual training. A student may request placement credit for a portion of the entire basic course. Military science and leadership courses taken at other colleges or universities are transferable as approved by the Professor of Military Science and Leadership.

Military Science and Leadership 200 is a paid five-week summer leader’s training course offered to any University of Tennessee student without any military obligation. Students completing this course receive four academic credits, qualify for the Tennessee student without any military obligation. Students completing this course receive four academic credits, qualify for the American University of Leadership 101, 102, 201, 202, and 202 or have accomplished one of the following: prior military service, ROTC basic military studies; practicum (Military Science and Leadership 200); three-year high school ROTC basic course.

Requirements for Enrollment and Continuance

- 1. Minimum hours/GPA for entrance into basic military studies practicum (Military Science and Leadership 200) – 30-59.9 hours/2.00 GPA.
- 2. Minimum overall GPA for entrance into the advanced course (Military Science and Leadership 301, 302, 400, 401, 402) – 2.00 GPA.
- 3. Minimum GPA in military science and leadership courses – 3.00.
- 4. Minimum overall GPA for commissioning: 2.00.
- 5. Semester counseling sessions with military advisor required for advance course and scholarship students only.

Requirements for All Military Science and Leadership Commissionees

- The following military science and leadership advanced course curriculum must be successfully completed.
- 301 Leadership and Problem Solving (4); 302 Leadership and Ethics (4); 400 National Advanced Leadership Camp (4); 401 Leadership and Management (4); 402 Officer (4); 430 U.S. Military History, 1754 to Present or 303 Military History (3).

In addition to a bachelor’s degree, there are required and recommended courses in designated fields of study that students must complete prior to commissioning. Students meet these prerequisites by successful completion of required and elective courses taken from the university curriculum in the required areas of concentration.

Courses in the following designated fields of study are strongly recommended of students seeking a commission in the United States Army – one course in written communications, one course in human behavior, one course in math reasoning, one course in computer literacy.

Special Programs

Pay and Entitlements

- All scholarship cadets and cadets enrolled in the ROTC advanced course receive uniforms and equipment plus a monthly allowance during the academic year. While attending the ROTC summer studies each cadet receives approximately $740 for advanced summer studies, $740 for basic summer studies, plus meals and clothing are provided.

Army ROTC Scholarship Program

- The Army ROTC scholarship program offers financial assistance to outstanding young men and women in Army ROTC who are interested in the Army as a career. Each scholarship provides for free tuition, textbooks subsidy, and laboratory fees in addition to a monthly subsistence allowance for the period that the scholarship is in effect. The monthly stipend runs from $300 to $500 for contracted cadets. Scholarships may be awarded for either
two, three or four years. High school seniors should contact their guidance counselors early in August or September of their senior year to apply for the four-year scholarship. Two- and three-year scholarship applicants should contact the Professor of Military Science and Leadership for further information. Other privately financed scholarships and grants are also available to ROTC cadets.

Leadership Grant Program

The University of Tennessee, Knoxville, ROTC Leadership Grants are designed to attract and retain high quality/caliber students to the Army ROTC program for future positions of leadership within their service and our country. These grants are intended to complement other ROTC and university scholarships by providing funds to offset costs for such areas as room and board, out-of-state tuition, and first year expenses for Army ROTC scholarship winners.

Up to ten $1,000 leadership grants are available each year and are available to scholarship winners and any full-time student enrolled in the AROTC program. Awarding of these leadership grants will be determined by the Professor of Military Science and Leadership who will evaluate each candidate in the following areas – ACT/SAT scores; leadership activities; and recommendations from high school personnel and community leaders.

Simultaneous Membership Program

The simultaneous membership program option combines the Army ROTC living allowance with membership in the Army Reserve or Army National Guard and allows the student to receive pay from both programs. ROTC cadets serve as officer-trainees in direct leadership/management positions. Simultaneous membership program participation with national guard or reserve forces is one weekend per month and two weeks each year. Cadets participating in the simultaneous membership program are eligible for tuition reimbursement up to $4,500 per year.

Branch Selection

The curriculum of the Army ROTC program is designed to qualify the cadet for appointment as an officer. Selection for assignment to the various branches of the army is based upon the personal interests of the cadet, the major course of study, academic accomplishments, leadership potential, and the needs of the service. Under this system a cadet may be commissioned in any branch for which he or she is qualified and in which a need for officers exists. After graduation and commissioning, the officer will attend a service school for further specialized military training which will qualify him or her for the branch to which he or she is assigned.

Extra Curricular Activities

Numerous military related activities are available to cadets throughout the school year. These include the Tennessee Rangers, Scabbard and Blade Honor Society, and UT Color Guard. These organizations provide both student-to-student contact and a valuable opportunity to acquire military skills. Additionally, each semester, a number of field training exercises are conducted to develop such military skills as small unit tactics, land navigation and rifle marksmanship.

Physical Fitness Training

The Cadet Battalion conducts physical fitness training Monday, Wednesday, and Friday. The exercise program focuses on flexibility, muscular strength, and cardio respiratory endurance. Any University of Tennessee, Knoxville, student may take the course by registering for Army ROTC Fitness Program 103.

Military Science and Leadership Curriculum

Normal Course

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Military Science and Leadership 101, 102</td>
<td>4</td>
</tr>
<tr>
<td>Military Science and Leadership 103</td>
<td>1</td>
</tr>
</tbody>
</table>

Second Year

| Military Science and Leadership 201, 201 | 6 |
| Military Science and Leadership 103 | 1 |

Third Year

| Military Science and Leadership 301, 302 | 8 |
| Military Science and Leadership 103 | 1 |

Fourth Year

| Military Science and Leadership 401, 402, 430, 303 | 11 |
| Military Science and Leadership 103 | 1 |

Total 33

Military Studies – Practicum

<table>
<thead>
<tr>
<th>Summer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second Year</td>
</tr>
<tr>
<td>Military Science and Leadership 200</td>
</tr>
<tr>
<td>Third Year</td>
</tr>
</tbody>
</table>

Total 8

The University of Tennessee, Knoxville, ROTC Leadership Grant Program offers the following grants:

Up to ten $1,000 leadership grants are available each year and are available to scholarship winners and any full-time student enrolled in the AROTC program. Awarding of these leadership grants will be determined by the Professor of Military Science and Leadership who will evaluate each candidate in the following areas – ACT/SAT scores; leadership activities; and recommendations from high school personnel and community leaders.

Extra Curricular Activities

Numerous military related activities are available to cadets throughout the school year. These include the Tennessee Rangers, Scabbard and Blade Honor Society, and UT Color Guard. These organizations provide both student-to-student contact and a valuable opportunity to acquire military skills. Additionally, each semester, a number of field training exercises are conducted to develop such military skills as small unit tactics, land navigation and rifle marksmanship.

Physical Fitness Training

The Cadet Battalion conducts physical fitness training Monday, Wednesday, and Friday. The exercise program focuses on flexibility, muscular strength, and cardio respiratory endurance. Any University of Tennessee, Knoxville, student may take the course by registering for Army ROTC Fitness Program 103.

Military Science and Leadership Curriculum

Normal Course

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Military Science and Leadership 101, 102</td>
<td>4</td>
</tr>
<tr>
<td>Military Science and Leadership 103</td>
<td>1</td>
</tr>
</tbody>
</table>

Second Year

| Military Science and Leadership 201, 201 | 6 |
| Military Science and Leadership 103 | 1 |

Third Year

| Military Science and Leadership 301, 302 | 8 |
| Military Science and Leadership 103 | 1 |

Fourth Year

| Military Science and Leadership 401, 402, 430, 303 | 11 |
| Military Science and Leadership 103 | 1 |

Total 33

Military Studies – Practicum

<table>
<thead>
<tr>
<th>Summer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second Year</td>
</tr>
<tr>
<td>Military Science and Leadership 200</td>
</tr>
<tr>
<td>Third Year</td>
</tr>
</tbody>
</table>

Total 8

The Professor of Military Science and Leadership may approve variations to these sequences of study on a case-by-case basis. Lower-division credit hours granted by the university for military service are dependent upon time spent in service and service schools attended.

DEPARTMENT OF AIR FORCE

http://web.utk.edu/~rotc800/

Air Force ROTC Program

Professor of Air Force Aerospace Studies

Colonel Owen Ragland, MS

Purpose

The Air Force Reserve Officers Training Corps (AFROTC) is an educational program designed to provide the college student an opportunity to earn an air force commission as a second lieutenant while completing the university requirements for a bachelor’s degree. The program provides education that will develop the skills and attitudes vital to the professional air force officer. Upon successful completion of the program and graduation from the university, students are commissioned as second lieutenants and enter active duty.

Four-Year Program

Students entering the four-year program may register for the program at the same time and in the same manner as they enroll in their other college courses and there is no military obligation. During their freshman and sophomore years, students enroll in the general military course. They then may compete for entry into the professional officer course, which is normally taken during the last two years of college. Selection into the professional officer course is highly competitive and is based on being medically qualified, physically fit, term and cumulative grade point averages, scores achieved on the air force officer qualifying test, successful completion of a four-week field training course at an Air Force base, and the recommendation of the Professor of Aerospace Studies.

Two-Year Program

The two-year program consists of the professional officer course, the last two years of the four-year program. It is designed to provide greater flexibility to meet the needs of both students and the air force. The basic requirement is that applicants have two academic years remaining at either the undergraduate or graduate level, or a combination of both. After being nominated by the Professor of Aerospace Studies, applicants seeking enrollment in the two-year program are evaluated using the same criteria used for the four-year program except the length of the field training course is six weeks. Additionally, every professional officer course applicant must agree to take and successfully com-
complete a course in mathematical reasoning or its equivalent before graduation and commissioning. Courses previously completed may be used to satisfy this requirement.

Since the processing procedure must be completed several months in advance of intended enrollment, interested students must apply early in the fall semester of the academic year preceding the fall term in which they intend to enter the program. Application should be made in person to the Department of Aerospace Studies.

AFROTC develops students under the whole person concept. Cadets must maintain academic standards while taking on the additional responsibilities of AFROTC. These extra responsibilities include being physically fit and demonstrating integrity and good moral character. Cadets normally participate in approximately 2 hours per week of physical activity outside of class requirements.

Women in AFROTC
AFROTC at the University of Tennessee, Knoxville, has been coeducational since 1970. Women complete the same courses as men and have the same opportunities. Upon successful completion of the AFROTC program and degree requirements, women are commissioned in the air force as second lieutenants. Pay and job opportunities are equal for women and men. Virtually all career fields in the air force are open to women, including pilot and navigator positions.

Scholarships
Air Force ROTC Scholarships are available to qualified applicants in both the four- and two-year programs. Each scholarship provides full tuition, laboratory and incidental fees, and book fee. In addition, scholarship cadets receive a non-taxable stipend ranging from $250 to $400 each month during the school year while on scholarship status.

High School Students
Competitive four-year scholarships are available to high school students who enroll in certain scientific and engineering career fields. Some scholarships are also available to students who enroll in certain non-technical majors. Four-year scholarship application information is available on the AFROTC website at http://www.afrotc.com/.

College Students
Other scholarship opportunities exist for students already in college. Three- and two-year scholarships are available on a competitive basis and the student must have at least four, three, or two undergraduate or graduate years of study remaining in order to compete. Applications for these scholarships should be made directly to the Department of Aerospace Studies.

Leadership Grants
The University of Tennessee, Knoxville, AFROTC Leadership Grants are designed to attract and retain high quality students to the Air Force ROTC program for future positions of leadership within their service and our country. These grants are intended to complement other AFROTC and University scholarships by providing funds to offset costs for such areas as room and board, out-of-state tuition, and first year expenses for three-year AFROTC scholarship winners.

Up to twenty $500 leadership grants are available each year and are open to scholarship winners and any full-time student enrolled in the AFROTC program. Awarding of these leadership grants will be determined by the Professor of Aerospace Studies who will evaluate each candidate in the following areas – ACT/SAT scores, AFOQT test scores, GPA, physical fitness scores, leadership activities, and recommendations from people who can attest to the applicant's leadership experience and skills.

Pay and Entitlements
All cadets enrolled in AFROTC are furnished texts and uniforms. Qualified junior and senior cadets with a cumulative grade point average (GPA) of 2.5 or better may receive a $3,000 scholarship that is applied toward their tuition and books. Additionally, these cadets receive a monthly stipend ranging from $250 to $400. In addition, they are paid mileage to and from field training, plus pay commensurate with active duty rates while at field training.

Active Duty Commitments
Commissioned graduates going into non-flying duties will be required to serve four years of active duty. Those graduates going into pilot assignments will be required to serve ten years active duty after completion of pilot training. Those graduates going into navigator assignments will be required to serve six years active duty after completion of navigator training.

This information is subject to change. For the most up-to-date information regarding AFROTC, contact AFROTC Detachment 800, 974-3041.

Air Force Aerospace Studies Curriculum
To receive a commission as a second lieutenant in the United States Air Force through the Air Force ROTC program, a student must successfully complete a four- or six-week field training encampment and take or receive credit for the following courses. Attendance at a six-week field training encampment satisfies all freshman and sophomore level course requirements.

First Year
- Aerospace Studies 101, 102 ..................................................1.1
- Aerospace Studies 103, 104 (Leadership Laboratory) (S/NC) ..................1.1

Second Year
- Aerospace Studies 201, 202 ..................................................1.1
- Aerospace Studies 203, 204 (Leadership Laboratory) (S/NC) ..................1.1

Third Year
- Aerospace Studies 301, 302 .................................................3.3
- Aerospace Studies 303, 304 (Leadership Laboratory) ..........................0.0

Fourth Year
- Aerospace Studies 401, 402 .................................................3.3
- Aerospace Studies 403, 404 (Leadership Laboratory) ..........................0.0

Professional Development Training Programs
To help cadets gain knowledge of the challenges in leadership and human relations encountered by a junior air force officer and to motivate them toward an air force career, cadets have the opportunity to participate in a variety of summer professional development training programs. Many of these programs are highly competitive. Some of these programs are described below.

Academy Freefall Parachute Training
A 12-day program conducted at the United States Air Force Academy. Successful completion of program results in a cadet receiving parachutist rating.

Air Force Academy Soaring
A 15-day program designed to give cadets the chance to experience the basic fundamentals of flight in non-powered glider operations. Cadets receive instruction in basic flight through ground school and actual flight, leading up to and possibly including cadet solo.

Army Airborne Training
Training lasts for 24 days and is physically and mentally demanding. Upon successful completion, cadets are awarded the parachutist rating. All training is conducted at Fort Benning, Georgia.

ASSIST
Rising sophomore cadets spend two weeks touring an active duty air force base and shadowing junior officers in various career fields.
British Exchange
Cadets are attached to a British university air squadron for 17 days of training and orientation at various Royal Air Force bases in the United Kingdom.

Combat Survival Training
A 20-day program incorporating combat, basic aircrew, and water survival training. Training is conducted at the United States Air Force Academy, Colorado Springs, Colorado.

Field Engineering and Readiness Lab
Provides opportunities for cadets with entry-level civil engineering courses to get hands-on work experience in the civil engineering career field. Training consists of two weeks working with civil engineering at an air force base and three weeks hands-on construction activities at the Air Force Academy, Colorado Springs, Colorado.

Foreign Language Immersion
Provides cadets majoring in a foreign language the opportunity to receive intensive language and cultural training. Training lasts for four weeks in various overseas countries.

Nurse Orientation Program
During a four-week internship program at Wilford Hall United States Air Force Medical Center, Lackland Air Force Base, Texas, nursing cadets receive hands-on experience and practical knowledge of air force nursing.

Operation Air Force
A three-week program of general orientation and shadowing of junior officers in various career fields. Program is conducted at air force installations throughout the United States.

Pentagon Internship Program
A three-week program to provide cadets an opportunity to work in the Pentagon. Students selected for the program gain problem-solving experience working with both military and civilian personnel on real world issues and participate as a team member with professionals in their chosen field of study.
COLLEGE OF LAW

Thomas C. Galligan, Jr., Dean
John L. Sobieski, Jr., Associate Dean
Rachael E. Inman, Assistant Dean

http://www.law.utk.edu

The College of Law has, since 1890, continuously sought to provide high quality legal education in a university community. The college offers a professional curriculum leading to the degree of Doctor of Jurisprudence. Two dual degree programs are available in conjunction with the College of Law – the JD-MBA program with the College of Business Administration and JD-MPA program with the Department of Political Science.

Information regarding admission, financial aid, academic policies, extracurricular activities, and student services is available from the Admissions Office, The University of Tennessee, College of Law, 1505 West Cumberland Avenue, Knoxville, Tennessee 37996-1810. The completed application should be received before February 1 of the year of requested admission.

COLLEGE OF VETERINARY MEDICINE

Michael J. Blackwell, Dean
James J. Brace, Associate Dean, Academic Programs
Robert N. Moore, Associate Dean, Research and Graduate Programs
Leon N. D. Potgieter, Associate Dean, Hospital Operation
Dennis R. Geiser, Assistant Dean, Outreach and Organizational Development

The College of Veterinary Medicine, established in 1974, offers a professional curriculum leading to the degree of Doctor of Veterinary Medicine (DVM). The college offers graduate studies leading to the degrees of Master of Science (MS) and Doctor of Philosophy (PhD) with a major in comparative and experimental medicine. Residency training programs in the various clinical specialties are also offered.

The Graduate Catalog contains complete information concerning the programs in the college. Forms and instructions for making application for admission may be obtained beginning June 1 from the Office of the Associate Dean, The University of Tennessee, Knoxville, College of Veterinary Medicine, 2407 River Drive, Room A102, Knoxville, Tennessee 37996-4550. Applications must be received by the Veterinary Medical College Application Service (VMCAS) by October 1 of the year prior to requested admission. All pre-veterinary requirements must be completed by the end of the spring term of the year in which the student plans to enroll in the college.

OFFICE OF GRADUATE STUDIES

Anne Mayhew, Vice Chancellor for Academic Affairs and Dean of Graduate Studies
Mary E. Papke, Special Assistant to the Chancellor and Associate Dean of Graduate Studies
S. Kay Reed, Assistant to the Dean
Alan Hollis, Thesis/Dissertation Consultant

A wide range of graduate programs leading to master’s and doctoral degrees is available. The university offers master’s programs in 76 fields, the Specialist in Education degree, doctoral work in 44 fields, two professional programs, and several graduate certificate programs. More than 6,000 graduate and professional students are enrolled on and off campus under the tutelage of 1,500 faculty members.

Complete information concerning graduate study at The University of Tennessee, Knoxville, is available in the Graduate Catalog, published annually and on the Graduate Studies Web site http://web.utk.edu/~gsinfo.
The University of Tennessee, Knoxville, is committed to its land-grant mission of public service. The institution meets that mission by extending its continuing education services and programming resources through outreach initiatives. University Outreach and Continuing Education works with academic departments to offer courses, educational services and programs. The division offers programs using a variety of modes, helping people of all ages achieve degrees and certificates, accomplish professional development goals, and pursue intellectual and self-improvement interests.

Programs and courses are based upon student needs and desires, whether for self-motivated learning; for leisure and recreational programs; or for professional promotion, certification, licensure, re-licensure, or mid-career changes. The division provides these opportunities through program coordination and development of the four departments: Department of Conferences, Department of Distance Education and Independent Study, English Language Institute, and Professional and Personal Development.

For more information, contact
University Outreach and Continuing Education
The University of Tennessee
313 Conference Center Building
600 Henley Street
Knoxville, Tennessee 37996-4137
Phone (865) 974-3181, fax (865) 974-6629
E-mail outreach@tennessee.edu
Web site www.outreach.tennessee.edu

DEPARTMENT OF CONFERENCES
Robert Gibbs, Director

The Department of Conferences, housed in the Conference Center Building in downtown Knoxville, provides management services to university departments and faculty or outside groups that desire to hold an educational meeting anywhere in Tennessee or across the United States.

The department assists organizations in designing and managing programs to meet the needs of attendees. The staff provides professional guidance and management for small group meetings as well as for major conventions of several thousand delegates. Consulting and support services can include planning and budgeting, registration, lodging, food services, promotional materials, meeting-site management and all details to ensure a successful event. Some programs qualify for Continuing Education Units (CEUs), which become a permanent record maintained by the University Outreach and Continuing Education.

Additional information may be obtained from
UT Conference Center
University Outreach and Continuing Education
The University of Tennessee
Suite 212
Knoxville, Tennessee 37996
Phone (865) 974-0250, fax (865) 974-0264
E-mail conferences@tennessee.edu
Web site www.outreach.tennessee.edu/conferences

University Conference Center
Robert Gibbs, Director

The University Conference Center, managed by the Department of Conferences, offers quality meeting facilities and service to university units, business and industry groups, professional organizations, and government agencies. Professional groups and interested individuals can request interactive videoconferencing to locations worldwide. Arrangements can also be made to receive (downlink) programming or transmit (uplink) programming via satellite. The University Conference Center is located at 600 Henley Street in downtown Knoxville.

Additional information may be obtained from
UT Conference Center
University Outreach and Continuing Education
The University of Tennessee
Suite 212
Knoxville, Tennessee 37996
Phone (865) 974-0250, fax (865) 974-0264
E-mail conferences@tennessee.edu
Web site www.outreach.tennessee.edu/conferences
ENGLISH LANGUAGE INSTITUTE
Jim Hamrick, Director

The English Language Institute (ELI) offers a non-credit language-study program. It is designed to assist students in their pursuit of career goals or educational objectives in the United States. The courses emphasize development of communicative ability in listening, speaking, reading, and writing. Faculty members are trained in teaching English to speakers of other languages and different national backgrounds.

The curriculum consists of eight proficiency levels: 101-108, Introductory through Pre-Academic.

Classes meet each day with emphasis on English Structure (Grammar); Listening Comprehension, Writing/Composition (Rhetoric), Conversation Practice for Communicative Purposes, Reading and Vocabulary.

Classes also assist students in pronunciation, test-taking strategies, U.S. culture orientation, and university study skills.

ELI also offers on- and off-campus classes for professional and academic audiences.

Additional information may be obtained from
English Language Institute
University Outreach and Continuing Education
The University of Tennessee
907 Mountcastle Street
Knoxville, Tennessee 37996-3505
Phone (865) 974-3404
Fax (865) 974-6383
E-mail eli@tennessee.edu
Web site www.outreach.tennessee.edu/eli

DEPARTMENT OF PROFESSIONAL AND PERSONAL DEVELOPMENT
Mary F. Jerger, Director

The Department of Professional and Personal Development provides a comprehensive array of non-credit courses, certificates, and seminars designed to serve the needs of individuals and businesses in Knoxville and surrounding communities. Courses are offered on the university campus, at off-campus locations (including two Oak Ridge classrooms), and on-line. Classes are taught by university faculty, staff, and community experts. Courses also are delivered on-site for business clients, with instructional services tailored to the needs of each group.

Business topics include professional development, career planning, computer training, and several specialized certificate programs. Personal interest topics range from creative writing to art, dance, gardening, music, and sports. There are also courses that meet requirements of the state or other agencies for certification in real estate and financial planning.

Special programming also includes Kids U which provides summer hands-on workshops for elementary and secondary education students; Seniors for Creative Learning, a membership-based program focusing on issues and courses for senior adults; and the Smoky Mountain Field School, a program co-sponsored with Great Smoky Mountains National Park.

For further information or to register, contact
Department of Professional and Personal Development
University Outreach and Continuing Education
The University of Tennessee
313 Conference Center Building
600 Henley Street
Knoxville, Tennessee 37996-4137
Phone (865) 974-0150
Fax (865) 974-0154
E-mail ProfessionalPgms@utk.edu
Web site www.outreach.utk.edu/PPD

DEPARTMENT OF DISTANCE EDUCATION AND INDEPENDENT STUDY
George H. Hoemann, Assistant Dean

The Department of Distance Education and Independent Study, in concert with academic departments, offers Internet-based, Web-delivered classes, and programs leading to certificates and degrees. The College of Communication and Information and the College of Engineering offer master’s degree programs through Web-based courses, while the Departments of Nuclear Engineering and Statistics, Operations and Management Science offer courses leading to degree and certificate programs. Other undergraduate and graduate classes and programs are available, as well as a variety of individual courses in many disciplines. Current course availability can be found on the Web at: anywhere.tennessee.edu.

The department provides services and support for faculty, students, and industry interested in flexibly-delivered education. The Internet eLearning Institute provides certificate programs, professional development courses and training.

For information and registration forms, contact the Distance Education Program at
Distance Education and Independent Study
University Outreach and Continuing Education
The University of Tennessee
Suite 208
600 Henley Street
Knoxville, Tennessee 37996-4126
Phone (865) 974-1534 or (800) 670-8657
TDD (865) 974-5078
Fax (865) 974-4684
E-mail DistEducation@tennessee.edu
Web Site anywhere.tennessee.edu
Courses of Instruction

Courses fulfilling the University General Education Requirement are designated as

(AH) Arts and Humanities
(CC) Cultures and Civilizations
(CC) Communicating Orally
(NS) Natural Sciences
(QR) Quantitative Reasoning
(SS) Social Sciences
(WC) Communicating through Writing

REGISTRATION NOTES
(RE) Prerequisite(s) and Corequisite(s) will be enforced by the Registration System in the future. They are currently enforced by the department.
(DE) Prerequisite(s) and Corequisite(s) are enforced by the department.
Registration Restrictions are enforced by the Registration System.

Accounting (009)

200 Foundations of Accounting (3) Introduction to financial and managerial accounting theory and practice with emphasis on the role of accounting information in business decisions.

207 Honors: Foundations of Accounting (3) Introduction to financial accounting theory and practice with emphasis on the role of financial information in business decisions. The course will make extensive use of computer technology for retrieving and analyzing financial information.

Recommended Background: 28 ACT composite or 1250 composite SAT required.


(RE) Corequisite(s): Finance 301 and Business Administration 342.
Registration Restriction(s): Majors in the College of Business Administration.

311 Financial Reporting and Analysis (3) Theory and practice that underlies the preparation, analysis, and use of financial statements.

(RE) Prerequisite(s): 301.
Comment(s): Grade of C or better in 301 is required.
Registration Restriction(s): Majors in the College of Business Administration.

321 Cost Management (3) Cost information for products, services, and how cost information is recorded, analyzed, reported, and used in decision making. Topics include cost concepts and behavior, cost systems, budgeting, activity-based costing and management, and strategic cost management.

(RE) Prerequisite(s): 301.
Registration Restriction(s): Majors in the College of Business Administration.

411 Financial Compliance and Operational Auditing (3) Auditing’s role in society from an internal and external perspective, audit methodology, role of internal control and statistical sampling in auditing, fraud auditing, operational auditing, compliance auditing, and application of auditing procedures to specific transaction cycles.

(RE) Prerequisite(s): 301.
Comment(s): Grade of C or better in 301 is required.
Registration Restriction(s): Majors in the College of Business Administration.

414 Advanced Financial Reporting (3) Accounting standards for advanced financial reporting topics such as statement of cash flows, income taxes, leases, accounting changes, consolidated financial statements, and foreign operations.

(RE) Prerequisite(s): 311.
Comment(s): Grade of C or better in 311 is required.
Registration Restriction(s): Majors in the College of Business Administration.

431 Federal Income Taxation (3) Fundamentals and concepts of federal income taxation. Emphasis on tax strategy, business taxation, and individual taxation. Topics include tax strategy modeling, gross income, deductions, credits, tax determination, property transactions, business entities, and basics of international taxation.

(RE) Prerequisite(s): 301.
Comment(s): Grade of C or better in 301 is required.
Registration Restriction(s): Majors in the College of Business Administration.

451 Operational Auditing and Consulting (3) Approaches auditors might use to evaluate an entity’s efficiency and effectiveness in a variety of settings and techniques auditors might use in consulting to provide the entity a competitive advantage.

Advertising (012)

250 Advertising Principles (3) Survey of the role of advertising in American business and society. Relationship between advertising and marketing; functional components of the advertising process: research, media, creative, and management.

310 Advertising and Public Relations Design (3) Study, use, and application of design, color, type, and layout styles as they affect concept development in the creation of promotional materials. Analysis of organizational goals and how they mold strategic and conceptual development. Application of relevant computer software for creation of promotional material.

(RE) Prerequisite(s): 250.
Registration Restriction(s): Majors in the College of Business Administration.

340 Advertising Research Methods (3) Secondary data and primary research techniques for advertising decisions.

(RE) Prerequisite(s): 250 and Statistics 201.
Registration Restriction(s): Advertising major or public relations major.

350 Advertising Creative Strategy (3) Basic concepts of creative strategy with intensive practice in developing creative strategy statement, writing and designing advertisements, and judging creative work.

(RE) Prerequisite(s): 250 and 310.
Registration Restriction(s): Advertising major or public relations major.

360 Advertising Media Strategy (3) Assessment of markets, vehicle audiences and mathematical techniques for advertising planning. Instruction in media planning, buying, and evaluation.

(RE) Prerequisite(s): 250 and 340.
Registration Restriction(s): Advertising major or public relations major.
380 Advertising Professional Seminar (1) Exploration of career choices in mass communications. Resume and letter writing, interviewing, and portfolio preparation. (RE) Prerequisite(s): 340. Registration Restriction(s): Advertising major or public relations major.

450 Advertising Management (3) Case-study approach to advertising decisions. Data analysis and interpretation, generating alternative strategies, oral and written presentation of recommendations. (RE) Prerequisite(s): 350 and 360. Registration Restriction(s): Advertising major or public relations major.

470 Advertising Campaigns (3) Group-based development, execution and evaluation of an advertising campaign for a regional or national client. (RE) Prerequisite(s): 450 and Public Relations 370. Registration Restriction(s): Advertising major or public relations major.

480 Advertising Issues (3) Examination of the role of advertising in society and controversies surrounding economic, social, cultural and ethical aspects of advertising. Emphasis on written and oral exposition of different viewpoints. (RE) Prerequisite(s): 360. Registration Restriction(s): Advertising major or public relations major.

490 Special Topics (3) Detailed study of a specialized area of advertising. Topics vary by semester and include advanced media strategy, advanced creative strategy, direct marketing, and multicultural advertising. (RE) Prerequisite(s): 360. Registration Restriction(s): Advertising major or public relations major.

492 Advertising Practice (1) Experience in a functional area of advertising. Contact Hour Distribution: 10 hours laboratory each week. Grading Restriction: Satisfactory/No Credit grading only. Repeatability: May be repeated, Maximum 2 hours. Registration Restriction(s): Advertising major or public relations major.

493 Independent Study (1-3) Individual study in a specialized area under the supervision of a faculty member. Registration Restriction(s): Advertising major or public relations major.

Aerospace Engineering (018)

201 Aerospace Seminar (1) An overview of aerospace engineering with lectures, laboratory demonstrations, and field trips. Aerospace history, aircraft and space flight fundamentals, propulsion techniques, wind tunnel testing, biomedical issues in aviation and space flight. Grading Restriction: Satisfactory/No Credit grading only. Registration Permission: Consent of instructor.

341 Fluid Mechanics I (3) Introduction to fluid flow concepts; hydrostatics; development of mass, momentum, and energy conservation laws in integral and differential form; dimensional analysis and similitude; viscous laminar and turbulent flows in pipes; introduction to boundary layers. (RE) Prerequisite(s): Mechanical Engineering 231 and Mathematics 241.

345 Aerospace Engineering Instrumentation and Measurement (3) Fundamentals of measurement systems; standards; dynamic characteristics of instruments; statistical data treatment; transducers; signal conditioning; strain, pressure, temperature and flow measurements. (RE) Prerequisite(s): 341 and Electrical and Computer Engineering 301. (RE) Corequisite(s): Mechanical Engineering 363.

351 Compressible Flow (3) One-dimensional internal flow with shocks, friction and nonadiabatic conditions. Two-dimensional external flows. (RE) Prerequisite(s): 341 and Mechanical Engineering 331.

363 Structural Analysis of Aerospace Vehicles (3) Fundamentals of structural analysis applied to configurations common to aerospace vehicles. (RE) Prerequisite(s): Mechanical Engineering 321.

370 Airplane Performance (4) Airplane aerodynamics, characteristics of propulsion systems, prediction of airplane performance, static and dynamic stability and control of aircraft. (RE) Corequisite(s): 341.

410 Professional Development (2) Topics relating to professional responsibility, communications, and organization. Formal oral presentation by each student on an engineering topic chosen by the student and approved by the instructor. (OC) (RE) Prerequisite(s): English 102. Registration Restriction(s): Minimum student level – senior.

422 Aerodynamics (3) Theory and design of aerodynamic bodies for desired characteristics. Potential flow theory, viscous effects, and compressibility effects. Subsonic, transonic, and supersonic airflows. (RE) Prerequisite(s): 351 and 370. (RE) Corequisite(s): 351. (RE) Corequisite(s): Mechanical Engineering 344.

424 Astronautics (4) Solar system, orbital mechanics, propulsion, atmospheric entry, thermal protection materials, human factors in space flight, the space environment, and current topics. (RE) Prerequisite(s): 351. (RE) Corequisite(s): Mechanical Engineering 344.


426 Introduction to Aerospace Design (2) Design process, synthesis, design studies. Individual design reports required. (RE) Prerequisite(s): 351 and 370. (DE) Prerequisite(s): 363. (RE) Corequisite(s): Mechanical Engineering 344.

429 Aerospace System Design (3) Synthesis and design of a complete aerospace system. Participation in team design effort including formal presentations and design report. (RE) Prerequisite(s): 426 and 422. (DE) Prerequisite(s): 425.

449 Aerospace Engineering Laboratory (3) Designing, conducting, and reporting results of experimental exercises. Test standards and specifications. Analysis of data and formation of conclusions. Contact Hour Distribution: 3 hours lab per week. (RE) Prerequisite(s): 345 and 351. (DE) Prerequisite(s): 425.

494 Selected Topics in Aerospace Engineering (1-4) Problems and topics related to developments and practice in aerospace engineering. Registration Permission: Consent of instructor.

495 Selected Topics in Aerospace Engineering (1-4) Problems and topics related to developments and practice in aerospace engineering. Registration Permission: Consent of instructor.

African Studies (023)

162 Art of Africa, Oceania, and Pre-Columbian America (3) (See Art History 162.) (AH)

201 Introduction to African-American Studies (3) Multidisciplinary approach to the African-American experience through the Civil War period which examines such issues as traditional African societies, the institution of slavery, the development of African-American culture, the beginnings of African-American protest tradition, and the Civil War and Reconstruction. (SS)

202 Introduction to African-American Studies (3) Multidisciplinary approach to the African-American experience from the Civil War through the Civil Rights era which focuses on such topics as African-American rural and urban societies, the African-American church and education and African-American intellectual and protest movements. (SS)

233 Major Black Writers (3) (See English 233.) (AH)

235 Introduction to African Studies (3) Multidisciplinary approach to the study of African traditions, cultures, religions, political economies, pre-colonial democracies, and states from the first through the 16th century. Writing-emphasis course. (CC)

236 Introduction to African Studies (3) Multidisciplinary study of Africa and its incorporation into the world economy between the sixteenth and the twentieth century. Includes the rise of nationalism, post-colonial dependency, contemporary problems, and current liberation struggles in various areas of the continent. Writing-emphasis course. (CC)

310 Introduction to African-American Music (3) (See Musicology 310.)

315 The African Diaspora (3) (See Anthropology 315.)

319 Caribbean Cultures and Societies (3) (See Anthropology 319.)

331 Race and Ethnicity in American Literature (3) (See English 331.)

333 Black American Literature and Aesthetics (3) (See English 333.)

343 Race and Ethnicity (3) (See Sociology 343.)

352 African-American Religion in the United States (3) (See Religious Studies 352.)

353 Topics in African-American Religion (3) (See Religious Studies 353.)

371 African History (3) (See History 371.)

372 African History (3) (See History 372.)

373 African Religions (3) (See Religious Studies 373.)

379 Geography of Africa (3) (See Geography 379.)

381 History of South Africa (3) (See History 381.)

421 Comparative Studies in African and African-American Societies (3) Comparative studies of African and African-American societies in such areas as education, religion, and social stratification. Includes the respective views African-Americans and Africans have of each other and the concept of Pan-Africanism. Writing-emphasis course.
429 History and Philosophy of African-American Education (3) Focuses on attempts by African-Americans to secure an education for themselves and their children from the era of slavery to the Brown decision in 1954. Examines black perceptions of the importance of education and special obstacles confronting African-Americans who seek education on the primary, secondary, college, or graduate level. Writing-emphasis course.

431 Research Seminar in African-American Studies (3) Teaches basic approaches to the research process and development of research skills. Students design and implement a research project of their choice in the field of African-American studies. Writing-emphasis course. (RE) Prerequisite(s): 201 and 202. Registration Restriction(s): Minimum student level – senior.

442 Comparative Poverty and Development (3) (See Sociology 442.)

443 Topics in Black Literature (3) (See English 443.)

451 The African-American Experience from the Colonial Period to the Civil War (3) (See History 445.)

461 Art of Southern and Eastern Africa (3) (See Art History 461.)

462 Art and Archaeology of Ancient Africa (3) (See Art History 462.)

463 Arts of the African Diaspora (3) (See Art History 463.)

473 Black Male in American Society (3) Examines historical images, myths and stereotypes which have developed concerning African-American males in American society. Includes the impact of such critical factors as black feminism, violence, concepts of masculinity, the family, white males, white females, homosexuality, nationalism, and athletics on African-American males in America.

480 African-American Communities in Urban America (3) Evaluates the beneficial and historical influence of three major institutions: the church, the family, and the school upon the African-American struggle to survive. Includes political, economic, and social factors utilized by black people in developing coping strategies and mechanisms. Writing-emphasis course.

484 African-American Women in American Society (3) Focuses on historical and contemporary social, economic and political factors in American society as they relate to the black woman. Writing-emphasis course. (Same as Women’s Studies 484.)

491 Foreign Study (1-6) Repeatability: May be repeated. Maximum 6 hours. (RE) Prerequisite(s): 201 and 202.

492 Off-Campus Study (1-6) Repeatability: May be repeated. Maximum 6 hours. (RE) Prerequisite(s): 201 and 202.

493 Independent Study (1-6) Repeatability: May be repeated. Maximum 6 hours. Registration Permission: Consent of instructor.

496 Biology of Human Variability (3) (See Anthropology 496.)

Agricultural and Extension Education (042)

201 Field Experience in Agricultural and Extension Education (1) Field observation/experience in potential agricultural and extension education career fields. Requirements include daily journal, formal written report, completion of required hours, and seminar.

211 Foundations of Agricultural and Extension Education (3) History and philosophy of agricultural education and extension education. Major areas of emphasis include the historical development of agricultural education in the public schools and the federal extension education system. Formal and non-formal methods of education used, audiences served, organizational structure, and programming emphases will be studied by students. Foundation course for departmental majors and service course for those interested in related careers.

301 Non-Formal Youth Development Programs (1-2) Structured experience in administering, organizing, conducting, and evaluating youth education programs in agricultural and extension education.
337 Honors: Economics of Agricultural Biotechnology (3) Meets at the same time as 330 but requires additional work in the form of article reviews and a research paper. 
(RE) Prerequisite(s): Economics 201. 
Registration Restriction(s): Minimum student level – junior. 

342 Farm Business Management I (3) Principles and procedures for determining business organizations and systems of operation; attention to traditional and nontraditional agricultural enterprises and businesses; nature of managerial processes; business records and their uses; budgeting; acquisition and management of capital, land, labor and machinery; farm business planning. 
(RE) Prerequisite(s): 212 and Accounting 200. 
Recommended Background: Introductory economics and microcomputer competence. 

350 The Agricultural Marketing System (3) Survey of U.S. food and fiber marketing system; marketing functions; industry structure; market channels; marketing options of farmers; basic analysis of marketing problems. 
(RE) Prerequisite(s): 212 and Economics 201. 

355 Agribusiness Marketing and Professional Selling (3) Role of marketing in the agribusiness organization, planning marketing efforts, and the strategic selling process. Topics include identification of market opportunities, targeting, marketing mix, and personal selling in agribusiness. 
(RE) Prerequisite(s): 212 and Economics 201. 

356 Marketing Team Participation (1-2) Participation in the development of a total marketing plan for a product sold to or by farmers. Includes product identification, market research, and development of an action plan including an extensive promotional plan, financial analysis, and evaluation. Requires preparation of final plan for presentation in written, oral and visual formats. Plan presented in national competition during the National AgMarketing Conference. 
Repeatability: May be repeated. Maximum 6 hours. 
Registration Permission: Consent of instructor. 

360 Rural Economic Development (3) Use of economic principles and analytical concepts in understanding the theory and process of rural economic development at both the regional and subregional levels. Integrating historical and current information, students will explore the impetus of efficiency and equity as driving forces behind public sector and private sector initiatives to induce, manage and forecast development. 
(RE) Prerequisite(s): Economics 201. 

410 Seminar in Agricultural Economics and Business (1) Practice of critical thinking, ethical behavior, teamwork, and conflict resolution within the context of agribusiness decision making. Analysis of contemporary issues in the field of agricultural economics. 
Registration Restriction(s): Agricultural economics and business major; minimum student level – senior. 

412 Agricultural Finance (3) Macro-finance, financial objectives, acquisition of debt and equity funds, capital investments, capital allocation, debt repayment, credit analysis, borrower and lender loan application analysis, insurance strategies, computer applications, kinds and sources of agricultural credit, and financial intermediation. 
(RE) Prerequisite(s): 212 and Accounting 200. 
Recommended Background: Introductory economics and microcomputer competence. 

420 International Agricultural Trade and Marketing (3) Introduction to real and monetary aspects of international trade effect on agricultural commodity flows; partial equilibrium analysis of international trade in agricultural products; institutional aspects of international marketing of agricultural products. 
(RE) Prerequisite(s): 320. 

430 Agricultural Policy (3) Values, goals and policy process. Economic rationale and effects of policy. Historical development and current characteristics of commodity, credit, food, and trade policy. 
(RE) Prerequisite(s): 320. 

442 Agribusiness Management (3) Advanced concepts in developing business and marketing plans and in applied management principles such as inventory control and pricing techniques. Discussion of management issues including going international, employee supervision, management succession and guerilla marketing. Teamwork emphasized in managing an agribusiness firm through game simulation. Written and oral presentation required. 
(RE) Prerequisite(s): 212 and Accounting 200. 
Recommended Background: Intermediate microeconomics. 

444 Economics of Precision Farming Technologies (3) Economic rationale for precision farming technologies. Topics include technology adoption, production economics, development of decision-making tools and the use of spatial data for management of crop production systems. 
(RE) Prerequisite(s): Economics 201 and Agriculture and Natural Resources 290. 

450 Agricultural Industry Analysis and Forecasting (3) Analytical tools for decision-making in the agricultural sector; analysis of commodity supply and demand conditions; economic modeling; market forecasting; analysis of temporal and spatial patterns. 
(RE) Prerequisite(s): 320 and Statistics 201. 

470 Natural Resource Economics (3) Nature of natural resources; economic and social values of natural resource use; real and monetary aspects of international trade effect on agricultural commodities; partial equilibrium analysis of international trade in agricultural products; resource supply and demand conditions; economic modeling; market forecasting; analysis of temporal and spatial patterns. 
(RE) Prerequisite(s): Economics 201. 

492 Off-Campus Internship (1-3) Pre-approved supervised experience with firm or organization in the field. 
Grading Restriction: Satisfactory/No Credit grading only. 
Repeatability: May be repeated. Maximum 6 hours. 
Registration Restriction(s): Minimum student level – junior. 
Registration Permission: Consent of instructor. 

493 Independent Study (1-3) Directed individual or team research and report writing. Special courses in specific topics. 
Repeatability: May be repeated. Maximum 6 hours. 
Registration Restriction(s): Minimum student level – junior. 
Registration Permission: Consent of instructor. 

Agriculture and Natural Resources (088) 

100 Orientation to Studies in Agriculture and Natural Resources (1) 
Orientation to academic advising and procedures in, and information about the college will be emphasized. Various invited guests will review university resources available to help students succeed at their studies. Student-to-student and advisor-to-student sessions are included to discuss the College of Agricultural Sciences and Natural Resources experience. 
Grading Restriction: A, B, C. No Credit grading only. 
Registration Restriction(s): Freshmen and sophomores only. 

290 Computer Applications to Problem Solving (3) Use of computer technology to analyze and report problems related to agricultural sciences and natural resources. The use and integration of computer applications such as spreadsheets, databases, presentation graphics, word processing, and other applicable software as needed for problem analysis and reporting. 
Contact Hour Distribution: 2 hours and 1 lab. 

317 Agriculture and Natural Resources Honors Seminar (1) Primarily for College Scholars students. Discussion of selected topics, issues and problems influencing national and international food, agriculture and natural resources systems. 
Grading Restriction: A, B, C. No Credit grading. 
Repeatability: May be repeated. Maximum 4 hours. 

330 Leadership Development in Agriculture and Natural Resources (1) 
Enrollment limited to College Ambassadors. Readings on leadership and personal development, communication techniques, and/or personal types. 
Grading Restriction: A, B, C. No Credit grading. 
Repeatability: May be repeated. Maximum 4 hours. 
Registration Permission: Consent of instructor. 

333 Food, Forests and the Environment (3) Overview of the environmental tradeoffs that have been, are, and will be required to produce the food, fiber and other products needed to feed, clothe, and house a growing world population. Topics to include basic natural resources, current practices in agriculture, forestry, and food handling, and practices related to quality of life issues, such as wildlife and landscape design. 
Credit Restriction: May not be applied toward directed elective requirements. 

491 International Experience in Agriculture and Natural Resources (1-12) Credit for formalized international experiences related to agricultural sciences and natural resources. Determination of credit based on nature of the proposed experience. Students should discuss the opportunity with their faculty advisors prior to the trip to determine if it is appropriate for credit. Credit hours will be determined by the department and college depending on the extent of activity and types of projects and/or presentations to be completed by the student upon return. 
Repeatability: May be repeated. Maximum 12 hours. 
Registration Permission: Consent of instructor. 

497 Honors: Independent Project (1-6) For students participating in the College of Agricultural Sciences and Natural Resources Honors Research and Creative Achievements Program. Consists of independent work with a faculty member. 
Repeatability: May be repeated. Maximum 6 hours. 
Registration Permission: Consent of instructor. 

498 Honors Presentation (1) For students participating in the College of Agricultural Sciences and Natural Resources Honors Research and Creative Achievements Program. Final written report and oral presentation of the honors project. 
Registration Permission: Consent of instructor.
Air Force Aerospace Studies (094)  
101 The Air Force Today (1) Survey that focuses on the organizational structure and missions of the Air Force; officership and professionalism; and includes an introduction to communicative skills. A weekly Leadership Laboratory (LLAB) consisting of Air Force customs and courtesies, health and physical fitness, and drill and ceremonies is mandatory.  
(Re) Corequisite(s): 103.  
102 The Air Force Today (1) Survey that focuses on the organizational structure and missions of the Air Force; officership and professionalism; and includes an introduction to communicative skills. A weekly Leadership Laboratory (LLAB) consisting of Air Force customs and courtesies, health and physical fitness, and drill and ceremonies is mandatory.  
(Re) Corequisite(s): 104.  
103 Leadership Laboratory (1) Includes a study of Air Force customs and courtesies, drill and ceremonies, and giving military commands; instructing, correcting, and evaluating the preceding skills; studying the environment of an Air Force officer; and learning about opportunities available to commissioned officers.  
Grading Restriction: Satisfactory/No Credit grading only.  
104 Leadership Laboratory (1) Includes a study of Air Force customs and courtesies, drill and ceremonies, and giving military commands; instructing, correcting, and evaluating the preceding skills; studying the environment of an Air Force officer; and learning about opportunities available to commissioned officers.  
Grading Restriction: Satisfactory/No Credit grading only.  
201 The Development of Air Power (1) Focuses on factors contributing to the development of air power from its earliest beginnings through two world wars; the evolution of air power concepts and doctrine; and an assessment of communicative skills. A weekly Leadership Laboratory (LLAB) consisting of Air Force customs and courtesies, Air Force environment, drill and ceremonies, and field training orientation is mandatory.  
(Re) Corequisite(s): 203.  
202 The Development of Air Power (1) Focuses on factors contributing to the development of air power from its earliest beginnings through two world wars; the evolution of air power concepts and doctrine; and an assessment of communicative skills. A weekly Leadership Laboratory (LLAB) consisting of Air Force customs and courtesies, Air Force environment, drill and ceremonies, and field training orientation is mandatory.  
(Re) Corequisite(s): 204.  
203 Leadership Laboratory (1) Includes a study of Air Force customs and courtesies, drill and ceremonies, and giving military commands; instructing, correcting, and evaluating the preceding skills; studying the environment of an Air Force officer; and learning about opportunities available to commissioned officers.  
Grading Restriction: Satisfactory/No Credit grading only.  
204 Leadership Laboratory (1) Includes a study of Air Force customs and courtesies, drill and ceremonies, and giving military commands; instructing, correcting, and evaluating the preceding skills; studying the environment of an Air Force officer; and learning about opportunities available to commissioned officers.  
Grading Restriction: Satisfactory/No Credit grading only.  
205 Field Training (Academic Program) (1-4) Open only to 2-year program applicants. Role of United States military forces in contemporary world, with particular attention to the United States Air Force, its organization and mission, various component forces of U.S. military power, organization of America’s defense structure, policies of major powers, and elements and processes in making of defense policy. Conducted at field training bases throughout the country.  
Repeatability: Not repeatable for credit. May be taken once for 1-4 hours.  
Registration Permission: Consent of department head.  
301 Air Force Leadership and Management (3) Study of leadership and quality management fundamentals, professional knowledge, leadership ethics, and communicative skills required of an Air Force officer. Case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical application of the concepts being studied. A mandatory weekly Leadership Laboratory (LLAB) provides advanced leadership experiences in office-type activities and gives students the opportunity to apply leadership and management principles to this course.  
(Re) Corequisite(s): 303.  
302 Air Force Leadership and Management (3) Study of leadership and quality management fundamentals, professional knowledge, leadership ethics, and communicative skills required of an Air Force officer. Case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical application of the concepts being studied. A mandatory weekly Leadership Laboratory (LLAB) provides advanced leadership experiences in office-type activities and gives students the opportunity to apply leadership and management principles to this course.  
(Re) Corequisite(s): 304.  
303 Leadership Laboratory (0) Consists of activities classified as advanced leadership experiences. They involve planning, organizing, staffing, coordinating, directing, and controlling the military activities of the cadet corps; preparation and presentation of briefings and other oral and written communications; and providing interviews, guidance, and information which will increase the understanding, motivation, and performance of other cadets.  
304 Leadership Laboratory (0) Consists of activities classified as advanced leadership experiences. They involve planning, organizing, staffing, coordinating, directing, and controlling the military activities of the cadet corps; preparation and presentation of briefings and other oral and written communications; and providing interviews, guidance, and information which will increase the understanding, motivation, and performance of other cadets.  
401 National Security Forces in Contemporary American Society (3) Examines the need for national security, analyzes the evolution and formulation of the American defense policy, strategy, and joint doctrine; investigates the methods for managing conflict; and overviews regional security, arms control, and terrorism. Special topics of interest focus on the military as a profession, officership, the military justice system, and current issues affecting military professionalism. Within this structure, continued emphasis is given to the refinement of communicative skills. A weekly Leadership Laboratory (LLAB) consisting primarily of advanced leadership experiences in office-type activities is mandatory.  
(Re) Corequisite(s): 403.  
402 National Security Forces in Contemporary American Society (3) Examines the need for national security, analyzes the evolution and formulation of the American defense policy, strategy, and joint doctrine; investigates the methods for managing conflict; and overviews regional security, arms control, and terrorism. Special topics of interest focus on the military as a profession, officership, the military justice system, and current issues affecting military professionalism. Within this structure, continued emphasis is given to the refinement of communicative skills. A weekly Leadership Laboratory (LLAB) consisting primarily of advanced leadership experiences in office-type activities is mandatory.  
(Re) Corequisite(s): 404.  
403 Leadership Laboratory (0) Consists of activities classified as advanced leadership experiences. They involve planning, organizing, staffing, coordinating, directing, and controlling the military activities of the cadet corps; preparation and presentation of briefings and other oral and written communications; and providing interviews, guidance, and information which will increase the understanding, motivation, and performance of other cadets.  
404 Leadership Laboratory (0) Consists of activities classified as advanced leadership experiences. They involve planning, organizing, staffing, coordinating, directing, and controlling the military activities of the cadet corps; preparation and presentation of briefings and other oral and written communications; and providing interviews, guidance, and information which will increase the understanding, motivation, and performance of other cadets.  
American Studies (099)  
310 Introduction to American Studies (3) Explores dynamics and nature of the culture(s) of the United States through interdisciplinary study and interpretation. Considers both mainstream and minority cultures. Writing-emphasis course.  
312 Popular Culture and American Politics (3) (See Political Science 312.)  
320 American Cultures (3) (See Anthropology 320.)  
334 Film and American Culture (3) (See English 334.)  
343 Race and Ethnicity (3) (See Sociology 343.)  
345 Collective Behavior and Social Movements (3) (See Sociology 345.)  
355 Religion and Culture in the United States (3) (See Religious Studies 355.)  
356 The 1960s in America (3) (See History 356.)  
381 Introduction to Folklife (3) (See English 381.)  
410 Topics in American Culture (3) Content varies.  
Repeatability: May be repeated. Maximum 6 hours.  
420 Political Attitudes and Behavior (3) (See Political Science 420.)  
423 Geography of American Popular Culture (3) (See Geography 423.)  
442 American Humor (3) (See English 442.)  
450 Seminar in American Studies (3) Intensive study of a major issue in American studies scholarship.  
469 Freedom of Speech (3) (See Communication Studies 469.)
Animal Science (113)

160 Introduction to Animal Science (3) Preparation of academic plans and career discussion. Introduction to structure and production principles of the food animal, horse industries. Overview of companion and alternative livestock. Market classes and grades of cattle, poultry and pork products, lamb and wool, and swine.

Contact Hour Distribution: 3 labs.

220 Anatomy and Physiology of Farm Animals (3) Skeleton and joints; muscles; blood and microcirculation; the nervous, endocrine, cardiovascular, respiratory, and digestive systems; demonstrations of physical-chemical phenomena.

Contact Hour Distribution: 2 hours and 1 lab.

(Re) Prerequisite(s): Biology 130 or Biology 102.
(Re) Registration Restriction(s): Minimum student level – sophomore.

280 Biotechnology and Management Practices in Animal Production (3) Exposure to current animal agriculture management practices and biotechnology techniques as they affect beef, dairy, horse, poultry, sheep and swine industries. Includes animal behavior, restraint and welfare, computer applications, nutrients and nutrient utilization, waste management, food safety, animal reproduction, health and well being, and emerging technologies and opportunities in animal agriculture. (WC)

Contact Hour Distribution: Two 3-hour labs.

285 Horse Handling and Care (3) Proper procedures for horse-human interaction and the recommended management procedures for horse care. The basic behavioral characteristics of the horse, an understanding of his physical and mental parameters and their use in horse-human communication. Interactions include imprinting, haltering, halter training, lunging, long-line driving, bridling, bitting, round pen training, saddling, and teaching to guide. Basic care includes feed selection and management, post-natal care, restraint, foot care, dental care, grooming, loading and trailering, stall maintenance, internal and external parasite control, exercising, identification techniques, routine vaccinations and first aid. Safety for both horse and handler will be emphasized.

Contact Hour Distribution: Three 2-3 hour labs.

320 The Physiology of Reproduction and Lactation (3) Biology of sex and sexual differentiation, functional anatomy of male and female, reproduction and lactation, gametogenesis, neuroendocrinology and endocrinology of reproduction and lactation, sex cycles, folliculogenesis, ovulation, spermatogenesis, fertilization, embryonic development, implantation, pregnancy, parturition, initiation of lactation and maintenance of the dry period, artificial control of reproduction and lactation. (Same as Biochemistry and Cellular and Molecular Biology 320.)

Contact Hour Distribution: 2 hours and 1 lab.

(Re) Prerequisite(s): Biology 130 or Biology 102.

330 Comparative Animal Nutrition (3) Nomenclature, structures, functions, utilization, and deficiency symptoms of essential nutrients in carnivores, omnivores and herbivores.

(Re) Prerequisite(s): Chemistry 130 or Chemistry 110.
(De) Prerequisite(s): 220.

340 Principles of Animal Breeding (3) Genetic and environmental bases of animal variation. Selection and mating systems as mechanisms of genetic change. Planning breeding programs for economically important domestic species.

Contact Hour Distribution: 2 hours and 1 lab.

(Re) Prerequisite(s): 220.


Registration Restriction(s): Minimum student level – sophomore.

380 Animal Health Management (3) Characteristics, symptoms, prevention, and treatment of major diseases and parasites. Immunization, health regulations and herd health programs for all farm livestock species and poultry.

Contact Hour Distribution: 2 hours and 1 lab.

(Re) Prerequisite(s): 220.

381 Animal Nutrition and Production Systems (3) Fundamentals of production and management systems with an emphasis on nutrition in beef, dairy, pork, and poultry programs. Application of principles of nutrition, breeding, physiology, and marketing into enterprise systems. Decision-making management practices and information resources, enterprise evaluation, and comparison of production systems.

Contact Hour Distribution: 2 hours and 1 lab.

Registration Restriction(s): Not open to animal science majors.

395 Careers Seminar (1) Preparing students for career opportunities in animal agriculture including both industry and academic advancement. Topics will include resume preparation, interview skills, internship opportunities, and Web-based employment search guides.

Contact Hour Distribution: 1 hour and 2 labs.

(Re) Prerequisite(s): 320.
(Re) Registration Restriction(s): Minimum student level – senior.

430 Nutrient Evaluation and Ration Formulation (3) Ration nutrient analysis and formulation for beef and dairy cattle, sheep, horses, swine, poultry, laboratory, zoo and companion animals. Mathematics and computer solutions and applications to formulating complex rations with constraints.

Contact Hour Distribution: 2 hours and 1 lab.

(Re) Prerequisite(s): 330.

461 Advanced Beef Cattle, Dairy Cattle, Horse, Poultry, Sheep and Swine Judging (1) Specialization in judging: evaluation, selection and presentation of oral reasons for classes of beef cattle, dairy cattle horses, poultry, sheep, and swine.

Contact Hour Distribution: 2 labs.

Grading Restriction: Satisfactory/No Credit grading only.

Registration Permission: Consent of department head.

481 Beef Cattle Production and Management (3) Integration of principles of nutrition, breeding, physiology, and marketing into complete production and management programs. Structure of industry, enterprise establishment, systems of production, production practices, and improvement programs. Management evaluated in terms of production response and economic returns. Comparisons made to small ruminant, forage-based production systems.

Contact Hour Distribution: 2 hours and 1 lab.

(Re) Prerequisite(s): 330 and 380.

(Re) Corequisite(s): 320 and 340.

482 Dairy Cattle Production and Management (3) Integration of principles of nutrition, breeding, physiology, and marketing into complete production and management programs. Structure of industry, enterprise establishment, systems of production, production practices and herd improvement programs. Alternatives evaluated in terms of production responses and economic returns.

Credit Hour Distribution: 2 hours and 1 lab.

(Re) Prerequisite(s): 320 and 340.
(Re) Corequisite(s): 320 and 340.

483 Pork Production and Management (3) Integration of principles of nutrition, breeding, physiology, and marketing into complete production and management programs. Structure of industry, enterprise establishment, systems of production, production practices, and improvement programs. Management evaluated in terms of production responses and economic returns.

Credit Hour Distribution: 2 hours and 1 lab.

(Re) Prerequisite(s): 320 and 340.
(Re) Corequisite(s): 320 and 340.

484 Poultry Production and Management (3) Integration of principles of nutrition, breeding, physiology, and marketing into complete production and management programs. Structure of industry, enterprise establishment, systems of production, production practices, and improvement programs. Management evaluated in terms of production responses and economic returns.

Credit Hour Distribution: 2 hours and 1 lab.

(Re) Prerequisite(s): 320 and 340.
(Re) Corequisite(s): 320 and 340.

485 Horse Production and Management (3) Integration of principles of nutrition, breeding, physiology and ethology into complete production and management programs. Types of enterprises, management of feed and pasture resources, health maintenance and first aid, breeding and foaling, farm structures and equipment.

Contact Hour Distribution: 2 hours and 1 lab.

(Re) Prerequisite(s): 330 and 380.
(Re) Corequisite(s): 320 and 340.
489 Companion, Zoo, and Lab Animal Management (3) Principles of nutrition, physiology, breeding, handling, and history of breeds of common household pets, zoo animals, and animals used in scientific research. Specific species requirements and peculiarities. Laws and agencies governing use of laboratory animals. Laboratory analysis of blood metabolites commonly used to monitor health and nutritional status.

Contact Hour Distribution: 2 hours and 1 lab.
(RE) Prerequisite(s): 330 and 380.
(RE) Corequisite(s): 320 and 340.

492 Animal Science Field Study (1-6) Off-campus work experience approved by the department. Objective is to compliment traditional classroom activities and give the student an opportunity to gain experience in industry. Students must submit official approval form prior to registration. The student will be evaluated on knowledge and skills and must submit a written summary after program completion.

Repeatability: May be repeated. Maximum 6 hours.
Registration Restriction(s): Minimum student level – sophomore.
Registration Permission: Consent of department head.

493 Independent Study in Animal Science (1-3) Approved supervised study in areas not formally presented in a course offered in the department. Written proposal of study is approved by the Department of Animal Science Undergraduate Committee. After completion of study, a written report is required and this report is maintained on file in the reference room of the department.

Repeatability: May be repeated. Maximum 6 hours.
Registration Restriction(s): Minimum student level – sophomore.
Registration Permission: Consent of department head.

494 Animal Science Teaching Assistant (1) Assist the primary instructor in laboratory instruction and demonstrations.

Grading Restriction: Satisfactory/No Credit grading only.
Registration Restriction(s): Minimum student level – senior.
Registration Permission: Consent of department head.

495 Ethics in Animal Agriculture (1) Discussion and presentations on issues related to ethics in animal research and industry.

Registration Restriction(s): Minimum student level – senior.

Anthropology (122)

110 Human Origins (3) Survey of humanity's background, fossil primates, fossil human remains, and living races of mankind. (NS)

120 Prehistoric Archaeology (3) Introduction to methods and techniques used to identify and date archaeological cultures, reconstruct past lifeways and describe cultural evolution. Overview of the prehistory of Africa, western Europe, southwest Asia, and the Americas from earliest dated human cultures to rise of complex civilizations. (CC)

130 Cultural Anthropology (3) Major concepts and methods in the study of culture; survey of cross-cultural similarities and differences in subsistence, social organization, economic, political, and religious institutions; language, ideology and arts. Contributions of anthropology to resolving contemporary human problems. (SS)

210 Principles of Biological Anthropology (3) Mechanisms of biological evolution and adaptation in living and prehistoric humans.

(RE) Prerequisite(s): 110.

302 Anthropology of Religion (3) (See Religious Studies 302.)

304 Genetics and Society (3) (See Biochemistry and Cellular and Molecular Biology 306.)

305 Evolution and Society (3) (See Ecology and Evolutionary Biology 305.)

310 North American Indians (3) Comparative overview of Indian cultures of North America. Topical coverage ranges from prehistory and aboriginal lifeways to problems resulting from contact and acculturation.

Writing-emphasis course.

(RE) Prerequisite(s): 130.

311 Southeastern Indians (3) Survey of Southeastern American Indian cultures at the time of European contact. Emphasis on Cherokee culture and on the social, economic, and religious organization of aboriginal groups.

(RE) Prerequisite(s): 130.

312 Appalachian Culture (3) Traditional Southern Appalachian subsistence patterns and economy, social organization, beliefs and values, folklore and customs; socio-cultural impacts of industrialization and modernization.

Writing-emphasis course.

(RE) Prerequisite(s): 130.

313 Peoples and Cultures of Mesoamerica (3) Pre-Columbian and Hispanic cultures of Mexico, Guatemala, Belize, El Salvador and Honduras. Patterns of cultural continuity and cultural change throughout Mesoamerica’s history.

Writing-emphasis course. (Same as Latin American Studies 313.)

(RE) Prerequisite(s): 130.


Writing-emphasis course. (Same as Africana Studies 315.)

(RE) Prerequisite(s): 130.

316 Peoples and Cultures of South America (3) An introduction to contemporary analysis and debate on South America that places the concept “culture” in historical perspective and discusses the anthropological notion of “people” within the complexity of indigenous and black social formations.

Writing-emphasis course. (Same as Latin American Studies 314.)

(RE) Prerequisite(s): 130.

319 Caribbean Cultures and Societies (3) Anthropological approaches to key aspects of Caribbean history, sociocultural pluralism, racial and class stratification, patterns of economic development, and local and national-level political processes.

Writing-emphasis course. (Same as Africana Studies 318.)

(RE) Prerequisite(s): 130.

320 American Cultures (3) Anthropological perspectives on cultural diversity in America, including the immigrant experience and expressions of ethnicity, intercultural relations, occupational and interest group subcultures.

Writing-emphasis course. (Same as American Studies 320.)

(RE) Prerequisite(s): 130.

321 Indians of Northwest North America (3) Survey of American Indian cultures found in the Northwest Coast, Columbia Plateau, and Northern Great Basin culture areas.

Writing-emphasis course.

(RE) Prerequisite(s): 130.

322 Topics in Ethnography (3) Overview of culture patterns and ethnographic research on selected social groups or culture areas.

Repeatability: May be repeated. Maximum 6 hours.

(RE) Prerequisite(s): 130.

357 Senior Honors in Anthropology (3) Analytical, integrative review of current directions of research and theory in anthropology.

Registration Restriction(s): Anthropology major. 3.2 GPA.

360 North American Prehistory (3) Prehistoric cultures of North America from initial occupation of the continent to European contact.

Writing-emphasis course.

(RE) Prerequisite(s): 130.

361 Historical Archaeology (3) Historical archaeology of Euro-American, African-American, and Asian American cultures in the United States from 15th to 20th centuries.

(RE) Prerequisite(s): 120.

362 Principles of Archaeology (3) Research strategies used in developing method and theory, constructing cultural histories, identifying site function and settlement-subistence patterns, and evaluating explanations of cultural change.

(RE) Prerequisite(s): 120.

363 Prehistory of Tennessee (3) Archaeological principles and theory illustrated in history of archaeological research in Tennessee and through survey of prehistoric Indian cultures from initial occupation of the state to European contact.

Writing-emphasis course.

(RE) Prerequisite(s): 120.

369 Topics in Archaeology (3) Examination of selected frameworks and techniques for retrieval and analysis of archaeological materials.

Repeatability: May be repeated. Maximum 6 hours.

(RE) Prerequisite(s): 120.

373 African Religions (3) (See Religious Studies 373.)

400 Readings in Anthropology (1-6) Problem-oriented directed readings in anthropology.

Repeatability: May be repeated. Maximum 6 hours.
Registration Permission: Consent of instructor.

410 Principles of Cultural Anthropology (3) Exploration and illustration of major concepts, theories, and methods in cultural anthropology, with application to analysis of specific ethnographies.

(RE) Prerequisite(s): 130.

411 Linguistic Anthropology (3) Basic linguistic concepts applied to research in cultural anthropology, particularly investigation of relationships between language and culture.

(Same as Linguistics 411.)

(RE) Prerequisite(s): 130 or Linguistics 200.

412 Folklore in Anthropology (3) Introduction to anthropological study of folklore, using folklore and folklore materials from various tribal, peasant, and complex societies.

(RE) Prerequisite(s): 130.
413 Dynamics of Culture (3) Definition and in-depth study of major forms of culture change, ranging from evolution and diffusion to religious revitalization and political revolt. Continuity and change in diverse cultural settings examined through use of archaeological, ethnographic, and contemporary cases. (RE) Prerequisite(s): 130.

414 Political Anthropology (3) Examination of the organization and dynamics of power and politics in both stateless and state-level societies. The role of symbols, rituals, and ideologies in producing and reproducing power relations. The relationship between actors (individuals) and structures. The encapsulation of traditional political forms and systems within modern states. Writing-emphasis course. (RE) Prerequisite(s): 130.

415 Environmental Anthropology (3) Overview of theoretical and methodological approaches to the study of human/environmental interactions. Impacts of environmental change on society and culture; human impacts on environmental change. (RE) Prerequisite(s): 130.

416 Applied Anthropology (3) Introduction to principles, practice, and ethics of anthropology applied to practical problems in non-academic settings. Overview of career opportunities in various domains of applied anthropology. (RE) Prerequisite(s): 130.

430 Fieldwork in Archaeology (3-9) Practicum work in archaeological data recovery and analytical techniques. Repeatability: May be repeated. Maximum 9 hours. (RE) Prerequisite(s): 120.

431 Ethnographic Research (3) Conceptual and practical exploration of methods and techniques cultural anthropologists use in fieldwork. (RE) Prerequisite(s): 130.

432 Anthropology of Warfare and Violence (3) Origins and tactics of warfare; overview of cultural foundations of warfare and structural violence; and effects on communities, social institutions, environments, and social organization. (RE) Prerequisite(s): 130.

435 Historical Archaeology Laboratory (3) Laboratory procedures for the processing, identification, and interpretation of artifacts from historical sites. Artifactual material from historic East Tennessee sites will be used for class projects. (RE) Prerequisite(s): 120. Recommended Background: 361.

436 Cities and Sanctuaries of the Greek and Roman World (3) (See Classics 436.)

442 Intensive Survey of the Archaeology of the Prehistoric Aegean (3) (See Classics 442.)

443 Intensive Survey of the Archaeology of Greece (3) (See Classics 443.)

444 Intensive Survey of the Archaeology of Etruria and Rome (3) (See Classics 444.)

450 Current Trends in Anthropology (3) Analytical, integrative review of current directions of research and theory in anthropology. Repeatability: May be repeated. Maximum 6 hours.

457 Senior Honors in Anthropology (3) Research and writing of the senior honors thesis. (RE) Prerequisite(s): 357. Comment(s): B or better in 357 and 3.5 in anthropology courses required.

459 Selected Topics in Anthropology (3) Theoretical issues in anthropology for undergraduate students. Topics may include practical experience or laboratory study of anthropological materials. Repeatability: May be repeated. Maximum 6 hours. Registration Permission: Consent of instructor.

462 Early European Prehistory (3) Origins and evolution of human culture in Europe through the beginnings of settled life. Primary focus on Paleolithic/Mesolithic chronology and lifeways. Writing-emphasis course. (RE) Prerequisite(s): 120.

463 Rise of Complex Civilizations (3) Development of complex societies in Old World from origins of agricultural economics to rise of States. Focus on Mesolithic, Neolithic, and Metal Age lifeways in Africa, Europe, and Asia. Writing-emphasis course. (RE) Prerequisite(s): 120.

464 Principles of Zooarchaeology (3) Basic osteological studies of major vertebrate groups, with emphasis on the aboriginal's use of animals in subsistence and culture. Identification and interpretation of archaeologically derived molluscan and vertebrate remains, with introduction to laboratory use of comparative collections. (RE) Prerequisite(s): 120.

465 Urban Archaeology (3) Field archaeology and interpretation of occupational remains on historic urban sites in the United States. Course content will include lectures and laboratory research on urban sites in East Tennessee. (RE) Prerequisite(s): 120. Recommended Background: 361.

480 Human Osteology (4) Intensive examination of the human skeleton. Contact Hour Distribution: 3 hours and 1 lab. (RE) Prerequisite(s): 110.

481 Museum Studies I: Museums, Purpose and Function (3) (See Art 481.)

482 Museum Studies II: Exhibition Planning and Installation (3) (See Art 482.)

484 Museum Studies III: Field Projects (1-12) (See Art 484.)

485 Oral Biology (4) Intense examination of human dentition and oral skeletal structures including dento-facial embryology/growth, histology, gross tooth morphology and pathology. (RE) Prerequisite(s): 480.

490 Primate Evolution (3) Living and fossil primate taxonomy, ecology, and comparative anatomy. Survey of primate fossil record with emphasis on the origin or major primate lineages. Registration Restriction(s): Anthropology major. Registration Permission: Consent of instructor.

491 Foreign Study (1-15) Repeatability: May be repeated. Maximum 15 hours. Registration Permission: Consent of instructor.

492 Off-Campus Study (1-15) Repeatability: May be repeated. Maximum 15 hours. Registration Permission: Consent of instructor.

493 Independent Study (1-15) Repeatability: May be repeated. Maximum 15 hours. Registration Permission: Consent of instructor.

494 Primate Behavior (3) Social organization and behavior of selected primates including group composition, size, and structure; patterns of mating; other social interactions; communication; and cultural behavior. Application of primate studies to human ethology. Registration Restriction(s): Anthropology major.

495 Human Paleontology (4) Intensive survey of the human fossil record from the earliest hominid remains to the earliest origins of modern human form. Registration Restriction(s): Anthropology major.

496 Biology of Human Variability (3) Introduction to human populations; human adaptation, biological features of major human races, relationships of major groups to one another. (Same as Africana Studies 496.) Registration Restriction(s): Anthropology major.

Arabic (127)

121 Elementary Modern Standard Arabic I (5) (See Asian Studies 121.)

122 Elementary Modern Standard Arabic II (5) (See Asian Studies 122.)

221 Intermediate Modern Standard Arabic I (5) (See Asian Studies 221. (CC))

222 Intermediate Modern Standard Arabic II (5) (See Asian Studies 222. (CC))

Architecture (133)

101 Introduction to the Built Environment (3) Scope and definition of the built environment in relation to contemporary society, building industry, and allied-design professions. Architectural design as a creative process. Orientation to courses and programs of the school. (RE) Corequisite(s): 171.


111 Architecture and the Built Environment (3) An introduction to architecture and the built environment for non-architecture majors. Significance of our surroundings, forces that create them. Creative aspects of design. Survey of examples from local to global. Strategies for individual and collective involvement. (AH)

121 Drawing and Perception (2) Exploration of drawing as a means of visual thinking and method of communication, addressing perceptual phenomenon. Exploration of different media, concentrating on freehand drawing. Includes line drawing, tone, shade, shadow, and depth cues. Compositional principles will be introduced. Drawings based on observation, including figure drawing and campus visits. (RE) Corequisite(s): 171.
122 Drawing and Abstraction (2) Exploration of drawing as a means of visual thinking and method of communication, addressing process of abstraction and transformation inherent in drawing. Exploration of different media and techniques of representation. Drawings based on observation, abstraction, and transformation.


172 Design Fundamentals II (4) Fundamentals of architectural design, conception, form and space. Elements of form and space including lines, planes, volumes, void, and mass. Spatial sequence and scale. Development of architectural representation.

180 Introduction to Architecture (2) Introduction to architecture as an intellectual discipline. Design as a creative endeavor central to the discipline and its profession.

211 History and Theory of Architecture I (3) Architecture and ideas of building and community form in major world cultures from the prehistoric era to about 1500 AD. (AH)

212 History and Theory of Architecture II (3) Architecture and ideas of building and community form from 1500 AD to the mid-20th century. (AH)

213 History and Theory of Contemporary Architecture (3) Architectural thought in design practice in late twentieth century. Examples of contemporary works and review of theoretical issues. (WC)

231 Computer Applications in Design I (3) Introduction to computer systems, software and hardware, and their application in architecture. Emphasis on learning how the computer can assist in the design process by modeling, visualizing and analyzing building designs. Introduction to drafting, three-dimensional modeling, and desktop publishing.

232 Introduction to Architectural Technology (3) Place of building technology in architectural design. Introduces concepts and theory of structures; building materials and construction; and environmental controls.

271 Architectural Design I (6) Introduction to contextual determinants in architectural design. Role of the city and the landscape in architectural design. Methods of analyzing place and form in determining design strategies. Representational skills developed including drawing, diagramming and modeling techniques.

272 Architectural Design II (6) Studies in architectural space. The role of function, habituation, movement, structure and scale as determinants of spatial form explored through a series of design projects ranging in scale from furniture to dwellings. Development of design processes, including analytical skills, diagramming, and determining design organizational strategies. Use of computer aided visualization techniques.

281 Principles of Architectural Form (6) Principles of architectural form emphasizing building configuration and order. Design of simple buildings which explore possibilities of site, use, shape materials and color.


312 Materials and Methods of Construction (3) Properties of interior and exterior building materials and their relation to construction methods and detailing. Theory of material selection and application and the role materials and methods play in the design process.

331 Architectural Structures I (4) Structural properties of building materials under loading and stress. Mechanics of foundations, properties of cross-sections of structural members and analysis of statically determinate trusses, beams, columns and simple assemblies. (QR)

332 Architectural Structures II (4) Continuation of analysis and design of simple structures of steel, wood and concrete based upon specific loading requirements. Use of construction and building codes, handbooks and design tables – selection of structural members.

335 Structures in Architecture I (3) Introduction to the structural properties of materials, foundations and simple statically determinate assemblies of buildings.

336 Structures in Architecture II (3) Continuation of analysis and design of simple structures in wood, steel, and concrete. Introduction of building codes, loading tables and handbooks for selection of structural members.

341 Environmental Control Systems I (4) Heating, ventilating, and air-conditioning systems, including passive and active solar energy systems. Plumbing and fire protection systems.


346 Principles of Environmental Control II (3) Introduction to electrical design and wiring, lighting and acoustics in buildings.

371 Architectural Design III (6) Design synthesis. Integration of design determinants and development of building concepts.

372 Architectural Design IV (6) Design synthesis. Integration of design determinants, structure, environmental controls, materials and construction.

401 Architectural History/Theory I (3) Survey of architectural history and theory from earliest beginnings to about 1600 in Europe, Asia, and the Americas. Examination of theoretical ideas, building forms, and urban patterns in cultural and historical context.

402 Architectural History/Theory II (3) Survey of architectural history and theory from about 1600 through the present day. Examination of theoretical ideas, building forms, and urban patterns in cultural and historical context.

403 Introduction to Preservation (3) History, theory, and legal aspects of architectural preservation and restoration.

404 Preservation Technology (3) Techniques of preservation – methods of analysis, history of materials and technology used in old buildings.

406 Ideas in Architecture (3) Historical and critical review of the major ideas of architecture through the ages.

410 History and Theory of Urban Form (3) Patterns of community development. Selected historical and contemporary examples. Basic urban design issues and exemplary design approaches examined through lectures, readings, essays, and sketch studies including historical change in urban form and design.

412 Non-Western and Indigenous Architecture (3) Building responsive to climate, material availability, and economic level, as designed by anonymous builders. Examples from prehistoric times to the present including the fertile crescent; the Indus Valley; Hindu, Buddhist, and Mughal architecture of India, China, and Japan.

415 Medieval Architecture (3) History of architecture from the decline of Rome to the beginning of the Renaissance. (Same as Medieval Studies 415.)

417 The International Style (3) A survey of architecture of the early modern movement, primarily in Europe and America, covering the years 1900 to 1940.

420 History of American Architecture (3) Consideration of architecture and city planning in the United States from the pre-Columbian period until the mid-20th century.
425 Special Topics in Architecture (1-6) Faculty-initiated courses. Topics vary. 
Repeatability: May be repeated. Maximum 12 hours.
Registration Restriction(s): Architecture major or interior design major.

431 Structural and Mechanical Applications (3) Case study analysis and selection of structural and mechanical systems, investigating the conceptual integration of technical information into a unified design solution.
(RE) Prerequisite(s): 332 and 342.
(RE) Corequisite(s): 471.

432 Computer Applications in Design II (3) Advanced computer-aided design using three-dimensional modeling software. Design analysis using computer animation, rendering techniques, visualization, and video.
(RE) Prerequisite(s): 231.

433 Computer Applications in Design III (3) Advanced course that integrates three-dimensional modeling and technical analysis using computers to augment building design. Independent studies under faculty direction.
(RE) Prerequisite(s): 231.

445 Advanced Lighting (3) In-depth analysis and innovative concepts in design of lighting.
(RE) Prerequisite(s): 342 or 346.

462 Professional Practice (4) Management and organizational theories and practices for delivering professional design services. Included are assessment of the building industry and its influence on practice; analysis of the basic management functions within professional firms; and legal and ethical concerns facing practitioners today. Special obligations and privileges of the design professional.
(RE) Prerequisite(s): 471.

463 Architectural Development (3) Principles and practice of the architect as a developer. Impact of economics, finance, and urban policy on the design and development of real estate.

(RE) Prerequisite(s): 372.
(RE) Corequisite(s): 431.
Comment(s): Minimum 2.3 GPA in all design courses is required.

472 Architectural Design VI (6) Order and form in complex buildings developed to address programmatic, structural, energy and environmental issues.
(RE) Prerequisite(s): 471.
Comment(s): Minimum 2.3 GPA in all design courses is required.

473 Architectural Photography (3) Photography as a design, research, and presentation medium. Application of photographic techniques, printing and processing. Color, black and white.
Registration Restriction(s): Architecture major or interior design major.

480 Preparation and Programming for Projects (3) Formation of project statement, documentation and analysis of project data. Preparation of background and program information. Goals and concepts set forth. To be taken the semester prior to 482.
(RE) Prerequisite(s): 471.

481 Advanced Architectural Design Topics (6) Faculty-initiated design projects. Advanced architectural topics not covered under 483, 484, 485, 486, or 489.
(RE) Prerequisite(s): 471.
Comment(s): Minimum 2.3 GPA in all design courses is required.

482 Self-directed Design Project (6) Student-selected project under faculty direction. Exploration of design hypothesis that informs the character of a substantial building design. Completed project will address issues of environment, structure, enclosure, use and ethical consideration of design appropriateness. Design is expected to stand up to rigorous scrutiny regarding strength of idea, economy of means, durability, validity for stipulated use, quality of cultural expression, and character of setting.
(RE) Prerequisite(s): 480.
Comment(s): Minimum 2.3 GPA in all design courses is required.

483 Urban Design (6) Urban design projects responding to specific community conditions. Exploration of urban issues in making and understanding the architecture of the city.
(RE) Prerequisite(s): 471.
Comment(s): Minimum 2.3 GPA in all design courses is required.

485 Development and Design (6) Exploration of image making, consumerism and the allocation of scarce resources. Issues of finance, economics, urban economics, and marketing are analyzed in relation to urban and architectural design. Application of financial feasibility models.
(RE) Prerequisite(s): 471 and 463.
Comment(s): Minimum 2.3 GPA in all design courses is required.

486 Design of Sustainable Architecture (6) Architectural design studio emphasizing concern for the environment, consideration of energy conservation techniques, and use of renewable resources.
(RE) Prerequisite(s): 471.
Comment(s): Minimum 2.3 GPA in all design courses is required.

489 Structural Innovations (6) Building design with innovative structural configuration and technology. Exploration of new materials, detailing, and methods in building construction.
(RE) Prerequisite(s): 471.
Comment(s): Minimum 2.3 GPA in all design courses is required.

491 Foreign Study (1-15) Research and design projects conducted in various locations abroad.

492 Off-Campus Study (1-15) Studies conducted under direction of architect or expert in an allied profession, in service to public service organizations or agencies of government, and public groups.
Credit Restriction: Not a design course elective.

493 Independent Study in Architecture (1-6) Individual studies and projects under faculty direction. Credit adjusted to complexity and level of effort required.
Repeatability: May be repeated once.
Registration Permission: Consent of dean.

494 Foreign Studies Sketchbook (1-3) Investigations of historic urban fabric and architecture in various locations abroad. Analysis and sketch records in sketchbook format required.

Art (140)

101 Studio Fundamentals: Drawing and Design (3) Introduction to basic drawing media, concepts and techniques and to the elements and principles of pictorial organization.

103 Studio Fundamentals: Three-Dimensional Design (3) Projects dealing with real space and three-dimensional materials.

150 The Idea of Graphic Design (3) An overview of design as visual message-making and as an act of cultural interpretation. Contemporary and historic design and its forms are examined, along with an introduction to design and creative concepts, and the role of criticism and theory. Student assessment will come from exams, short writings and visual laboratory projects.

200 Special Topics (3) Student- or instructor-initiated course offered at convenience of department.
Repeatability: May be repeated. Maximum 6 hours.

295 Intermediate Design and Color (3) Further exploration of basic techniques of two-dimensional design, with emphasis on color theory and technique.
(RE) Prerequisite(s): 101 and 103.

299 Special Topics (3) Student- or instructor-initiated course offered at convenience of department.
Repeatability: May be repeated. Maximum 12 hours.

481 Museum Studies I: Museums, Purpose and Function (3) Purposes, functions and development of museums of art, history, natural and applied science. (Same as Anthropology 481.)

482 Museum Studies II: Exhibition, Planning and Installation (3) Exhibition concept development and implementation. Exhibition design and installation techniques. Publicity, production, matting and framing, shipping and storage. (Same as Anthropology 482.)

484 Museum Studies III: Field Projects (1-12) Special field projects including restoration, preservation, registration, and other related research on or off campus. (Same as Anthropology 484.)
Repeatability: May be repeated. Maximum 12 hours.

491 Foreign Study (1-6)
Repeatability: May be repeated. Maximum 12 hours.

492 Off-Campus Study (1-6)
Repeatability: May be repeated. Maximum 12 hours.

493 Independent Study (1-3)
Repeatability: May be repeated. Maximum 15 hours.

494 Individual Problems (3)
Repeatability: May be repeated once. Maximum 12 hours.

495 Visiting Artist Seminar (2) Study and discussion of contemporary art issues conducted by different visiting artists each semester. 
Repeatability: May be repeated. Maximum 8 hours. 
Credit Restriction: May not be applied toward the art history requirement.

499 Special Topics (3) Student- or instructor-initiated course offered at convenience of department.
Repeatability: May be repeated. Maximum 12 hours.
Art Ceramics (135)
191 Introduction to Studio Art: Various Media (3) Individual sections for various artistic disciplines. 
Repeatability: Course may be repeated. Maximum of 12 hours.
Registration Restriction(s): Non-majors only (not for BA and BFA – studio art majors and BFA – graphic design majors).
221 Ceramics: Handbuilding I (3) Introduction to handbuilding, glazing, clay preparation and firing.
222 Ceramics: Throwing I (3) Introduction to throwing, glazing, clay preparation and firing.
225 Portfolio Practicum – Handbuilding (3) Intense post-introductory studio experience to develop work for application to 320 (Ceramics: Portfolio Review).
Registration Restriction(s): Studio art majors only.
Registration Permission: Consent of department.
226 Portfolio Practicum – Throwing (3) Intense post-introductory studio experience to develop work for application to 320 (Ceramics: Portfolio Review).
Registration Restriction(s): Studio art majors only.
Registration Permission: Consent of department.
229 Ceramics: Special Topics (3) Student or instructor initiated courses to be offered at convenience of department.
Repeatability: May be repeated, Maximum of 12 hours.
Registration Permission: Consent of instructor.
320 Ceramics: Portfolio Review (0) Review of prior work in ceramics.
Grading Restriction: Satisfactory/No Credit grading only.
Repeatability: May be repeated once.
(RE) Prerequisite(s): 221 and 222.
Comment(s): Successful completion required prior to registration for junior and senior courses.
321 Ceramics: Handbuilding II (4) Continued investigation of handbuilding with an emphasis on the development of individual ideas and expression.
(RE) Prerequisite(s): 320.
322 Ceramics: Throwing II (4) Continued investigation of throwing with an emphasis on the development of individual ideas and expression.
(RE) Prerequisite(s): 320.
421 Ceramics: Advanced Handbuilding (6) Continued investigation of ceramic form with an emphasis on the development of individual direction.
Repeatability: May be repeated, Maximum of 12 hours.
(RE) Prerequisite(s): 321 and 322.
422 Ceramics: Advanced Throwing (6) Continued, in depth investigation of ceramic form with an emphasis on the development of individual direction.
Repeatability: May be repeated, Maximum of 12 hours.
(RE) Prerequisite(s): 321 and 322.
424 Ceramics: Clays and Glazes (3) Clay chemistry, clay bodies, glaze theory, and calculation. Formulating, mixing and testing of clay bodies and glaze formulas.
(RE) Prerequisite(s): 320.
429 Ceramics: Special Topics (3) Student- or instructor-initiated courses to be offered at convenience of department.
Repeatability: May be repeated, Maximum of 12 hours.
(RE) Prerequisite(s): 320.
493 Independent Study (1-4) 
Repeatability: May be repeated. Maximum of 15 hours.
Registration Permission: Consent of instructor.
494 Individual Problems (3) 
Repeatability: May be repeated, Maximum of 12 hours.
Registration Permission: Consent of instructor.
495 Visiting Artist Seminar (2) Study and discussion of contemporary art issues conducted by different visiting artists each semester.
Repeatability: May be repeated. Maximum of 8 hours.
Credit Restriction: May not be applied toward the art history requirement.

Art Design/Graphic (136)
191 Introduction to Studio Art: Various Media (3) Individual sections for various artistic disciplines.
Repeatability: Course may be repeated. Maximum of 12 hours.
Registration Restriction(s): Non-majors only (not for BA and BFA – studio art majors and BFA – graphic design majors).
251 Beginning Graphic Design I (3) Introduction to the elements and principles of graphic design including typography and layout. Survey of graphic design tools, materials and processes. Emphasis on visual problem-solving.
Repeatability: May be repeated, Maximum of 6 hours.
(RE) Prerequisite(s): Art 101 and Art 103.
252 Beginning Graphic Design II (3) Continuation of 251 and the exploration of the elements and principles of graphic design including typography and layout. Survey of graphic design tools, materials and processes. Emphasis on visual problem-solving.
Repeatability: May be repeated. Maximum of 6 hours.
(RE) Prerequisite(s): 251.
256 Individual Projects in Graphic Design (3) 
Repeatability: May be repeated. Maximum of 6 hours.
Registration Permission: Consent of instructor.
259 Special Topics: Graphic Design (3) Student or instructor initiated course offered at discretion of department.
Repeatability: May be repeated. Maximum of 12 hours.
Comment(s): Prerequisite(s) determined by department for individual topic.
350 Graphic Design Portfolio Review (0) Review of prior work in graphic design.
Grading Restriction: Satisfactory/No Credit grading only.
Repeatability: May be repeated once.
(RE) Prerequisite(s): 251.
Comment(s): Successful completion required prior to registration for junior and senior courses.
351 Intermediate Graphic Design I (3) Concept development and the study of graphic design elements including typography and imagery and their interrelationships within the graphic design layout.
(RE) Prerequisite(s): 250.
352 Intermediate Graphic Design II (3) Investigation of sign, symbols, marks and identity systems.
(RE) Prerequisite(s): 351.
356 Graphic Design Production (3) Traditional and computer-generated techniques for the production of print media in graphic design. Introduction to computer systems, software and techniques.
(DE) Corequisite(s): 351.
400 Typography (3) Principles of typography as well as classical and contemporary type forms as vehicles for communication. An intensive introduction to the fundamentals of type, from individual letterforms to large bodies of textual information. Attention to formal, technological, rhetorical and historical issues.
(DE) Prerequisite(s): Art 295 and Art Design/Graphic 251.
405 Computer Enhanced Graphic Design (3) Exploration of new technologies and their significance to graphic design.
Repeatability: May be repeated. Maximum of 12 hours.
(DE) Corequisite(s): 351 and 356.
410 Advanced Typographic Investigation (3) Expands on principles introduced in Typography (Art Design/Graphic 400). Projects will include work in reflective as well as electronic environments with an emphasis on personal exploration.
(RE) Prerequisite(s): 400.
425 Illustration (3) Develops skills and critical analysis for effective visual communication. Projects will explore the relationship between image and meaning. Students will explore a variety of media as they develop a personal visual vocabulary.
Repeatability: May be repeated. Maximum of 6 hours.
(DE) Prerequisite(s): Art 295 and Art Design/Graphic 251.
444 Graphic Design Center Practicum (3) Practical work experience in a student-managed, on-site studio.
Repeatability: May be repeated. Maximum of 6 hours.
Registration Permission: Consent of instructor.
450 Design in Culture (3) A consideration of design as an act of cultural interpretation. Historic and contemporary design and design issues are examined through presentations, discussions, readings, and writings. Student assessment will come from writing, projects, presentations and contributions to class discussion.
451 Advanced Graphic Design (3) Theory and techniques of visual problem-solving as applied to advanced applications of graphic design.
(RE) Prerequisite(s): 352.
452 Graphic Design Seminar (3) Discussion of design and professional issues including politics, economics, and ethics for the graphic designer. Culminates in a student-initiated project.
(RE) Prerequisite(s): 451.
455 Graphic Design Professional Seminar (3) Professional practices including client relationships, design management and business practices. Assembly, organization and editing of the professional portfolio.
(DE) Corequisite(s): 452.
456 Graphic Design Practicum (1-12) Practical work experience in the graphic design field. Must be prearranged with the department.
Repeatability: May be repeated. Maximum of 12 hours.
(RE) Prerequisite(s): 351 and 356.
301 Foundation of Art Education (3) Basic philosophy and structure including basic learning activities, an introduction to methods and techniques, art appreciation, and teaching methodology.  
Repeatability: May be repeated. Maximum 2 hours.  
Registration Requirement(s): Consent to major in art education.

302 Multiculturalism in Visual Art (3) Selected cognitive and productive experiences involving multicultural visual art.  
Registration Permission: Consent of instructor.

303 Concepts of Sculpture and Crafts (3) Processes in teaching of sculpture and crafts including pertinent literature and research.  
(Re)Prerequisite(s): 301.

350 Field Experience (1) Tasks related to teaching and to teacher roles.  
Grading Restriction: Satisfactory/No Credit grading only.  
Repeatability: May be repeated. Maximum 2 hours.  
Registration Restriction(s): Qualification – admission to teacher education.

400 Curriculum Planning and Teaching Strategies (3) Program development, instructional methods, professional literature, contemporary issues, simulation and micro teaching situations.  
(Re)Prerequisite(s): 301.  
Registration Restriction(s): Qualification – admission to teacher education.

Art History (139)

162 Art of Africa, Oceania, and Pre-Columbian America (3) Survey of the traditional arts of the cultures of Black Africa, the Pacific and the Americas (focusing primarily on the period before the European conquest). Sculpture, painting, pottery, textiles, architecture, and human adornment will all be examined. (Same as Africana Studies 162.) (AH)

167 Honors: Art of Africa, Oceania, and Pre-Columbian America (3) Consent of instructor required. Study of the traditional arts of the cultures of Black Africa, the Pacific and the Americas. Study grounded in reading, writing and discussion. Writing-emphasis course. (AH)

172 Western Art I (3) Major monuments in western art with emphasis on Europe from prehistory through the Middle Ages. (AH) Contact Hour Distribution: 2-hour lecture and 1-hour discussion each week.

173 Western Art II (3) Major monuments in the history of European and American art from the Renaissance to the present. (AH) Contact Hour Distribution: 2-hour lecture and 1-hour discussion each week.

177 Honors: Western Art I (3) Consent of Department required. Major monuments in western art with emphasis on Europe from prehistory through the Middle Ages. Study grounded in reading, writing, and discussion. Writing-emphasis course. (AH)

178 Honors: Western Art II (3) Consent of Department required. Major monuments in the history of European and American art from the Renaissance to the present. Study grounded in reading, writing, and discussion. Writing-emphasis course. (AH)

183 Asian Art (3) Selected works of painting, sculpture, architecture, and other forms in India, China, Japan, and to a lesser extent, Korea and Southeast Asia from antiquity through the 19th century. (AH)

187 Honors: Asian Art (3) Consent of instructor required. Selected works of painting, sculpture, architecture and other forms in India, China, Japan, Korea and Southeast Asia, from antiquity through the 19th century. Study grounded in reading, writing, and discussion. Writing-emphasis course. (AH)

279 Special Topics in Art History (3) Student or instructor-initiated course offered at convenience of department.  
Repeatability: May be repeated. Maximum 12 hours.

376 Seminar in Art History (3) Variable theme; emphasis on methodology and skills in writing. Required for art history majors. Writing-emphasis course.  
Repeatability: May be repeated with consent of instructor. Maximum 6 hours.  
Recommended Background: 12 hours of art history courses.  
Registration Restriction(s): Minimum student level – junior.

403 History of Photography (3) Survey of the history of photography from the introduction of the daguerreotype and calotype to more recent trends. Emphasis will be placed on aesthetics and the use of photography as a medium for artistic expression.

411 Art of South and Southeast Asia (3) Survey of the art and architecture of the Indian subcontinent and Southeast Asia from 2000 BC to the 20th century. The major achievements of each period are examined in relation to their religious, political, and social contexts. Writing-emphasis course.

415 Art of China (3) A survey of the art and architecture of China from the Neolithic period to the 20th century. The major achievements of each period are examined in relation to their religious, political, and social contexts. Writing-emphasis course.

416 Chinese Art of the 20th and 21st Centuries (3) Survey of Chinese art from the late 19th century through the present. Hong Kong, Taiwanese, and expatriate artists are also considered. Writing-emphasis course.

419 Art of Japan (3) Survey of the art and architecture of Japan from the Neolithic period to the 20th century. The major achievements of each period are examined in relation to their religious, political, and social contexts. Writing-emphasis course.

425 Early Christian and Byzantine Art to 1350 (3) Art in Italy and the Eastern Empire from the beginnings of Christian art to c. 1350. Mosaic and painting, sculpture and architecture. Writing-emphasis course. (Same as Judaic Studies 425.)
431 Medieval Art of the West, 800-1400 (3) Western European art of the Dark Ages, Romanesque, and Gothic periods. Writing-emphasis course. (Same as Judaic Studies 431; Medieval Studies 431.)

441 Northern European Painting, 1350-1600 (3) From courtly art of late Middle Ages to Northern Renaissance. Jan van Eyck, Roger van der Weyden, and Dürer; early printmakers. Writing-emphasis course. (Same as Medieval Studies 441.)

442 Art of Northern Europe, 1600-1675 (3) Concentrated study of Bruegel, Rubens, Rembrandt, Georges de La Tour, Vermeer, Poussin, and Hals. Writing-emphasis course.

451 The Art of Italy, 1250-1450 (3) Development of exploration of naturalism. Revival of antiquity and development of theories of perspective in the Early Renaissance. Including Duccio, Giotto, Masaccio, Donatello, Botticelli. Writing-emphasis course. (Same as Medieval Studies 451.)


453 Art of Southern Europe, 1575-1700 (3) Concentrated study of Caravaggio, Bernini, and Italian Baroque developments in all media. Spanish Baroque painting and sculpture with special attention to Velasquez. Writing-emphasis course.

454 Renaissance and Baroque Theory (3) Addresses the theory of Western art in the early modern period with emphasis on the development and evolution in European art during the Renaissance and Baroque periods. Writing-emphasis course. (RE) Prerequisite(s): 172 and 173.

461 Art of Southern and Eastern Africa (3) Art traditions of the eastern and southern regions of Africa. Sculpture, painting, pottery, textiles, architecture and human adornment will be examined. Some ancient Stone and Iron Age traditions will be examined, but the main emphasis will be on the diverse ethnic and regional art traditions practiced in the area from the 19th century to the present. Writing-emphasis course. (Same as Africana Studies 461.)

462 Art and Archaeology of Ancient Africa (3) Historical art traditions of sub-Sahara Africa. Topics to be covered include prehistoric rock paintings; art from archaeological sites and ancient kingdoms. The time period covered ranges from the first and second millennia BC for some of the early terracotta sculptures and rock paintings, the 11th through 19th centuries AD for the later ancient kingdoms. Writing-emphasis course. (Same as Africana Studies 462.)

463 Arts of the African Diaspora (3) Examines the aesthetic, philosophical and religious patterns of the African descendants of Brazil, Surinam, the Caribbean and the United States. Emphasis will be placed on the full range of art forms, including the sculptural and performance traditions, as well as architecture, textile, basketry and pottery art forms. Writing-emphasis course. (Same as Africana Studies 463.)

464 Oceanic Art (3) Concentrated study of selected sculpture, textiles, architecture and other traditional art forms of Polynesia, Micronesia and Melanesia. Objects are discussed on the basis of style, style relationship, iconography and the uses to which they were put in their traditional religious, political, and social contexts. Writing-emphasis course.

471 History of North American Art (3) Survey of landmarks in painting, architecture, sculpture, and design from prehistory to 1900. Writing-emphasis course.

472 History of 20th-Century American Art (3) Developments in architecture, painting, and design from 1900. Writing-emphasis course.

473 19th-Century American Painting (3) From West and Copley to emergence of “The Eight.” Writing-emphasis course.

474 Theory of 20th-Century Art in Europe and America (3) Addresses the theoretical basis for the modern movement. Emphasis on analyzing and discussing individual works of art in light of contemporary writings by artists and theorists. Writing-emphasis course. (RE) Prerequisite(s): 172 and 173.


476 History of 20th-Century Painting and Sculpture in Europe (3) Development of the Modern and Post-Modern movements in Europe. Investigation of the progression of abstraction through more recent conceptual trends. Analysis of the work of individual artists such as Picasso, Matisse, and many others. Writing-emphasis course.

479 Special Topics in Art History (3) Student- or instructor-initiated course offered at convenience of department. Repeatability: May be repeated. Maximum 12 hours.

483 History of American Sculpture (3) American sculpture from prehistory to the 1960s. Writing-emphasis course.

489 Studies in Art History (3) Concentration in individually selected area. Repeatability: May be repeated. Maximum 6 hours. Registration Permission: Consent of instructor.

493 Independent Study (1-3) Repeatability: May be repeated. Maximum 9 hours. Registration Permission: Consent of instructor.

494 Individual Problems (3) Repeatability: May be repeated. Maximum 12 hours. Registration Permission: Consent of instructor.

Art Media Arts (134)

191 Introduction to Studio Art: Various Media (3) Individual sections for various artistic disciplines. Repeatability: Course may be repeated. Medium may not be repeated. Maximum 12 hours. Registration Restriction(s): Non-majors only (not for BA and BFA – studio art majors and BFA – graphic design majors).

231 Photography I (3) Art of black and white photography. Field and studio shooting, history of photography, basic developing, and enlarging techniques.

235 Introduction to Cinematography as Art (3) Development of basic concepts and techniques for the creation of film as an art form. (Same as Cinema Studies 235.)

236 Introduction to Video Art (3) Development of basic concepts and techniques for the creation of video works as an art form. (Same as Cinema Studies 236.)

239 Special Topics in Media Arts (3) Student or instructor-initiated course offered at convenience of department. Repeatability: May be repeated. Maximum 12 hours.

330 Media Arts Portfolio Review (0) Review of prior work in media arts. Grading Restriction: Satisfactory/No Credit grading only. Repeatability: May be repeated once. (RE) Prerequisite(s): Art History 172 and Art History 173. Comment(s): Successful completion required prior to registration for junior and senior courses.

331 Photography II (4) Individual expression in photographic medium. Repeatability: May be repeated. Maximum 8 hours. (RE) Prerequisite(s): 231.

341 Digital Photography I (4) Studio course introducing theory and techniques of use of computers in photography. (RE) Prerequisite(s): 231 and 331.

342 Large Format Photography I (4) Studio course introducing theory and practice of photography using large format view camera. (RE) Prerequisite(s): 231.

431 Photography III (3-6) Individual development of photographic problems and techniques. Repeatability: May be repeated. Maximum 12 hours. (RE) Prerequisite(s): 331.

432 History of Film and Modern Art (3) Study of the development and interaction between the cinematic arts and the visual arts within the context of modern art history. (Same as Cinema Studies 432.) Comment(s): Available for art history credit.

435 Cinematography as Art (4) Continued development of concepts and techniques for the creation of film as an art form with an emphasis on individual projects. (Same as Cinema Studies 435.) Repeatability: May be repeated. Maximum 12 hours. (RE) Prerequisite(s): 235 and 330.

436 Video Art (4) Continued development of concepts and techniques for the creation of video works as an art form with an emphasis on individual projects. (Same as Cinema Studies 436.) Repeatability: May be repeated. Maximum 12 hours. (RE) Prerequisite(s): 236 and 330.

441 Digital Photography II (4) Continuation of exploration and implications of use of computer in photography. (RE) Prerequisite(s): 341.

442 Large Format Photography II (4) Studio course that continues the exploration of the use of the large format camera in photography. (DE) Prerequisite(s): 342. Registration Permission: Consent of instructor.
450 Senior Project (4) Students will engage in self-initiated productions to demonstrate proficiency in media art. Registration Restriction(s): Minimum student level – senior.

493 Independent Study (1-4) Repeatability: May be repeated. Maximum 15 hours. Registration Permission: Consent of instructor.

494 Individual Problems (3) Repeatability: May be repeated. Maximum 12 hours. Registration Permission: Consent of instructor.

495 Visiting Artist Seminar (3) Study and discussion of contemporary art issues conducted by different visiting artists each semester. Repeatability: May be repeated. Maximum 8 hours. Credit Restriction: May not be applied toward the art history requirement. Registration Permission: Consent of instructor.

Art Printmaking (132)

191 Introduction to Studio Art: Various Media (3) Individual sections for various artistic disciplines. Registration Restriction(s): Non-majors only (not for BA and BFA – studio art majors and BFA – graphic design majors).

213 Painting I: Introduction (3) Capacities of oil and acrylic painting on canvas. (RE) Prerequisite(s): Art 101 and Art 103.

214 Painting II (3) Techniques of expression in oil and/or acrylic. (RE) Prerequisite(s): 213.

215 Watercolor I: Introduction (3) Capacities of transparent watercolor. (RE) Prerequisite(s): Art 101 and Art 103.

216 Watercolor II (3) Capacities of transparent watercolor, with attention to individual exploration of surface, space, and concept. (RE) Prerequisite(s): 215.

219 Special Topics in Drawing/Painting (3) Student or instructor-initiated course offered at convenience of department to enhance and expand the painting, drawing, and watercolor curriculum. Repeatability: May be repeated. Maximum 12 hours.

313 Painting III (4) Individual expression with varied media on canvas. (RE) Prerequisite(s): 214 and 314. Comment(s): Total of 8 hours required for students in the painting concentration.

314 Painting Portfolio Review (0) Review of prior work in painting. Grading Restriction: Satisfactory/No Credit grading only. (RE) Prerequisite(s): Art History 172 and Art History 173. Comment(s): Successful completion required prior to registration for junior and senior courses.

315 Watercolor III (4) Individual expression with varied water-based media on paper. Repeatability: May be repeated. Maximum 8 hours. (RE) Prerequisite(s): 216 and 316. Comment(s): Total of 8 hours required for students in the watercolor concentration.

316 Watercolor Portfolio Review (0) Review of prior work in watercolor. Grading Restriction: Satisfactory/No Credit grading only. Repeatability: May be repeated once. (RE) Prerequisite(s): Art History 172 and Art History 173. Comment(s): Successful completion required prior to registration for junior and senior courses.

413 Painting IV (6) Advanced painting stressing individual concepts and personal expression with varied media. Repeatability: May be repeated. Maximum 12 hours. (RE) Prerequisite(s): 313. Comment(s): Total of 12 hours required for students in the painting concentration.

415 Watercolor IV (6) Advanced painting with water-based media on paper stressing individual concepts and personal approaches. Repeatability: May be repeated. Maximum 12 hours. (RE) Prerequisite(s): 315. Comment(s): Total of 12 hours required for students in the watercolor concentration.

419 Special Topics in Drawing and Painting (3) Student or instructor-initiated course offered at convenience of department to enhance and expand the painting, drawing, and watercolor curriculum. Repeatability: May be repeated. Maximum 12 hours. Registration Permission: Consent of instructor.

493 Independent Study (1-6) Repeatability: May be repeated. Maximum 15 hours. Registration Permission: Consent of instructor.

494 Individual Problems (3) Repeatability: May be repeated. Maximum 12 hours. Registration Permission: Consent of instructor.

495 Visiting Artist Seminar (2) Study and discussion of contemporary art issues conducted by different visiting artists each semester. Repeatability: May be repeated. Maximum 8 hours. Credit Restriction: May not be applied toward the art history requirement. Registration Permission: Consent of instructor.

Art Art History (161)

262 Intaglio I (3) Metal plate intaglio printing in traditional and contemporary techniques of etching, softground, drypoint, aquatint, and color methods. (DE) Prerequisite(s): Art 101 and Art 103.

263 Lithography I (3) Stone and aluminum plate lithography applying traditional and contemporary techniques of crayon, tusche, transfer methods, state proofs and photolithography. (DE) Prerequisite(s): Art 101 and Art 103.

264 Screen Printing I (3) Screen printing as a fine art medium including development and application of various basic stencils in compositional printing. Repeatability: May be repeated. Maximum 6 hours. (DE) Prerequisite(s): Art 101 and Art 103.

265 Relief (3) Relief printing in traditional and contemporary techniques from wood, linoleum and plastics. (DE) Prerequisite(s): Art 101 and Art 103.

266 Monoprint and Monotype (3) Investigation of traditional and contemporary techniques. (DE) Prerequisite(s): Art 101 and Art 103.

269 Special Topics in Printmaking (3) Student or instructor-initiated course offered at convenience of department. Repeatability: May be repeated. Maximum 12 hours. (DE) Prerequisite(s): Art 101 and Art 103.

291 Papermaking Workshop (3) Papermaking as a medium for two- and three-dimensional art. Includes sheet forming, embossing, laminating, embossing, pulp dyeing, inlaying, casing, and other related techniques. Emphasis on development of a personal form. (DE) Prerequisite(s): Art 101 and Art 103.

360 Printmaking Portfolio Review (0) Review of prior work in printmaking. Grading Restriction: Satisfactory/No Credit grading only. Repeatability: May be repeated once. (DE) Prerequisite(s): Art 101 and Art 103. (RE) Corequisite(s): Art History 172 or Art History 173. Comment(s): Successful completion required prior to registration for junior and senior courses.

361 Intermediate Print Workshop (1-6) Individual and collaborative studio work encompassing theory and practice in intaglio, lithography, relief printing, screenprinting, monoprint, papercutting, book arts and/or photo-print processes. Repeatability: May be repeated. Maximum 12 hours. (DE) Prerequisite(s): 262 or 263.

461 Advanced Print Workshop (1-6) Individual and collaborative studio work encompassing theory and practice in intaglio, lithography, relief printing, screenprinting, monoprint, papercutting, book arts and/or photo-print processes. Repeatability: May be repeated. Maximum 12 hours. (DE) Prerequisite(s): 361.

469 Special Topics in Printmaking (3-6) Student- or instructor-initiated course offered at convenience of department. Repeatability: May be repeated. Maximum 12 hours. Registration Restriction(s): Non-majors only (not for BA and BFA – studio art majors and BFA – graphic design majors).

493 Independent Study (1-4) Repeatability: May be repeated. Maximum 15 hours. Registration Permission: Consent of instructor.

494 Individual Problems (3) Repeatability: May be repeated. Maximum 12 hours. Registration Permission: Consent of instructor.
Art issues conducted by different visiting artists each semester.

Registration Permission: Consent of instructor.

Art Sculpture (143)

191 Introduction to Studio Art: Various Media (3) Individual sections for various artistic disciplines.

Registration Restriction(s): Non-majors only (not for BA and BFA – studio art majors and BFA – graphic design majors).

240 Techniques and Tools (1) Introduction to the equipment in metal shop, wood shop, and foundry. Instruction includes shop safety, operation of tools, and handling of hazardous materials. All students must pass proficiency tests.

241 Beginning Sculpture (3) Introduction to the materials, concepts, technical processes, and history of sculpture. Materials include wood, plaster, steel and plastics. (RE) Prerequisite(s): Art 103.

242 Figuring the Body (3) Sculpture that involves the human figure, directly or indirectly. Issues relating to the body and personal identity will be explored through various media. (RE) Prerequisite(s): Art 103.

243 Mold-Making and Casting (3) Examines possibilities and processes related to mold-making. A variety of casting materials will be explored including metals, wax, rubber, plaster, and ceramic shell. (RE) Prerequisite(s): 241. (RE) Corequisite(s): 240.

245 Metal Fabrication (3) Introduction to steel as a material for the creation of sculpture. Development of welding techniques, design of cold connections, and engineering of structural components. (RE) Prerequisite(s): 241. (RE) Corequisite(s): 240.

246 Mixed Media Sculpture (3) Includes installation art, performance, and conceptual art. Contemporary issues and materials related to sculpture are examined through research and studio projects. (RE) Prerequisite(s): Art 103.

249 Special Topics in Sculpture (3) Instructor-initiated course offered at convenience of department.

Registration Restriction(s): Language and world business (Japanese) concentration.

340 Sculpture Portfolio Review (0) Review of prior work in sculpture and development of new work.

Grading Restriction: Satisfactory/No Credit grading only.

Registration Restriction(s): May be repeated once. (RE) Prerequisite(s): 240 and 241. (DE) Prerequisite(s): Art History 172, 173, 162, 183 (choice of two). Comment(s): Successful completion required prior to registration for junior and senior courses.

341 Intermediate Sculpture (3) Students begin defining and developing their visual vocabulary relative to contemporary sculptural issues. Emphasis on studio projects, research, and discussion.

Registration Restriction(s): May be repeated. Maximum 6 hours. (RE) Prerequisite(s): 240 and 241. (DE) Prerequisite(s): 245, 246, and 340.

343 Advanced Mold-Making and Casting (3) Further exploration of casting methods with an emphasis on metals including bronze and aluminum. (RE) Prerequisite(s): 340.

345 Advanced Metal Fabrication (3) Advanced exploration of construction in steel and other metals through welding, design of cold connections, and engineering of structural components. (RE) Prerequisite(s): 240 and 243. (DE) Prerequisite(s): 340.

346 Advanced Mixed Media Sculpture (3) Advanced investigation into the sculptural possibilities of installation art, performance, and multi-media. Contemporary issues are examined through research and studio projects. (RE) Prerequisite(s): 241 and 246. (DE) Prerequisite(s): 340.

441 Advanced Sculpture (3) Individual development of sculptural problems and techniques. Students work independently while participating in group projects, critique, and discussion.

Registration Restriction(s): May be repeated. Maximum 12 hours. Recommended Background: 6 hours of 300-level sculpture courses.

442 Senior Seminar (2) Investigation of professional practices and career opportunities in the field of sculpture. Includes portfolio development, preparation for exhibitions, and public commissions.

449 Special Topics in Sculpture (3) Student- or instructor-initiated course offered at convenience of department.

Registration Restriction(s): May be repeated. Maximum 12 hours. Comment(s): Successful completion of any portfolio review required.

493 Independent Study (1-4)

Registration Restriction(s): Consent of instructor.

494 Individual Problems (3)

Registration Restriction(s): Consent of instructor.

495 Visiting Artist Seminar (2) Study and discussion of contemporary art issues conducted by different visiting artists each semester.

Registration Restriction(s): Consent of instructor.

Asian Languages (144)

131 Elementary Chinese I (5) (Same as Chinese 131.)

132 Elementary Chinese I (5) (Same as Chinese 132.) (RE) Prerequisite(s): 131.

151 Elementary Japanese I (5) (Same as Japanese 151.)

152 Elementary Japanese II (5) (Same as Japanese 152.) (RE) Prerequisite(s): 151.

231 Intermediate Chinese I (5) (Same as Chinese 231.) (CC) (RE) Prerequisite(s): 132.

232 Intermediate Chinese II (5) (Same as Chinese 232.) (CC) (RE) Prerequisite(s): 231.

251 Intermediate Japanese I (5) (Same as Japanese 251.) (CC) (RE) Prerequisite(s): 152.

252 Intermediate Japanese II (5) (Same as Japanese 252.) (CC) (RE) Prerequisite(s): 251.

311 Chinese Literature in English Translation (3) Classical literature. Writing-emphasis course. (Same as Chinese 311.)

312 Chinese Literature in English Translation (3) Vernacular and modern literature. Writing-emphasis course. (Same as Chinese 312.)

313 Japanese Literature in English Translation (3) Classical /traditional: masterpieces of poetry, fiction, and drama to 1868. Writing-emphasis course. (Same as Japanese 313.)

314 Japanese Literature in English Translation (3) Modern: masterpieces of fiction since 1868. Writing-emphasis course. (Same as Japanese 314.)

315 Asian Film (3) An examination of Asian national cinemas in historical and cultural context. Taught in English. Writing-emphasis course. (Same as Cinema Studies 315.)

331 Advanced Chinese I (4) (Same as Chinese 331.) (RE) Prerequisite(s): 232.

332 Advanced Chinese II (4) (Same as Chinese 332.) (RE) Prerequisite(s): 331.

351 Advanced Japanese I (4) Includes conversation, drill, and composition practice with native speaker, as well as reading and translation. (Same as Japanese 351.) (RE) Prerequisite(s): 252.

352 Advanced Japanese II (4) Includes conversation, drill, and composition practice with native speaker, as well as reading and translation. (Same as Japanese 352.) (RE) Prerequisite(s): 252.

413 Topics in Japanese Literature (3) When content varies, may be repeated for credit. In English with readings in Japanese for minors. Writing-emphasis course. (Same as Japanese 413.)

431 Readings in Chinese Literature (3) (Same as Chinese 431.) (RE) Prerequisite(s): 341. Comment(s): Successful completion required prior to registration for junior and senior courses.

432 Readings in English Translation (3) (Same as Chinese 432.) (RE) Prerequisite(s): 342.

451 Readings in Pre-Modern Japanese Literature (3) (Same as Japanese 451.) (RE) Prerequisite(s): 252.

452 Readings in Modern Japanese Literature (3) (Same as Japanese 452.) (RE) Prerequisite(s): 252.

490 Chinese and Japanese Internship (1-15) Career-related experiences in the United States or abroad. Grading Restriction: Satisfactory/No Credit grading only. Registration Restriction(s): Language and world business (Japanese) concentration or language and world business (Chinese) concentration.

491 Chinese and Japanese Foreign Study (1-15) Repeatability: May be repeated. Maximum 15 hours.
Asian Studies (145)

101 Asian Civilization (3) Comparative study of development of religion, social institutions, and high culture in India and the Islamic World. Writing-emphasis course. (CC)

102 Asian Civilization (3) Comparative study of development of religion, social institutions, and high culture in China and Japan. Writing-emphasis course. (CC)

121 Elementary Modern Standard Arabic I (4) Taped language program. (Same as Arabic 121.)

122 Elementary Modern Standard Arabic II (4) Taped language program. (Same as Arabic 122.)

(RE) Prerequisite(s): 121.

141 Elementary Modern Hebrew I (4) Taped language program. (Same as Hebrew 141.)

142 Elementary Modern Hebrew II (4) Taped language program. (Same as Hebrew 142.)

(RE) Prerequisite(s): 141.

161 Elementary Persian I (4) Taped language program. (Same as Persian 161.)

162 Elementary Persian II (4) Taped language program. (Same as Persian 162.)

(RE) Prerequisite(s): 161.

221 Intermediate Modern Standard Arabic I (4) Taped language program. (Same as Arabic 221.) (CC)

222 Intermediate Modern Standard Arabic II (4) Taped language program. (Same as Arabic 222.) (CC)

(RE) Prerequisite(s): 221.

241 Intermediate Modern Hebrew I (4) Taped language program. (Same as Hebrew 241.) (CC)

242 Intermediate Modern Hebrew II (4) Taped language program. (Same as Hebrew 242.) (CC)

(RE) Prerequisite(s): 241.

261 Intermediate Persian I (4) Taped language program. (Same as Persian 261.) (CC)

262 Intermediate Persian II (4) Taped language program. (Same as Persian 262.) (CC)

(RE) Prerequisite(s): 261.

332 Classical Islam (3) (See Religious Studies 332.)

333 Islam in the Modern World (3) (See Religious Studies 333.)

471 Selected Topics in Asian Studies (3) Content varies. Repeatability: May be repeated. Maximum 9 hours.

491 Foreign Study (1-5) Repeatability: May be repeated. Maximum 5 hours.

492 Off-Campus Study (1-5) Repeatability: May be repeated. Maximum 5 hours.

493 Independent Study (1-5) Repeatability: May be repeated. Maximum 5 hours.

Astronomy (150)

151 A Journey through the Solar System (4) Study of Earth’s nearest astronomical neighbors including the sun, planets, asteroids, and comets. Seasons, solar and lunar eclipses, motion of the planets in the night sky, recent planetary space probe discoveries, development of our modern understanding of the origin and evolution of our solar system and its place in the universe, discovery of extrasolar planets in distant solar systems. A minimum of mathematical analysis. A minimum of mathematical analysis. Principles for interpretation of astronomical observations are reinforced in laboratory. (NS) Credit Restriction: Only one of the three courses (151, 161, or 217) may be taken for credit.

162 Stars, Galaxies, and Cosmology with Laboratory (4) Life and death of stars, exotic objects including white dwarfs, supernovae, neutron stars, pulsars, and black holes. Structure of galaxies, formation of large-scale structure in the universe, and cosmological issues such as the big bang, dark matter, dark energy, and the past, present, and projected future behavior of the universe in light of modern astrophysics and particle physics. Conditions for the existence of life in the universe and the possibility of extraterrestrial intelligence. A minimum of mathematical analysis. Principles for interpretation of astronomical observations are reinforced in the laboratory. (NS) Credit Restriction: Only one of the three courses (152, 162, or 218) may be taken for credit.

217 Honors: Introductory Astronomy (4) Introduction to astronomy and astrophysics. Historical perspectives in understanding the celestial universe, with emphasis on the laws of physics as they apply to the changing conceptions of the universe; structure of the solar system and celestial motions; evolution and properties of stars; galactic structure and models of the universe; observational technique and interpretation of underlying physical laws in accompanying lab. The 217-218 sequence satisfies the College of Arts and Sciences requirement for a natural science with laboratory. (NS) Contact Hour Distribution: 3 hours lecture and 2 hours lab. Credit Restriction: Credit given for only one sequence for lower-division astronomy. (RE) Corequisite(s): Mathematics 141 or Mathematics 130.

218 Honors: Introductory Astronomy (4) Introduction to astronomy and astrophysics. Historical perspectives in understanding the celestial universe, with emphasis on the laws of physics as they apply to the changing conceptions of the universe; structure of the solar system and celestial motions; evolution and properties of stars; galactic structure and models of the universe; observational technique and interpretation of underlying physical laws in accompanying lab. The 217-218 sequence satisfies the College of Arts and Sciences requirement for a natural science with laboratory. (NS) Contact Hour Distribution: 3 hours lecture and 2 hours lab. Credit Restriction: Credit given for only one sequence for lower-division astronomy. (RE) Corequisite(s): Mathematics 141 or Mathematics 130.

411 Astrophysics (3) Development of analytical physical models of the galactic structure of the universe, stellar and interstellar matter, and planetary systems. Topical and interdisciplinary approach includes consideration of quasars, pulsars, black holes and current developments in the field. Acceptable for credit toward the physics major. (RE) Prerequisite(s): Physics 136 or Physics 138. (DE) Prerequisite(s): Physics 222 or 232. Registration Permission: Consent of instructor.

490 Special Topics in Astronomy (1-3) Topics of current interest in astronomy and astrophysics. Repeatability: May be repeated for credit with consent of department. Maximum 9 hours.

Audiology and Speech Pathology (160)

300 Introduction to Communication Disorders (3) Nature, etiology, and incidence of speech, hearing, and language disorders.

302 Acoustics and Perception (3) Basic acoustics. Introduction to psychoacoustics and speech perception. (RE) Corequisite(s): 305.


305 Phonetics (3) Basic phonetics including recognition and production of spoken English sounds with analysis of their formation; phonetic transcription of speech; phonetic aspects of dialect variation.

306 Anatomy and Physiology of Speech (3) Anatomy, physiology and embryological development of the speech production mechanism. (RE) Corequisite(s): 305.

320 Speech and Language Development (3) Speech and language development in the normal child.
(RE) Prerequisite(s): 300.

343 Observation of Clinical Practice (1)
(RE) Prerequisite(s): 300 and 320.

344 Clinical Practice in Speech-Language Pathology II (1-4)
Repeatability: May be repeated. Maximum 4 hours.
(RE) Prerequisite(s): 433.
Comment(s): Enrollment for fewer than 2 semester hours must have prior departmental approval.

345 Introduction to Speech Sound Disorders (3) Etiology, diagnosis, and treatment of articulatory and phonological disorders.
(RE) Prerequisite(s): 300 and 305.

(RE) Prerequisite(s): 300 and 306.

445 Clinical Practice in Audiology (1-4)
Repeatability: May be repeated. Maximum 6 hours.
(RE) Prerequisite(s): 473 and 494.

455 Problems in Speech Pathology (1-3)
Repeatability: May be repeated. Maximum 6 hours.
Registration Permission: Consent of instructor.

457 Senior Honors Thesis (1-3) Students in the speech pathology program work individually under the direction of a tenure-track faculty member to write an honors thesis. The thesis must be approved by the departmental honors committee.
Repeatability: May be repeated. Maximum 6 hours.

461 Introduction to Language Pathology in Children (3) Etiology, diagnosis, and treatment of language impairments in children.
(RE) Prerequisite(s): 300 and 320.

473 Introduction to Audiologic Assessment (3) Basic principles of clinical audiometry; pure tone, speech, masking, and overview of special auditory tests.
(RE) Prerequisite(s): 303.

475 Appraisal of Speech and Language Disorders (3) Diagnostic procedures for children and adults with speech and language problems including observation and practice with diagnostic tests.
(DE) Prerequisite(s): 300.
Registration Restriction(s): Minimum student level – senior.
Registration Permission: Consent of instructor.

491 Foreign Study (1-15)
Repeatability: May be repeated. Maximum 30 hours.

492 Off-Campus Study (1-15)
Repeatability: May be repeated. Maximum 30 hours.

493 Independent Study (1-15)
Repeatability: May be repeated. Maximum 15 hours.

494 Introduction to Aural Habilitation/Rehabilitation of the Hearing Impaired (3) Introduction to psychosocial aspects, amplification components/characteristics, assistive devices, speech acoustics, speech perception, speech reading, parent-infant, pre-school school years of children, communication impairments/ handicaps/remediation of adults, effects of aging/remediation on the elderly, and case studies.
(RE) Prerequisite(s): 305.
(RE Corequisite(s): 573.

499 Senior Seminar in Communication Sciences and Disorders (3) Capstone Experience. A writing-emphasis course exploring the forces shaping the profession of communication disorders in the past, present and future.
(DE) Prerequisite(s): 300.
Registration Restriction(s): Minimum student level – senior.
Registration Permission: Consent of instructor.

Biochemistry and Cellular and Molecular Biology (188)

230 Human Physiology (5) Fundamentals of human physiology, primarily from the perspective of cellular and organ-system interactions.
Contact Hour Distribution: 4 hours and 1 lab.
Credit Restriction(s): May not be applied toward the biochemistry and cellular and molecular biology concentration.
(RE) Prerequisite(s): Chemistry 110 or Chemistry 130.

280 Modern Medicine and You (3) New biomedical advances in internal medicine, surgery, obstetrics and gynecology, infectious diseases, cancer treatment, genetic disorders, psychiatry, health promotion, and disease prevention. Team-taught by academic clinicians in their area of specialty. Each session will include: basic biological principles/processes; scientific advances and current status about new diagnostic and treatment procedures of the particular disease state.
Contact Hour Distribution: Meets 2 hours a week.
Grading Restriction: Satisfactory/No Credit grading only.
(RE) Prerequisite(s): Biology 102 or Biology 140.

306 Genetics and Society (3) Introduction to genetics, anthropology and evolution with emphasis on their implications for human society.
(Same as Anthropology 304.)

310 Physiological Chemistry (4) Biochemical principles underlying physiological events in animals. Metabolism of carbohydrates, lipids, proteins, and nucleic acids. Role of vitamins and minerals as coenzyme and prosthetic groups. Action of drugs and hormones. (Same as Nutrition 310.)
Credit Restriction(s): Not available for credit if credit has been previously received for Biochemistry and Cellular and Molecular Biology 401 or 410 or 420. Credit may not be applied toward the biochemistry and cellular and molecular biology concentration.
(RE) Prerequisite(s): Biology 140 or Biochemistry and Cellular and Molecular Biology 230.
(DE) Prerequisite(s): Chemistry 100 and 110 or Chemistry 120 and 130.

320 Physiology of Reproduction and Lactation (3) (See Animal Science 320.)

321 Introductory Plant Physiology (4) Cell and organismal physiology of plants; metabolic processes, water relations, mineral nutrition, morphogenesis. Effects of age, light, natural rhythms, temperature and other environmental factors on plant growth.
(RE) Prerequisite(s): Chemistry 120 and Chemistry 130.
(DE) Prerequisite(s): Biology 101 and 102 or Biology 130 and 140.

330 Mechanisms of Development (3) A survey course on cellular and molecular basis of embryonic development; differentiation via transcription, RNA processing, and translation; sex determination in humans.
(RE) Prerequisite(s): Biology 140 and Biology 240.
Comment(s): Intended for biology majors in the biochemistry and cellular and molecular biology concentration, but also open to biology majors in other concentrations.

331 Mechanisms of Development Laboratory (2) Contact Hour Distribution: 2 labs.
(RE Corequisite(s): 330.

401 Biochemistry-Molecular Biology I (4) First semester of a two-course sequence providing in-depth coverage of biochemistry and molecular biology. Covers amino acid structure and chemistry, protein structure and chemistry, protein folding, enzyme behavior and function, reaction mechanisms, catabolism and energy transfer, synthetic metabolism including photosynthesis, and protein transport.
(RE) Prerequisite(s): Biology 240 and Chemistry 360.
(DE) Prerequisite(s): Chemistry 350 and Chemistry 369.
Comment(s): Intended for biology majors in the biochemistry and cellular and molecular biology concentration, but also open to biology majors in other concentrations.

402 Biochemistry-Molecular Biology II (4) Second semester of a two-course sequence providing in-depth coverage of biochemistry and molecular biology. Covers structure of DNA and RNA, experimental methods of analyzing nucleic acids, mechanisms of RNA and protein synthesis, mechanisms of DNA replication, repair and recombination, chromosomal structure and function, regulation of gene expression, genome structure and genomics, and mechanisms of biological regulation.
(RE) Prerequisite(s): 401.
Comment(s): Intended for biology majors in the biochemistry and cellular and molecular biology concentration, but also open to biology majors in other concentrations.

403 Advanced Genetics Laboratory (3) Experiments illustrating methods in molecular genetics, including techniques in classical, cyto-molecular and developmental genetics. Using model organisms, especially Drosophila and mouse.
(RE) Prerequisite(s): Biology 240 and Chemistry 360.
(DE) Prerequisite(s): Chemistry 350 and 369.

404 Plant Molecular Biology (4) Introduction to current research approaches and methodologies in plant developmental biology and molecular genetics.
Contact Hour Distribution: Laboratory and lecture.
(RE) Prerequisite(s): Biology 140 and Biology 240.
409 Perspectives in Biochemistry and Cellular and Molecular Biology (3) Current issues in biochemistry, cell biology and molecular biology. Emphasis on current developments and their applications, societal and economic impacts and moral and ethical implications. An oral presentation and a refereed laboratory-research essay are required. A capstone course. Writing-emphasis course. (WC)
(Re) Prerequisite(s): 401 or 402.
Recommended Background: 9 additional hours of biochemistry and cellular and molecular biology or related courses.
Registration Restriction(s): Minimum student level – senior.

411 Advanced Cellular Biology (3) Cellular structure and function at the molecular and supramolecular level. Topics include protein structure and function, membrane structure and function, signal transduction and cell regulation, mitosis and the cell cycle, cytoskeleton and cell motility, cell-cell interactions and tissues.
(Re) Prerequisite(s): 401.

415 Foundations in Neurobiology (3) Basic nerve cell physiology, nervous system organization, sensory and motor systems, neural basis of behavior, and nervous system development and plasticity.
(Re) Prerequisite(s): Biology 140 and Physics 222.

416 Neurobiology Laboratory (2) Experiments designed to illustrate concepts of modern neurobiology using electrophysiological, historical, and behavioral neurobiological techniques.
(Re) Prerequisite(s): 415.

419 Cellular and Comparative Biochemistry Laboratory (2) Experiments with enzymes, nucleic acids, and membranes and organelles. Chromatography, kinetics, hybridization, sequencing, and immunochrometric methods.
(Re) Prerequisite(s): 401.

420 Advanced Topics in Biochemistry and Cellular and Molecular Biology (3) Selected topics of current research interest, e.g., allosteric theory and control of protein function, immunoochemistry, regulation of gene expression, bioenergetics, etc. Emphasis on original literature and the experimental basis of current knowledge. Historical background, societal impact, ethical and moral implications, and future development of technologies. Written reports required. Writing-emphasis course.
(Re) Prerequisite(s): 401.

421 Cell and Tissue Structure and Function (4) Study of animal cells and tissues at light and electron microscope levels.
Contact Hour Distribution: 2 hours and 2 labs.
(Re) Prerequisite(s): Biology 140.

429 Cell Biology Laboratory (3) A series of open-ended, discovery-based exercises will be developed to design and test new drugs using modern cell biology and computer technologies. Experimental modules include techniques used in cell isolation, purification, culturing, fluorescence microscopy, receptor binding and signal transduction, apoptosis, cell cycle analysis, protein and steroid secretion, computer modeling, and state-of-the-art electron microscopy. Students will actively participate in experiment design, execution, data analysis, and peer evaluation.
(Re) Prerequisite(s): 401.

440 General Physiology (3) Principles of cellular and organ-system animal physiology.
(Re) Prerequisite(s): Biology 140 and Chemistry 360.
Recommended Background: Physics 221 and 222.

452 Independent Research in Biochemistry (1-6) Special experimen
tal problems under direction of a staff member.
Repeatability: May be repeated. Maximum 12 hours.
(Re) Corequisite(s): 401 and 419.

457 Honors Thesis (1-3) Written preparation and oral presentation of faculty-supervised student research conducted in 452 or equivalent.
Repeatability: Not repeatable. May be taken once for 1-3 hours.
Credit Restriction(s): Credit may not be applied toward the biochemistry and cellular and molecular biology concentration.
(Re) Prerequisite(s): 452.
Registration Restriction(s): Biological sciences major/honors biochemistry and cellular and molecular biology concentration.

459 Biophysical Crystallography (3) Theories and practices of X-ray diffraction, neutron diffraction and neutron scattering to elucidate the structure of nucleic acids, proteins, nucleosomes, ribosomes and viruses. Application of 3-D structures in designing drugs against AIDS, cancer, cardiac disease and neurodegenerative disorders.
Recommended Background: 401, or two 300-level chemistry courses or Physics 240 or consent of instructor.

460 Cancer Biology (3) Fundamental mechanisms of cancer formation and therapy, including: Cell cycle, cancer epidemiology, cancer pathology, oncogenes, tumor suppressor genes, DNA repair and metastasis.
Recommended Background: Biology 240 or consent of instructor.

465 Human Genetics (3) Genetic and molecular principles and problems of human inheritance.
(Re) Prerequisite(s): Biology 240.

471 Biophysical Chemistry (3) Physicochemical principles with applications to biological systems. Thermodynamics; chemical equilibrium; solution chemistry; transport; electrochemistry; kinetics; enzyme catalyzed reactions. (Same as Chemistry 471.)
(De) Prerequisite(s): Chemistry 350 and 360, and 369; Biology 130 or 102.
Recommended Background: Calculus.

480 Physiology of Exercise (3) (See Exercise Science 480.)

481 Biophysical Chemistry (3) Physicochemical principles with applications to biological systems. Elementary quantum chemistry; interactions of light with biological molecules; optical and magnetic spectroscopy; light scattering; case studies of selected macromolecules. (Same as Chemistry 481.)
(De) Prerequisite(s): Chemistry 350, 360, 369 and Biology 130 or 102.
Recommended Background: Calculus.

492 Off-Campus Study (1-6)
Grading Restriction: Satisfactory/No Credit grading only.
Repeatability: May be repeated. Maximum 6 hours.
Credit Restriction: Maximum 2 hours may be applied toward the biochemistry and cellular and molecular biology concentration.
Registration Permission: Consent of instructor.

493 Independent Study (1-3) Independent study under the direction of a faculty member.
Repeatability: May be repeated. Maximum 12 hours.
Credit Restriction: Maximum 3 hours may be applied toward the biochemistry and cellular and molecular biology concentration.
Registration Permission: Consent of instructor.

Biology (190)

101 Humankind in the Biotic World (4) Introduction to the principles of biology from the perspective of the impacts of plants, animals, and microbes on human life, and the impact of humans on the biosphere, intended for students not majoring in the biological or pre-health sciences. Surveys life from the cell to topics in human health. Topics include: macromolecules and cells, energy flow in biological systems, genetics and information flow from generation to generation, reproduction, biotechnology and genetic engineering, sex and sexuality in human physiology, cancer, drugs (use and misuse). Laboratories involve a mix of skills-oriented exercises and assignments focused on topics. (NS)
Contact Hour Distribution: 3 hours lecture and 1 hour lab.
Comment(s): Although not required, it is strongly recommended that 101 and 102 be taken in sequence.

111 General Botany (4) Introduction to taxonomy through tree identification: basic organization and function of cells, respiration, photosynthesis, genetics (including meiosis, mitosis, Mendelian inheritance); survey of plant kingdom (bacteria, algae, fungi, mosses, ferns, conifers, and flowering plants). (NS)
Credit Restriction: Students receiving credit for 111 and 112 may not receive credit for 101 and 102.

112 General Botany (4) Plant growth, anatomy, growth regulation; uptake and transport; origin of life and mechanisms of evolution; ecology, importance to humans and environmental concerns. (NS)
Credit Restriction: Students receiving credit for 111 and 112 may not receive credit for 101 and 102.

130 Biodiversity (4) Unifying concepts and principles of biology, illustrated with diversity of life, intended for science majors. Properties of life, microbial basis, origin of life, cells, genetics, introduction to kingdoms, origins of multicellularity, multicellular plants and animals, ideas about evolution, man’s place in nature. Emphasis on common themes in living systems (e.g., metabolism, protein and nucleotide sequence similarities, morphology), phylogeny construction, fossils, and the major plant and animal groups. Writing and analysis of lab activities required. (NS)
Contact Hour Distribution: 3 hours lecture and 1 hour lab.
Credit Restriction: Students receiving credit for both 101 and 102 may not receive credit for 130.
140 Organization and Function of the Cell (4) Topics include: basic organic chemistry and biomolecules, cell structure (membranes, cell walls, and internal organelles); energetics (respiration and photosynthesis); cell division mitosis; and molecular biology. Labs will stress basic laboratory skills and procedures such as measuring pipetting and mixing solutions, as well as using modern methods for analysis of cell components such as electrophoresis and centrifugation. (NS) (RE) Prerequisite(s): 130 and Chemistry 120. (OC) Corequisite(s): Chemistry 130.

157 Honors Experimental Biology (4) Integrated lecture/laboratory practicum designed as an inquiry-based course with hands-on experimentation to explore the nature of scientific research and unifying concepts and principles of biology. Properties of life and common themes in living systems using plant and animal subjects for experimentation. (NS) (OC) Credit Restriction: Students receiving credit for both 101 and 102 may not receive credit for 157.

202 Inside the Biological Sciences (1) Presentations by faculty and other biology professionals emphasizing applied biological research. Familiarizes students with diverse nature and current applications of biology.
Grading Restriction: Satisfactory/No Credit grading only. Repeatability: May be repeated. Maximum 3 hours.

203 Inside the Biological Sciences (1) Presentations by faculty and other biology professionals emphasizing applied biological research. Familiarizes students with diverse nature and current applications of biology.
Grading Restriction: Satisfactory/No Credit grading only. Repeatability: May be repeated. Maximum 3 hours.

240 General Genetics (4) Classical and modern principles of heredity. Topics include meiosis and transmission genetics; molecular genetics and gene expression; population and evolutionary genetics. Laboratories will alternate with problem-solving sessions and will include computer-based simulations and hands-on experience with model genetic systems. Emphasis on development of analytical skills.
(OC) Prerequisite(s): 140 or 112. (DE) Prerequisite(s): Chemistry 130.

250 General Ecology (4) Relations between organisms and their environment, including human environmental problems. Topics include populations, communities, and ecosystems.
Contact Hour Distribution: 3 hours lecture and 1 hour discussion, field problems, or computer simulations.
(OC) Prerequisite(s): 140 or 112. (DE) Prerequisite(s): Chemistry 130. Comment(s): A working knowledge of college algebra is required.

307 Honors: Colloquy in Biological Research (1) Presentations by professional biologists emphasizing rewards of careers in different areas of biology. Nationally recognized speakers invited each term.
Grading Restriction: Satisfactory/No Credit grading only. Repeatability: May be repeated. Maximum 4 hours. Recommended Background: 8 hours of 200-level or above biology courses. Registration Restriction(s): Biological sciences major/honors biochemistry and cellular and molecular biology concentration or honors ecology and evolutionary biology concentration or honors microbiology concentration or honors plant biology concentration; minimum student level – sophomore.

308 Honors: Colloquy in Biological Research (1) Presentations by professional biologists emphasizing rewards of careers in different areas of biology. Nationally recognized speakers invited each term.
Grading Restriction: Satisfactory/No Credit grading only. Repeatability: May be repeated. Maximum 4 hours. Recommended Background: 8 hours of 200-level or above biology courses. Registration Restriction(s): Biological sciences major/honors biochemistry and cellular and molecular biology concentration or honors ecology and evolutionary biology concentration or honors microbiology concentration or honors plant biology concentration; minimum student level – sophomore.

397 Honors: Seminar on Research Skills (3) Required of (but not limited to) Threshold Biology Scholars. Technical and cognitive skills necessary for participation in biological research. Lecture/presentations and small team demonstrations and discussion.
Recommended Background: 8 hours of 200-level or above biology courses. Registration Permission: Consent of instructor.

398 Honors: Practicum in Biological Research (3-5) Required of (but not limited to) Threshold Biology Scholars. Rotation through 3-5 modules of required and elective experience in participating laboratories.
Recommended Background: 8 hours of 200-level or above biology courses. Registration Permission: Consent of instructor.

401 Senior Thesis (3-12) Required research experience of Threshold Biology Scholars. Students design research projects, complete research data acquisition, organize thesis documents, and prepare presentations. Repeatability: May be repeated. Maximum 12 hours.

Biomedical Engineering (192)

271 Biomedical Engineering Principles (3) Application of engineering principles and methods to problem solving in the life sciences and medicine.
(OC) Prerequisite(s): Engineering Fundamentals 152.

300 Engineering Physiology (3) The study of human physiology, with an emphasis on making engineering decisions, and the development of analytical and computational models.
Registration Permission: Consent of instructor.

310 Biomechanics (3) The application of statics, dynamics, mechanics of materials, and fluid mechanics to biomedical engineering problems. The special characteristics of living tissue and biological fluids and their incorporation into computational problems will be introduced.
(OC) Prerequisite(s): Mechanical Engineering 321.

320 FDA Regulation of Biomedical Devices (2) Federal medical device law and regulation requirements; pre-market approval of new medical devices.
Registration Permission: Consent of instructor.

401 Thesis (3) Research and design problems in biomedical engineering with prior approval of a professor.
Repeatability: May be repeated. Maximum 6 hours.
Registration Permission: Consent of instructor.

408 Cell and Tissue Engineering (3) Mammalian cell culture. Effects of mechanical forces on cells. Tissue engineering of cardiovascular and orthopedic devices.
(OC) Prerequisite(s): 310 and Biology 140.

410 Professional Topics (2) Topics relating to professional responsibilities, communications, and organization. Requires a formal oral presentation by each student on an engineering topic chosen by the student and approved by the instructor.
(OC) Prerequisite(s): English 102.
Registration Restriction(s): Minimum student level – senior.

455 Biomedical Engineering Design I (2) Design of biomedical systems. Economics, optimization, reliability, patents and product liability. Participation in team design efforts. Requires oral and written design reports.
(OC) Prerequisite(s): 310. (OC) Corequisite(s): 430.

469 Biomedical Engineering Design II (3) Design of complete biomedical device: documentation includes complete specification, design calculations, preparation of working drawings, and cost analysis. Requires written and oral reports.
(OC) Prerequisite(s): 455.

473 Applied Biomechanics (3) Applications of biomechanics to the industrial and orthopedic area. Design of orthopedic implant devices; biomechanics of injury and protection.
(OC) Mechanical Engineering 321. (OC) Corequisite(s): 310.

475 Design of Artificial Internal Organs (3) Design, development and evaluation of artificial internal organs; analysis of transport processes in therapeutic devices for design optimization; current research and development needs. Ethical considerations.
(OC) Aerospace Engineering 341 and Mathematics 231.

494 Special Project in Biomedical Engineering (1-3) Problems related to recent developments and practice.
Repeatability: May be repeated once.
Registration Permission: Consent of instructor.

495 Special Project in Biomedical Engineering (1-3) Problems related to recent developments and practice.
Repeatability: May be repeated once.
Registration Permission: Consent of instructor.

Biosystems Engineering (196)

104 Design Apprenticeship (1) Exposure to design in biosystems engineering, through apprenticeship with senior design teams in Biosystems Engineering 402. Apprentices will assist with design, construction, testing, analysis, and presentation of project. Will also include background in engineering design, engineering project management, and engineering design tools.
Contact Hour Distribution: 2-hour lab.
(OC) Prerequisite(s): Engineering Fundamentals 151.
201 Career Opportunities (1) Activities and opportunities in the fields of specialization; required training for each area; projected career activities.

221 Mass and Energy in Biosystems (3) Introduction to thermodynamic concepts for biological systems (energy, mass and energy balances, processes and cycles); psychrometrics and psychometric processes; biological systems and the biosphere (bioenergetics, hydrologic cycle, global energy cycle).

Contact Hour Distribution: 2 hours and 1 lab.  
(RE) Prerequisite(s): Chemistry 120 and Engineering Fundamentals 152.

231 Biochemistry for Engineers (3) Fundamentals of biochemistry presented from an engineering point of view and applied to solve engineering-related problems. Topics to be covered include fundamental organic chemistry of amino acids, carbohydrates, lipids and other important biochemicals; the role and control of protein structures in biological systems; fundamental biochemical properties of proteins and enzymes; introduction to bioenergetics and metabolic pathways, and the replication, transcription, and translation of DNA.

(RE) Prerequisite(s): Chemistry 120 and Mathematics 141.

321 Biothermodynamics, Heat and Mass Transfer (3) Application of thermodynamics to biological systems; heat transfer, with emphasis upon conduction and convection applications; introduction to diffusion mass transfer.

Contact Hour Distribution: 2 hours and 1 lab.  
(RE) Prerequisite(s): 221 and Nuclear Engineering 203.

401 Biosystems Engineering Design I (2) First course of a capstone design sequence. Review of fundamental engineering principles and design proposal generation. Design proposals will include preliminary engineering analyses, extensive documentation, and multiple individual and group presentations.  
(OC)  
(RE) Prerequisite(s): 431 and 451.  
(RE) Corequisite(s): 404.

402 Biosystems Engineering Design II (6) Culmination of capstone design sequence. Intensive design experience on project chosen and approved in 401. Analysis, construction, testing, evaluation and reporting required. Technical lectures on statistics, engineering software, and technical issues relevant to the chosen design project. Weekly oral and written reports and submission of design to external engineering design competition or display required.

Contact Hour Distribution: 2-hour lecture, 2-hour recitation, 4-hour lab.  
(RE) Prerequisite(s): 401 and 444.

404 Engineering Project Management (3) Fundamentals and theory of engineering design and engineering project management, use of computerized project management tools, ethical responsibilities and contemporary issues in biosystems engineering, incorporation of economic considerations in engineering design, individual professional and portfolio development.

(RE) Corequisite(s): 401.

411 Mechanical Systems Engineering (3) Fundamentals of power delivery systems and simple mechanisms; selection and design of mechanical, hydraulic, and tractive power transmission systems. Emphasis on off-road vehicles and bioprocessing systems.

Contact Hour Distribution: 2 hours and 1 lab.  
(RE) Prerequisite(s): Mechanical Engineering 231 and Mechanical Engineering 321.

416 Hydrologic and Water Quality Engineering (3) An introduction to hydrology including: hydrologic variability, precipitation, evapotranspiration, infiltration, runoff, erosion, water quality and non-point pollution, energy dissipation, streamflow measurement, hydrographs, routing, open channel flow, and urban hydrology. (Same as Civil Engineering 416.)

(RE) Prerequisite(s): Civil Engineering 390 or Aerospace Engineering 341.

431 Bioprocess Engineering (3) Development of interdisciplinary bio-process engineering; basics of biology in an engineering perspective; enzymatic reaction kinetics; metabolism and bioenergetics; cell growth kinetics; reactor design and systems; introduction to bioprocess engineering including mass balance, energy balance, and reaction kinetics; reactor design and systems; introduction to biosimulations; practical aspects of bioprocess engineers and process development.

Contact Hour Distribution: 2 hours and 1 lab.  
(RE) Prerequisite(s): 231 and 321.

444 Practicum (3) Applications of engineering theory and design in selecting, sizing, and fabricating engineering materials, and in developing processes and systems typically used in biosystems engineering.

Contact Hour Distribution: 1 hour and 2 labs.  
(RE) Corequisite(s): 401.

451 Electronic Systems (4) Basic electronics with biological applications. Analog and digital electronics; sensing and controlling physical and environmental parameters; sensor selection and interfacing; signal conditioning; process control. Includes laboratory experiments and design projects.

Contact Hour Distribution: 3 hours and 1 lab. Design content – 1 hour.  
(RE) Prerequisite(s): Electrical and Computer Engineering 301.

470 Special Problems in Biosystems Engineering (1-3) Selection, analysis solution, and report of problem.  
Repeatability: May be repeated. Maximum 6 hours.  
Registration Permission: Consent of instructor.

480 Selected Topics in Biosystems Engineering (1-3) Current trends and problems in biosystems engineering  
Repeatability: May be repeated. Maximum 6 hours.

Biosystems Engineering Technology (194)

202 Materials and Fabrication (3) Properties of materials including wood, metals, concrete, plastics and lubricants; drafting and plan reading; fabrication techniques and processes involving hand tools, power equipment, and arc and gas welding.

Contact Hour Distribution: 1 hour and 2 labs.

212 Surveying (3) Measurement of distances, angles, and areas; differential and profile leveling; topographic surveying and mapping; area computation.

Contact Hour Distribution: 1 hour a one 3-hour lab.  
(RE) Prerequisite(s): Mathematics 119 or Mathematics 123.

326 GIS/GPS Applications in Agriculture and Environmental Science (3) Introduction to the application of Geographic Information Systems (GIS) and Global Positioning Systems (GPS) in agriculture and in environmental science. Topics covered will include GIS software and concepts, GPS receivers, data acquisition, and spatial analysis of data to solve problems. Case studies in agricultural demographics, precision agriculture, pasture management, water quality, watershed management, and waste pollution will be used to provide hands-on experience with these emerging technologies.

(RE) Prerequisite(s): Agriculture and Natural Resources 290.

414 CAD Applications to Biosystems Engineering Technology (3) Computer Aided Drafting (CAD) applications in agriculture and environmental science. Essentials of CAD software to create drawings of components, systems, structures, and processes diagrams. Applications in mechanical, structural, and biosystems, 2-D applications with limited exposure to 3-D applications. Computer intensive course. Hands-on experience.  
Credit Restriction: Students cannot receive credit for both 414 and 514.

Contact Hour Distribution: Two 2-hour labs.  
Recommended Background: Computer proficiency.

422 Food and Process Engineering Technology (3) Application of basic engineering principles to agricultural and food processes. Fluid handling, drying, evaporation, thermal processing, heating and cooling, refrigeration systems, and materials handling.

Contact Hour Distribution: 2 hours and 1 lab.  
(RE) Prerequisite(s): Physics 101 or Physics 221.

432 Agricultural Machinery and Tractors (3) Functions, selection, matching, and management of agricultural machinery systems. Tractor power ratings, engine and transmission systems, hydraulic systems, hitches, and ballasting. Field and material capacity, field efficiency, cost analysis, and machinery replacement strategies. Functional analyses of tillage operations, planters and drills, no-till systems, hay harvest systems, forage and small grain harvesting, and cotton harvesting. Crop drying processes, off-road machinery safety considerations, and operator ergonomics.

Contact Hour Distribution: 2 hours and 1 lab.  
(RE) Prerequisite(s): Mathematics 123 or Mathematics 125.

434 Production Monitoring and Automation (3) Precision technologies for monitoring and control of agricultural systems. Applications include: yield monitoring; variable rate control and sensing systems for planters, sprayers, soil applied nutrients, water management, crop health, and pest pressure; electronic information transfer; and GPS-based vehicle guidance.

Contact Hour Distribution: 2 hours and 1 lab.  
(RE) Corequisite(s): 326.

442 Agricultural Waste Management and Pollution Control (3) Waste renovation fundamentals; characteristics of animal manure, techniques for collecting, transporting, storing, and utilizing livestock waste.

Contact Hour Distribution: 2 hours and 1 lab.  
(RE) Prerequisite(s): Mathematics 123 or Mathematics 125.

452 Small Internal Combustion Engines (3) Theory, concepts and mechanics of small internal combustion engines; theoretical cycles, selection, operation, adjustment, troubleshooting and repair of single-cylinder engines.

Contact Hour Distribution: 2 hours and 1 lab.  
(RE) Prerequisite(s): Mathematics 123 or Mathematics 125.

462 Agricultural Chemical Application Technology (3) Equipment for application of liquid, solid, and gaseous agricultural chemicals; system components; operational characteristics; calibration; selection and management; safety considerations; materials handling and disposal methods.

Contact Hour Distribution: 2 hours and 1 lab.  
(RE) Prerequisite(s): Mathematics 123 or Mathematics 125.
474 Environmental Instrumentation and Monitoring (3) Equipment and techniques commonly used to measure all aspects of hydrologic cycle: precipitation, runoff, streamflow, and subsurface water movement. Sampling of all flows for contaminants. Design of monitoring systems. Analysis of data. 
Contact Hour Distribution: 2 hours and 1 lab. 
Credit Restriction: Students cannot receive credit for both 474 and 574. 
(RE) Prerequisite(s): Environmental and Soil Sciences 324.

Business Administration (205)

100 Approaches to the College of Business Administration (1) Integration into the College of Business Administration with emphasis on academic advising, major exploration, career planning, University resources and services, and reinforcement of academic survival skills such as time management and study skills. 
Grading Restriction: Satisfactory/No Credit grading only.

201 Business Functions (4) Understanding how business works through application and integration of fundamental business functions. Includes aspects of marketing, finance, logistics, operations, organizational behavior, and information management. 
(RE) Prerequisite(s): Accounting 200 and Economics 201. 
(RE) Corequisite(s): Statistics 201 or Statistics 207.

320 Business Career Planning and Placement (1) Exploration of career opportunities in business. Process of making the career decision, preparing for and conducting a job campaign. Using the Placement Office. 
Grading Restriction: Satisfactory/No Credit grading only.

331 CBM I: Supply Chain Management (2) Coordinating the end-to-end relationships between supply chain members, from inputs to delivery of product/services. Understanding impact of demand and supply information flows across the supply chain. Emphasis on integrating activities through improved processes and relationships to achieve and maintain competitive advantage. 
(RE) Prerequisite(s): 341. 
(RE) Corequisite(s): 332. 
Registration Restriction(s): Majors in the College of Business Administration.

332 CBM I: Demand Management (2) Analysis of current and future markets opportunities. Translation of identified opportunities into strategies to select, acquire, and retain customers that are consistent with overall organizational objectives. Includes design, execution, and evaluation of strategies from the perspective of an organization within a channel of distribution context. 
(RE) Prerequisite(s): 201. 
(RE) Corequisite(s): 331. 
Registration Restriction(s): Majors in the College of Business Administration.

341 CBM II: Lean Operations (2) Design of the product delivery system in manufacturing and service operations. The dynamics of the supply chain. Managing flows in manufacturing and service processes. Specific techniques for designing process design, such as pull replenishment, cellular layout, standard work, and mixed model sequencing. 
(RE) Prerequisite(s): 201. 
(RE) Corequisite(s): 342. 
Registration Restriction(s): Majors in the College of Business Administration.

342 CBM II: Information Management (2) Emphasis on the concepts, structure, and components (input, processes, output, feedback and control) of information systems, and database design and management. Includes the role, function and integration of information systems and technology into business activities. 
(RE) Prerequisite(s): 201. 
(RE) Corequisite(s): 341. 
Registration Restriction(s): Majors in the College of Business Administration.

353 CBM III: Integrated Process Management (3) Behavioral processes in organizations with an emphasis on team dynamics and decision making within the contextual framework of integrated business process management. 
(RE) Prerequisite(s): 331 and 341. 
(RE) Corequisite(s): 361 and Finance 301. 
Registration Restriction(s): Majors in the College of Business Administration.

361 The Firm in a Global Context (3) Domestic and international factors that impact the decision-making process of the firm: domestic and international macroeconomics, regulation, trade policy, technological change, institutional, and cultural environments. Emphasis on relationship between theoretical models and actual problems encountered in the conduct of business. 
(RE) Prerequisite(s): 201. 
Registration Restriction(s): Majors in the College of Business Administration.

371 International Business (3) Survey of strategic implications of conducting business operations in an international context. Analysis of relevant cross-cultural environments, including cultural, political, economic and legal characteristics. 
(RE) Prerequisite(s): 361. 
Registration Restriction(s): Majors in the College of Business Administration.

400 Special Topics (1-9) Topics of current interest in international business. Topics announced prior to offering. 
Repeatability: May be repeated if topic is different. Maximum 9 hours. 
(RE) Prerequisite(s): 361. 
Registration Restriction(s): Majors in the College of Business Administration.

467 Honors: Corporate Executive in Residence Seminar (3) Interaction with top corporate executives from a wide spectrum of business disciplines. Domestic and international strategic planning as it is applied in major U.S. corporations. Executive presentations and small group discussion on goods and services in consumer and industrial settings. 
Recommended Background: Business Administration 332 and Finance 301. 
Registration Restriction(s): Majors in the College of Business Administration; minimum student level – senior. 
Registration Permission: Consent of instructor.

491 Foreign Study (1-15) 
Repeatability: May be repeated. Maximum 15 hours. 
Registration Restriction(s): Majors in the College of Business Administration. 
Registration Permission: Consent of instructor.

492 Off-Campus Study (1-15) 
Repeatability: May be repeated. Maximum 15 hours. 
Registration Restriction(s): Majors in the College of Business Administration. 
Registration Permission: Consent of instructor.

Business Law (216)

301 Legal Environment of Business (3) Survey of legal and ethical topics affecting business. Coverage includes legal and business ethics; dispute resolution mechanisms; and substantive and procedural law of regulation, torts, contracts, property, intellectual property, business associations, and employer/employee relations. (Same as Legal Studies 301.) 
Registration Restriction(s): Minimum student level – junior.

Chemical Engineering (226)

200 Chemical Engineering Fundamentals (3) Material and energy balances. 
(RE) Prerequisite(s): Engineering Fundamentals 152 and Chemistry 130. 
(RE) Corequisite(s): 215 and 230. 
(DE) Corequisite(s): Mathematics 142.

215 Computer Applications in Chemical Engineering (3) Introduction to computer solutions to chemical engineering problems. Includes: modern programming tools, flow sheet simulators, statistics, spreadsheet, graphics. 
(RE) Corequisite(s): 200.

230 Introduction to Chemical Engineering Thermodynamics (3) Introduction to the laws of thermodynamics, state functions, and their conceptual basis. Ideal systems, the gas law, Raoult’s law, and deviations from ideal behavior (fugacity and activity). Introduction to chemical and phase equilibria. 
(RE) Prerequisite(s): Engineering Fundamentals 152 and Chemistry 130. 
(RE) Corequisite(s): 200 and Mathematics 142.

240 Fluid Flow and Heat Transfer (4) Force, energy and mechanical energy balances; flow in tubes, piping systems, packed and fluidized beds; pumping and metering; steady and unsteady state heat conduct; heat transfer in tubes and heat exchangers; radiation. 
(RE) Prerequisite(s): 200. 
(RE) Corequisite(s): Mathematics 231.

250 Application of Chemical Engineering Thermodynamics (3) Basic concepts related to chemical engineering applications of thermodynamics; emphasis on flow processes, real gases and liquids, estimation of physical properties, phase equilibria of industrial mixtures, compressors, power cycles, and chemical reaction equilibria. 
(RE) Prerequisite(s): 200 and 230.

301 Application of Statistical and Numerical Techniques in Chemical Engineering (3) Statistical methods for probabilities, expectations, sampling, and estimation; Numerical methods for regression, integration, solution of systems of linear/nonlinear algebraic and differential equations. (Same as Materials Science and Engineering 301.) 
(RE) Corequisite(s): Mathematics 231.

310 Chemical Engineering Laboratory (3) Thermodynamics, fluid flow and heat transfer in chemical engineering. 
(RE) Prerequisite(s): 215 and Mathematics 142. 
Registration Restriction(s): Chemical engineering major; 2.5 GPA.
340 Mass Transfer and Separation Processes (3) Stagewise operation; application of analytical, graphical and computer methods to design of stagewise separatory operations. Differential operations-application of analytical and computer methods to the design of diffusional processes. Applications include gas absorption, stripping, binary distillation, and extraction.

(Re) Prerequisite(s): 200 and 230.
Registration Restriction(s): 2.5 GPA.

360 Process Dynamics and Control (3) Introduction to process modeling and industrial control system design. Mathematical tools for characterizing dynamic behavior of processes; theory and practice of operating and controlling such systems.

(Re) Prerequisite(s): 200 and 240.
(Re) Corequisite(s): Mathematics 231.
Registration Restriction(s): 2.5 GPA.

380 Seminar (1) Presentation and discussion of topics in the practice of chemical engineering.
Grading Restriction: Satisfactory/No Credit Grading only.

394 Chemical Engineering Co-op (1) Co-op experiences in chemical engineering. Technical report writing and presentations.
Repeatability: May be repeated.
Registration Permission: Consent of instructor.

Grading Restriction: Letter grade only.
(Re) Prerequisite(s): 450.

407 Honors Seminar (1) Presentations and discussions on topics of importance to chemical engineers.
Grading Restriction: Satisfactory/No Credit grading only.
Repeatability: May be repeated. Maximum 2 hours.
Registration Permission: Consent of instructor.

408 Honors Seminar (1) Presentations and discussions on topics of importance to chemical engineers.
Grading Restriction: Satisfactory/No Credit grading only.
Repeatability: May be repeated. Maximum 2 hours.
Registration Permission: Consent of instructor.

410 Chemical Engineering Laboratory II (3) Laboratory investigations of mass transfer and chemical reaction phenomena in chemical engineering.
(Re) Prerequisite(s): 310 and 450.

411 Undergraduate Research Experience (3) Research problems in current topics in chemical engineering. Students work in teams to design, perform, and document current research projects.
(Re) Prerequisite(s): 310.
Registration Restriction(s): Minimum student level – senior.


445 Separation Process Technology (3) Multicomponent distillation, theory and computer simulations; humidification; specialized technologies, including membrane separation, crystallization, dialysis, adsorption, ion exchange, etc.
(Re) Prerequisite(s): 340.

447 Honors: Transport Phenomena (3) Overview of momentum, heat and mass transfer processes, the analogies, differential and macroscopic balances, applications involving molecular diffusion, including simultaneous mass transfer and chemical reaction.
(Re) Prerequisite(s): 340.
Registration Permission: Consent of instructor.

450 Chemical Reactor Fundamentals (3) Homogeneous and heterogeneous reaction kinetics; idealized homogeneous reactor models, both for closed and flow systems; analysis of batch reactor data; multiple reactions; non-isothermal reactions.
(Re) Prerequisite(s): 240 and 301.
(De) Prerequisite(s): 240.

467 Honors: Engineering Internship in Process Control (4) Selected students work in small groups on industrial problems in process dynamics and control. Directed by faculty and engineers from host company.
(Re) Prerequisite(s): 360.
Registration Permission: Consent of instructor.

477 Honors: Applied Process Automation Laboratory (3) Interfacing flexible batch continuous processes to automation systems. Top down analysis with bottom up implementation, hierarchical structures and object-oriented concepts are used to design automation solutions including human-machine-interfaces. Workstations with modern industrial equipment provide an interactive graphics and visualization environment.
Recommended Background: 360.
Registration Permission: Consent of instructor.

480 Equipment Design and Economic Methods (4) Design, optimization and costing of chemical plant equipment, introduction to economic evaluation methods, capital investment, discounted cash flows, net present value.
(Re) Prerequisite(s): 360 and Chemistry 350.
(Re) Corequisite(s): 445 and 450.

481 Green Engineering (3) Principles and practical aspects of the design, commercialization, and use of processes and products for determining their feasibility and economic potential while minimizing the generation of pollution at the source and risk to human health and environment.
Registration Permission: Consent of instructor.

483 Introduction to Reliability Engineering (3) (See Nuclear Engineering 483.)

484 Introduction to Maintainability Engineering (3) (See Nuclear Engineering 484.)

(Re) Prerequisite(s): 200 and 240.

488 Honors: Design Internship in Green Engineering (3) Students work in small teams on applying green engineering principles to authentic industrial design problems. Directed by faculty and professionals from host industry.
(Re) Prerequisite(s): 480.

490 Process Design and Economic Analysis (3) Students work in small teams on applying sound engineering principals to authentic industrial design problems. Directed by faculty and professionals from host industry.
(Re) Prerequisite(s): 480.

494 Special Problems in Chemical Engineering (3) Chemical engineering problems related to recent developments in industrial practice or engineering research.
Repeatability: May be repeated. Maximum 6 hours.
Registration Permission: Consent of instructor.

498 Honors Thesis (3) Research in problems related to recent developments in chemical engineering.
Registration Permission: Consent of instructor.

Chemistry (235)

100 Principles of Chemistry (4) Bonding and molecular structure, gas laws, liquid and solid state, solutions, colloids, acids and bases, oxidation and reduction, kinetics and equilibria. (NS)
Contact Hour Distribution: 3 hours and 1 lab.
Credit Restriction: Credit may be received for only one of the following courses – 100, 120, or 128.

Contact Hour Distribution: 3 hours and 1 lab.
(De) Prerequisite(s): 100 or 130 or 138 or consent of department head.

120 General Chemistry I (4) A general course in theoretical and descriptive chemistry. Modern atomic theory, chemical bonding, stoichiometry, quantitative treatment of gas laws, quantitative aspects of solution chemistry, kinetics. (NS)
Contact Hour Distribution: 3 hours and 1 lab.
Credit Restriction: Credit may be received for only one of the following courses – 100, 120, or 128.
128 Honors: General Chemistry I (4) (NS)
Contact Hour Distribution: 3 hours and 1 lab.
Credit Restriction: Credit may be received for only one of the following courses – 100, 120, or 128.

130 General Chemistry II (4) A general course in theoretical and descriptive chemistry. Chemical equilibria, thermodynamics, descriptive chemistry of nonmetallic and metallic elements, electrochemistry, introduction to organic and biochemistry. (NS)
Contact Hour Distribution: 3 hours and 1 lab.
(RE) Prerequisite(s): 120 or 128.

138 Honors: General Chemistry II (4) (NS)
Contact Hour Distribution: 3 hours and 1 lab.
(RE) Prerequisite(s): 120.

150 Chemistry and Society (3) Food and agricultural chemistry; chemistry of life; chemistry in medicine; air and water pollution; energy and fuels.
Contact Hour Distribution: 3 hours lecture.
Credit Restriction: May not be used toward a major or minor in chemistry.

160 Chemistry and the Home (3) Chemistry and the consumer; household products; chemistry in the kitchen and around the home.
Contact Hour Distribution: 3 hours lecture.
Credit Restriction: May not be used toward a major or minor in chemistry.

200 Introduction to Chemical Research (1) Participation in an active research program in analytical, inorganic, organic, physical, or polymer chemistry. Students work with researchers to acquire expertise in planning experiments, interpreting results, and formulating hypotheses. Repeatability: May be repeated. Maximum 4 hours.
Credit Restriction: May not be used toward a major or minor in chemistry.
Comment(s): Chemistry course numbered 230 or higher is a corequisite. Registration Permission: Consent of department head.

230 Inorganic Chemistry (3) Periodicity, valence, bonding, and the descriptive chemistry of the elements; coordination compounds; nuclear chemistry; transition elements, inner transition elements.
Contact Hour Distribution: 2 hours and 1 lab.
(RE) Prerequisite(s): 130 or 138.

240 Chemical Programmng (2) Use of the computer in solving problems encountered in chemistry.
Contact Hour Distribution: 1 hour and 1 lab.
(RE) Prerequisite(s): Prior.

301 Industry/Laboratory Internship (3) Supervised by industry/laboratory technical staff at an approved facility. Consists of a full-time “hands-on” individual assignment for entire semester as a member of a theoretical or experimental team.
Grading Restriction: Satisfactory/No Credit grading only.
Credit Restriction: May not be applied toward a major or minor in chemistry.
(RE) Prerequisite(s): 130 or 138.
Registration Permission: Consent of department head.

310 Analytical Chemistry (3) Principles and practices of quantitative measurements in chemical systems. Acid-base, complexometric, and redox equilibria; applications of titrimetric analysis; potentiometry; elementary spectrophotometry; chemical separations including chromatography, ion exchange, and solvent extraction.
(RE) Prerequisite(s): 130 or 138.

319 Analytical Chemistry Laboratory (1) Experiments on topics covered in 310.
(RE Corequisite(s): 310.

320 Advanced Analytical Chemistry (3) Modern electroanalytical methods; mass spectrometry; optical spectroscopic techniques; magnetic resonance methods; advanced chromatographic theory.
(RE) Prerequisite(s): 310.

329 Advanced Analytical Chemistry Laboratory (2) Experiments on topics covered in 320.
(RE Corequisite(s): 320.

350 Organic Chemistry I (3) Compounds of carbon and their reactions. Reaction mechanisms, synthesis, spectroscopic and other physical properties.
(RE) Prerequisite(s): 130 or 138.

360 Organic Chemistry II (3) Compounds of carbon and their reactions. Reaction mechanisms, synthesis, spectroscopic and other physical properties.
(RE) Prerequisite(s): 350. (RE Corequisite(s): 369.

369 Organic Chemistry Laboratory (2) Experiments on topics discussed in 350-360.
Contact Hour Distribution: 1-hour lecture and 4-hour lab.
(RE Corequisite(s): 360.

400 Research in Chemistry (3) Advanced students work with faculty on projects requiring knowledge and skills acquired in chemistry curriculum. Written reports are required. May be followed by either 402 or 408 (but not both). Repeatability: May be repeated. Maximum 6 hours.
Registration Restriction(s): Chemistry major; minimum student level – senior. Registration Permission: Consent of department head.

401 Advanced Industry/Laboratory Internship (3) Supervised by industry/laboratory technical staff at an approved facility and by a chemistry faculty member serving as liaison between the laboratory and the university. Consists of a full-time “hands-on” individual assignment for entire semester as a member of a theoretical or experimental team. Final comprehensive written report required. Recommended Background: Chemistry course numbered 230 or higher.

405 Topics in the Development of Chemistry (3) Historical development of topics such as the atomic theory; chemical industry; interrelationship of population, energy, and food. Subject matter may vary from one offering to another. Assignments include readings from older original literature (Dalton, Faraday, Kekule) and from current journals and monographs. Includes the use and misuse of evidence, the impact of chemistry on society, how scientists reach conclusions, and the nature of scientific controversy. Written reports are required. Writing-emphasis course.

406 Senior Seminar (1) Discussions by faculty and students of current research and topics from recent literature. Oral and written reports required. All chemistry majors are encouraged to enroll. (OC) Repeatability: May be repeated. Maximum 2 hours.
Registration Restriction(s): Chemistry major; minimum student level – senior.

408 Honors: Research in Chemistry (3) Advanced students work with faculty on research projects requiring knowledge and skills acquired in chemistry curriculum. An honors thesis is written and is defended orally before a faculty committee. (RE) Prerequisite(s): 400.
Registration Permission: Consent of department head.

420 Selected Topics in Chemistry (1-3) Topics of current significance in chemistry.
Repeatability: May be repeated. Maximum 6 hours.
Credit Restriction: Only 3 credits may be applied to a major or minor in chemistry.
Registration Permission: Consent of instructor.

430 Advanced Inorganic Chemistry (3) Atomic and molecular structure, bonding theories, descriptive chemistry of the elements, kinetics and mechanism of inorganic reactions, applications of modern techniques for characterization, coordination and organometallic chemistry.
(RE) Prerequisite(s): 230.

439 Advanced Inorganic Chemistry Laboratory (1) Modern experimental techniques in inorganic chemistry, including synthesis, analysis, and handling of air-sensitive materials.
(RE Corequisite(s): 430.
Comment(s): Open only to chemistry majors (Bachelor of Science in Chemistry) or with consent of instructor.

450 Advanced Organic Chemistry (3) Modern organic reactions of mechanistic, synthetic, and theoretical interest. Content reflects current trends in the area.
(RE Prerequisite(s): 360.

471 Biophysical Chemistry (3) (See Biochemistry and Cellular and Molecular Biology 471.)

473 Physical Chemistry I (3) Properties of gases; first, second and third laws of thermodynamics; chemical equilibria; simple phase equilibria; properties of solutions.
Credit Restriction: Students may not receive credit for both 471 and 473.
(RE) Prerequisite(s): 130 or 138. (DE) Prerequisite(s): Mathematics 241 or 247; Physics 136 or 139 or 222 or 231.

479 Physical Chemistry Laboratory I (2) Experiments on topics discussed in 471 or 473.
Contact Hour Distribution: 1 lab.
(RE Corequisite(s): Biochemistry and Cellular and Molecular Biology 471 or Chemistry 473.

481 Biophysical Chemistry (3) (See Biochemistry and Cellular and Molecular Biology 481.)

483 Physical Chemistry II (3) Introduction to statistical thermodynamics; kinetics of chemical reactions; introduction to quantum mechanics and applications to electronic structure of atoms and molecules; molecular spectroscopy.
Credit Restriction: Students may not receive credit for both 481 and 493.
(RE) Prerequisite(s): 130 or 138. (DE) Prerequisite(s): Mathematics 241 or 247 and Physics 136 or 138 or 222 or 231.
489 Physical Chemistry Laboratory II (2) Experiments on topics discussed in 481 or 483. (RE) Corequisite(s): Biochemistry and Cellular and Molecular Biology 481 or Chemistry 483.

490 Introductory Polymer Chemistry (3) Fundamental principles stressing the role of chemistry in the interdisciplinary field of polymer science. Relation of molecular structure to bulk properties of polymers. (RE) Prerequisite(s): 360. (RE) Corequisite(s): Biochemistry and Cellular and Molecular Biology 471 or Chemistry 473.

Child and Family Studies (245)

101 Introduction to Child and Family Studies (2) Orientation to the Child and Family Studies Department, including requirements for the major, introduction to the faculty and their work, exposure to professional organizations, and learning about potential career possibilities. Includes observations.

106 Introduction to ECE (3) History of ECE programs, practices, and policies; overview of children’s development and behavior; introduction of application of developmental theory to curriculum development and classroom methods; summary of current ECE issues and research; introduction of impact of family, schools, and community on children’s learning; readings, observations, colloquy, and exposure to a broad spectrum of ECE professionals.

210 Human Development (3) Conception through adulthood in various social/ ecological contexts; interrelationships among various aspects of development: physical, cognitive, emotional, social, normative, non-normative development. (SS)

211 Development in Infancy and Early Childhood (3) Development from conception through early childhood; interrelationships among cognitive, emotional, social, physical aspects of ontology; normative, non-normative development. Includes observation. (RE) Prerequisite(s): 210.

213 Development in Middle Childhood and Adolescence (3) Development during middle childhood and adolescence; interrelationships among cognitive, emotional, social, physical aspects of ontology; normative and non-normative development. Includes observation. (RE) Prerequisite(s): 210.

220 Marriage and Family: Roles and Relationships (3) Emerging, declining roles, changing relationships among family members across life cycle from various theoretical approaches; impact of gender roles on marital relationships, marital quality, power, decision-making, communications, conflict management, combining work-family roles. (Same as Women’s Studies 230.) (SS)

240 Human Sexuality (3) Sexuality through cultural, social, familial, and psychological factors.

312 Families in Middle and Later Adulthood (3) Adult life in society from youth through elderhood; adjustment to internal, environmental changes through adulthood; interrelationships among various aspects of development: physical, cognitive, emotional, social. Includes observation. (RE) Prerequisite(s): 210.

320 Family Interaction (3) Dynamics of family interactions and influences of diversity, including parent-child relations, development of parenting skills, and intrafamily verbal and nonverbal communication processes, patterns, and problems. Registration Restriction(s): Minimum student level – junior.

345 Family Resource Management (3) Theory and application of managerial functioning in family settings; analysis of goals, resource use, information systems, constraints within families. Observation and analysis of diverse family practices. Registration Restriction(s): Minimum student level – junior.

350 Early Childhood Education I: Environments for Children (4) Classroom management, behavior guidance, organization of day care environments, communication, interpersonal skills, interaction with children, child stress reduction and management in classroom. Contact Hour Distribution: Includes laboratory participation. (RE) Prerequisite(s): 106 and 211.

351 Early Childhood Education II: Curricula and Program Development for Young Children (4) Planning effective early learning programs for young children relating knowledge of children’s growth and development to appropriate experiences in art, music, number, logic, media, physical knowledge; planning, implementing, evaluating curricular activities. Contact Hour Distribution: Includes laboratory participation. (RE) Prerequisite(s): 350.

353 Reading, Language, and Literacy (3) Theory and methods for creating learning environments for the development of language, emergent literacy, and reading and writing skills from infancy through eight years. (RE) Prerequisite(s): 350.

360 Family Stress (3) Family’s response to stressful circumstances; skills for intervention into family systems; violence, abuse, divorce, illness, death. Registration Restriction(s): Minimum student level – junior.

385 Diversity Among Children and Families (3) Social class, race, ethnicity, culture, and religion are studied singly and in combination with gender and disabilities as shapers of the life chances and opportunities of individuals, children and families. Registration Restriction(s): Minimum student level – junior.

395 Introduction to Research Methods and Statistics (3) Basic research methods and statistics for child/human development, family studies, early childhood education, and related fields; sampling, measurement, design, data analysis; quantitative and qualitative methods; natural and contrived settings; principles for understanding research that impact children and families. (RE) Prerequisite(s): 210 and 220.

405 Development of Professional Skills (3) Development of interpersonal and other professional skills along with ethical guidelines needed for working with children, families, and other professionals from diverse backgrounds. (OC) (WC) Registration Restriction(s): Child and family studies major; minimum student level – junior.

422 Early Childhood Teaching Methods (6) Fundamentals of teaching language arts, math, science and social studies through a holistic, integrative approach to early childhood education. Focus on grades K-3. Includes field experience. (RE) Prerequisite(s): 315 and 470. Registration Restriction(s): Qualification – admission to teacher education.

423 PreK-K Teaching Methods (6) The knowledge, skills and dispositions needed to become an inquiry-based, reflective practitioner who is a teacher of young children (birth through five years of age), in pre-kindergarten and kindergarten classrooms; involves lecture and field placement components. (RE) Prerequisite(s): 350. Registration Restriction(s): Qualification – admission to teacher education.

440 Family Life and Parent Education (3) Emphasis on skills required to develop family life education programs implemented in community settings. Overview of current approaches to the process of parenting and parent education programs. (RE) Prerequisite(s): 320. Registration Restriction(s): Child and family studies major.

460 Directed Study in Child and Family Studies (1-3) Individual learning experience arranged for students under supervision of faculty. Repeatability: May be repeated if topic is different. Maximum 6 hours. Recommended Background: 9 hours in child and family studies. Registration Permission: Consent of instructor.

470 Practicum: Pre-K Teaching (6-12) Responsibility for planning and guiding groups of infants, toddlers, or preschoolers under supervision of a classroom teacher and coordinator. Includes weekly seminar. Grading Restriction: Satisfactory/No Credit grading only. (RE) Prerequisite(s): 351 and 405. Comment(s): Fall and spring practicum placements begin on first day of registration and end on the last day of the final examination period. The practicum follows the ELC calendar and does not include fall or spring breaks. Summer practicum begins the day following spring commencement and ends on the last day of summer term. Priority for summer practicum is given to students who have completed all other program requirements, except practicum, prior to the summer session.

471 Practicum: Child Development (3-12) Supervised experiences working with children and families in early childhood settings. Grading Restriction: Satisfactory/No Credit grading only. Repeatability: May be repeated. Maximum 12 hours. (RE) Prerequisite(s): 405.

472 Practicum: Student Teaching Pre-K (12) Field placement in Pre-K classroom settings with responsibility for curriculum planning and the supervision, assessment, and teaching of young children. Includes weekly seminar. This course is only for students in the Pre-K Teacher Licensure program and is designed to meet Pre-K licensure requirements. Grading Restriction: Satisfactory/No Credit grading only. (RE) Prerequisite(s): 405 and 423. Comment(s): Fall placements are based on public school calendars and the beginning date will vary. Spring placements begin on the first day of registration. All placements end on the last day of the final examination period (Placements follow the school calendar, not the UT calendar and they do not include UT fall or spring breaks).
480 Practicum: Community Placement (9-12) Supervised experiences with an area agency serving the needs of children and families.
Grading Restriction: Satisfactory/No Credit grading only.
(RE) Prerequisite(s): 405.
Comment(s): Summer practicum placement begins the Monday after spring commencement and concludes the last day of the summer session.
Registration Restriction(s): Minimum student level – senior.

481 Research in Child and Family Studies (3-6)
(RE) Prerequisite(s): 395.
Recommended Background: 9 hours in child and family studies.
Registration Restriction(s): 3.0 GPA.
Registration Permission: Consent of instructor.

485 Special Topics in Child and Family Studies (1-9) Personal or professional interest in human development or family studies.
Repeatability: May be repeated. Maximum 9 hours.
Recommended Background: 9 hours in child and family studies.
Registration Restriction(s): Minimum student level – junior.
Registration Permission: Consent of instructor.

490 Practicum: Research (3-12) A supervised research experience with emphasis on the identification and examination of key aspects of research methods: constructs, research questions and hypotheses, research design, measurement, and analysis.
Grading Restriction: Satisfactory/No Credit grading only.
Repeatability: May be repeated. Maximum 12 hours.
(RE) Prerequisite(s): 395 and 405.

497 Honors: Child and Family Studies (3-6) Issues or topics affecting children and/or families, designed to meet particular interests of the student.
Repeatability: May be repeated. Maximum 6 hours.
Recommended Background: 15 hours in child and family studies.
Registration Restriction(s): 3.25 GPA; minimum student level – junior.
Registration Permission: Consent of instructor.

Chinese (249)
131 Elementary Chinese I (5) (See Asian Languages 131.)
132 Elementary Chinese II (5) (See Asian Languages 132.)
231 Intermediate Chinese I (5) (See Asian Languages 231.) (CC)
232 Intermediate Chinese II (5) (See Asian Languages 232.) (CC)
311 Chinese Literature in English Translation (3) (See Asian Languages 311.)
312 Chinese Literature in English Translation (3) (See Asian Languages 312.)
331 Advanced Chinese I (4) (See Asian Languages 331.)
332 Advanced Chinese II (4) (See Asian Languages 332.)
431 Readings in Chinese Literature (3) (See Asian Languages 431.)

Cinema Studies (251)
235 Introduction to Cinematography as Art (3) (See Art Media Arts 235.)
236 Introduction to Video Art (3) (See Art Media Arts 236.)
281 Introduction to Film Studies (3) (See English 281.)
312 Popular Culture and American Politics (3) (See Political Science 312.)
315 Asian Film (3) (See Asian Languages 315.)
316 Luso-Brazilian Cinema and Literature (3) (See Portuguese 316.)
323 German Film (3) (See German 323.)
325 Russian Film (3) (See Russian 325.)
334 Film and American Culture (3) (See English 334.)
400 Special Topics (3)
Repeatability: May be repeated. Maximum 6 hours.

420 French Cinema (3) (See French 420.)
421 Topics in Italian Literature and Cinema (3) (See Italian 421.)
433 History of Film and Modern Art (3) (See Art Media Arts 433.)
434 Hispanic Culture Through Film (3) (See Spanish 434.)
435 Cinematography as Art (3) (See Art Media Arts 435.)
436 Video Art (3) (See Art Media Arts 436.)
465 Latin American Film and Culture (3) (See Spanish 465.)
469 Sexuality and Cinema (3) (See Women’s Studies 469.)
482 Special Topics in Global Cinema (3) (See Modern Foreign Languages and Literatures 482.)
489 Special Topics in Film (3) (See English 489.)

491 Foreign Study (1-15)
Repeatability: May be repeated. Maximum 15 hours.

492 Off-Campus Study (1-15)
Repeatability: May be repeated. Maximum 15 hours.

493 Independent Study (1-15)
Repeatability: May be repeated. Maximum 15 hours.

Civil Engineering (254)
205 Professional Development I (2) Introduction to civil engineering specialties, history, and achievements; Professional responsibility, communication, and organization.
(OC) (WC) (RE) Prerequisite(s): Engineering Fundamentals 151 or 157.
Registration Restriction(s): Minimum student level – sophomore.

210 Geometrics (4) Introduction to the measurement, representation, analysis, management, retrieval and display of spatial data concerning both the earth’s physical features and the built environment. Covers land and construction surveying, controls, error analysis, use of CADD and an introduction to global positioning systems (GPS) and geographical information systems (GIS) used in civil engineering.
Contact Hour Distribution: 3 hours and 1 lab.
Registration Restriction(s): Minimum student level – sophomore.

261 Structural Analysis I (3) Reactions; shear and moment diagrams; forces in trusses; uniaxial stress and strain; area moments of inertia; torsion.
(RE) Prerequisite(s): Engineering Fundamentals 202.

305 Professional Development II (1) Legal and ethical responsibilities, continuous improvement, career planning, and leadership.
(RE) Prerequisite(s): 205.

309 Applied Professional Responsibility (1) Introduction to the American Society of Civil Engineers (ASCE), the primary civil engineering professional society, and interaction with the local branch and state section of the ASCE. This class provides a framework for the participation in professional practice activities, service to the community, and educational outreach. These activities may be coordinated through the Student Chapter of ASCE, through the department, through the college, or through other approved groups. May include participation in the annual ASCE Regional Student Chapter Conference.
Repeatability: May be repeated. Maximum 3 hours.
Credit Restriction: May not be used as credit toward graduation.
Registration Restriction(s): Majors in the College of Engineering; minimum student level – sophomore.

Contact Hour Distribution: 2 lectures and 1 lab.
(RE) Prerequisite(s): 205 and 261.

330 Introduction to Soil Behavior (4) Physical and mechanical properties of soils, theory of compaction, seepage, and effective stress. Consolidation theory, time rate and settlement, shear strength of sands and clays, and analysis of homogeneous slopes.
Contact Hour Distribution: 3 hours and 1 lab.
(RE) Prerequisite(s): 321.
(RE) Corequisite(s): 361.

351 Transportation Engineering I (3) Transportation problems and perspectives, rural and urban; use of systematic planning processes; development of alternatives and the evaluation of civil engineering projects. Civil engineering decision-making and applications of economic analysis. Design of transportation terminals, airports, parking, etc.
(RE) Prerequisite(s): 210.

352 Transportation Engineering II (3) Introduction to design, construction, maintenance, and operation of various transportation modes, their guideways and terminals, primarily highways and railroads.
(RE) Prerequisite(s): 210.

361 Structural Analysis II (3) Stress and strain in beams and columns; Mohr’s circle; influence lines; deflections and beams and trusses; analysis of indeterminate structures; moment distribution.
(RE) Prerequisite(s): 261.

380 Water and Waste Treatment (3) Principles of unit operations employed in physical, chemical, and biological treatment of water, wastewater, and solid wastes.
(RE) Prerequisite(s): Chemistry 130 and Engineering Fundamentals 152.

390 Hydraulics (4) Basic laws and properties of incompressible fluids. Units and dimensional analysis; drag forces; continuity, energy, and momentum equations; pipe flow; flow measurement; open channel flow and culverts; pump characteristics.
Contact Hour Distribution: 3 hours and 1 lab.
(RE) Prerequisite(s): Engineering Fundamentals 152 and Mathematics 231.
(DE) Prerequisite(s): Civil Engineering 250 or Biosystems Engineering 243.
409 Special Topics (1-3) Recent developments and current practice in civil and environmental engineering through field internship and/or self-study. (RE) Prerequisite(s): 390.

401 Review of Engineering Fundamentals (1) Review of selected topics covered on the Fundamentals of Engineering exam. Emphasis is on those topics relating to civil and environmental engineering. Must be taken during the term of graduation. Summer graduates must take the course during their last preceding term.

416 Hydrologic and Water Quality Engineering (3) (See Biosystems Engineering 416.)

435 Foundation Engineering (3) Fundamentals of geotechnics applied to design and analysis of soil-structure systems; subsurface investigation; design of shallow and deep foundations on rock. Lateral earth pressure and retaining structures. (RE) Prerequisite(s): 330.

440 Civil Engineering Systems Design and Management (3) Methods of data analysis and modeling of civil engineering systems to enhance resource allocation for specific application to problems of transportation, environmental, water resources, structural analysis materials. Emphasis on microcomputer applications. (RE) Prerequisite(s): Statistics 251. Registration Restriction(s): Minimum student level – senior.

442 Construction Methods and Equipment (3) Fundamental operations in construction and equipment selection and productivity; concrete and steel construction; and construction contracts and economics. Registration Restriction(s): Minimum student level – senior.

451 Highway Engineering (3) Design, construction, operation, and maintenance of highway facilities; includes application of various engineering principles and techniques to process of planning, locating and design of highway facilities; covers both geometric and pavement design. (RE) Prerequisite(s): 352.

462 Analysis of Framed Structures (3) Vertical and lateral force resisting systems; gravity loads due to dead, live, and snow loads; lateral loads due to earthquake and wind; use of computer in structural analysis; building modeling and analysis. (RE) Corequisite(s): 471.

471 Introduction to Structural Design (3) Selection of rolled structural steel beams, design of structural steel members for axial tension and compression loads, reinforced concrete beams; use of standard specifications. (RE) Prerequisite(s): 361.

472 Steel Design (3) Design of plate girders and composite beams; consideration of members subjected to combined stresses; design of a typical framed building including connections. (RE) Prerequisite(s): 471.

474 Reinforced Concrete Design (3) Design of continuous beams, floor slabs, and columns with combined axial loads and bending, footings; and design for torsion. (RE) Prerequisite(s): 471.

480 Water and Waste Transport (3) Theory and design of water distribution systems and wastewater collection systems. (RE) Prerequisite(s): 390.

485 Principles of Hydrogeology (3) (See Geology 485.)

486 Air and Waste Management (3) Principles of air quality management, solid waste management and hazardous waste management. Review of regulations, environmental quality, transport of pollutants, and control technologies including treatment and disposal. (RE) Prerequisite(s): 390 or Chemistry 200.

486 Air and Waste Management (3) Principles of air quality management, solid waste management and hazardous waste management. Review of regulations, environmental quality, transport of pollutants, and control technologies including treatment and disposal. (RE) Prerequisite(s): 390 or Chemistry 200.

490 Water Resources Engineering (3) Application of hydrologic/hydraulic principles for development of water resource project design and management of water resources; assessment of environmental impacts to surface water and groundwater; regulatory framework for water supply and water quality. (RE) Prerequisite(s): 395 or Biosystems Engineering 416.

Classics (257)

111 Beginning Latin (4) Credit Restriction: Not available to students eligible for 150.

112 Beginning Latin (4) Credit Restriction: Not available to students eligible for 150. (RE) Prerequisite(s): 111.

121 Beginning Greek (4) (RE) Prerequisite(s): 121.

122 Beginning Greek (4) (RE) Prerequisite(s): 121.

150 Latin Transition (4) Designed to prepare students for enrollment in 251. Credit Restriction: Since 150 is a review of elementary Latin, students who receive credit in this course may not also receive credit for any other 100-level Latin course and, therefore, also forfeit the 6 hours of elementary language credit awarded through placement examination. Completion of course: Placement exam required.

201 Introduction to Classical Civilization (3) Introductory survey of civilization of ancient Greece and Rome. Includes aspects of history, literature, art and archaeology, philosophy and religion. Writing-emphasis course. (CC)

221 Early Greek Mythology (3) Archaic Greek religion through comprehensive study of Greek myths with emphasis on how they reflect the early Greek vision of the universe and humanity’s place in it. Origins and development of Greek myths and the rise of organized religion, from Bronze Age to about 450 BC. Readings include Hesiod and Aesop, writing-emphasis course. (AH)

222 Classical Greek and Roman Mythology (3) Use of myth in literature, history, religion and philosophy of Greece and Rome from about 450 BC to about 350 AD. Two foci are the latter half of the 5th century BC and the last quarter of the 1st century BC. Includes oriental intrusions into Greece and Rome, including early Christianity. Readings include Sophocles, Euripides, Roman poetry, and modern scholarship. Writing-emphasis course. (AH)

232 Archaeology and Art of Ancient Greece and Rome (3) Survey from the earliest human presence in the Mediterranean to the end of the Roman Empire (c. 200,000 BC–AD 476). For prehistoric times emphasis on material remains and anthropological theory used to recreate the cultures of the Minoans, Mycenaeans, Dark Age Greeks, and Etruscans. For the historical Greek and Roman periods emphasis on developments in architecture, sculpture, vase painting, wall painting, mosaics, and minor arts. Relationship of art to society. Writing-emphasis course. (AH)

251 Intermediate Latin: Grammar Review and Readings (3) (CC) (DE) Prerequisite(s): 112 or 150 or placement exam.

252 Intermediate Latin: Vergil’s Aeneid (3) (CC) (RE) Prerequisite(s): 251.

253 Greek and Roman Literature in English Translation (3) Major literature of ancient Greece from Homer to Tacitus. Writing-emphasis course. (AH)

261 Intermediate Greek: Grammar Review and Readings (3) Systematic review of Attic Greek and readings from selected authors. (CC) (RE) Prerequisite(s): 122.

264 Intermediate Readings in Greek (3) Content varies. (CC) (RE) Prerequisite(s): 261.

273 Medical and Scientific Terminology (3) Greek and Latin roots from which medical and scientific terminology is derived. Extensive practice in analysis of terms. Practice in use of Latin nomenclature.

301 History of Early Greece (3) Greek history from the earliest human occupation of Greece to the Greek recovery after the Persian Wars, with an emphasis on the 8th-6th centuries BCE. Readings and discussion to include: Bronze Age Greece and Crete; economy and society in the early Iron Age; the emergence and evolution of the Greek city-state; social tensions and the development of classical democracy; ideologies of militarism, empire, and civil strife. Writing-emphasis course. (Same as History 301.)

302 History of Classical and Hellenistic Greece (3) Greek history from the Persian Wars to the Achaean War, with an emphasis on the 5th-4th centuries BCE. Readings and discussion to include: Classical Athens and Sparta; the Peloponnesian War; crises of the Greek city-states; the rise of Macedon; Alexander the Great and the expansion of the Greek world; monarchy; the arrival of Rome in the eastern Mediterranean. Writing-emphasis course. (Same as History 302.)
303 History of the Roman Republic (3) (Same as History 303.)
304 History of the Roman Empire (3) (Same as History 304.)
305 History of the Late Roman Empire (3) (Same as History 305.)
351 Cicero and Sallust (3)
(Re) Prerequisite(s): 252.
352 Roman Lyric Poetry (3) Poetry of Catullus, Horace, and the elegists.
(Re) Prerequisite(s): 351.
362 Roman Law (3) This course covers the historical development of Roman law in the Classical period (50 BC-250 AD) with particular attention to the analysis of case-law in the areas of contract, property, or delict. (Same as Legal Studies 362.)
381 Greek Civilization (3) Major aspects of ancient Greek civilization: religion, fine arts, political life, pan-Mediterranean relations, the prominence of Athens; the role of modern archaeology in interpretation; emphasis on the 8th and 6th centuries BC. Writing-emphasis course.
382 Roman Civilization (3) Major aspects of ancient Roman civilization: political institutions, art and architecture, history, culture and daily life, emphasizing the late Republic and early Empire. Writing-emphasis course.
383 Women in the Greek and Roman World (3) The condition of women in the apparently male-dominated world of Classical Greece and Classical Rome. Evidence from literature, vase paintings, and other arts is examined from the age of Homer to the 2nd century AD, with emphasis on Attic and Roman Italy in the 1st and 2nd centuries AD. Writing-emphasis course. (Same as Women's Studies 383.)
401 Greek Poetry (3) Epic, lyric, drama. Authors vary.
(Re) Prerequisite(s): 261.
402 Greek Prose (3) History, philosophy, and oratory. Authors vary.
(Re) Prerequisite(s): 261.
405 Selected Readings from Greek Literature (3) For advanced students in Greek. The study of plays, the historical writings, the poetry of ancient Greece in the original Greek.
Repeatability: May be repeated. Maximum 9 hours.
(Re) Prerequisite(s): 261.
406 Selected Readings from Greek Literature (3) For advanced students in Greek. The study of plays, the historical writings, the poetry of ancient Greece in the original Greek.
Repeatability: May be repeated. Maximum 9 hours.
(Re) Prerequisite(s): 261.
414 Cicero and Techniques of Latin Prose Composition (3) For advanced students in Latin. Practice in prose composition, the writings of Cicero the model.
(Re) Prerequisite(s): 351 or 352.
431 Selected Readings from Latin Literature (3) For advanced students in Latin. Oratory, historical writings, and poetry of ancient Rome in the original Latin.
Repeatability: May be repeated. Maximum 9 hours.
(Re) Prerequisite(s): 351 or 352.
432 Selected Readings from Latin Literature (3) For advanced students in Latin. Oratory, historical writings and poetry of ancient Rome in the original Latin.
Repeatability: May be repeated. Maximum 9 hours.
(Re) Prerequisite(s): 351 or 352.
435 Medieval Latin (3) Selected readings from the Latin prose and poetry of medieval Europe.
(Re) Prerequisite(s): 351 or 352.
436 Cities and Sanctuaries of the Greek and Roman World (3) Major cities and sanctuaries in Greece, the Greek colonies, and the Roman Empire. Approach is archaeological, focusing on physical evidence — landscape, architecture and artifacts — as well as description of ancient authors. Cities include various types — planned and unplanned, seaports, caravan centers, government and commercial centers. The sanctuaries also vary in function including prophetic centers, athletic centers, theater centers, and healing centers. Writing-emphasis course. (Same as Anthropology 436.)
441 Special Topics in Classical Civilization (3) Topics in art, literature, religion, and society of Greece and Rome.
Repeatability: May be repeated. Maximum 9 hours.
442 Intensive Survey of the Archaeology of the Prehistoric Aegean (3) Survey of archaeology and art of the Aegean from the earliest humans to the rise of the Greek polis in the 8th century BC. Highlights include early Cycladic art, Minoan and Mycenaean complex societies. Thera, cultural interconnections with Egypt and the Near East, and the Trojan War. Emphasis on anthropological and modern art-historical approaches. Writing-emphasis course. (Same as Anthropology 442.)
443 Intensive Survey of the Archaeology of Greece (3) Survey of the archaeology and art of Greece and the Greek-speaking areas from the Orientalizing through Hellenistic periods (c. 700–30 BC). Developments in architecture, sculpture, and vase painting seen in the context of changes in society. Archaeological evidence for daily life, economy, and political institutions. Writing-emphasis course. (Same as Anthropology 443.)
444 Intensive Survey of the Archaeology of Etruria and Rome (3) Survey of the archaeology of Italy and the Roman World from prehistoric times to the fall of the Roman Empire (1000 BC–AD 476). Highlights are the rise and decline of Etruscan culture, the development of Roman architecture, art, and urban planning, art and architecture used for political propaganda, and Roman cosmopolitan culture during the Empire. Writing-emphasis course. (Same as Anthropology 444.)
491 Foreign Study (1-15)
Repeatability: May be repeated. Maximum 15 hours.
492 Off-Campus Study (1-15)
Repeatability: May be repeated. Maximum 15 hours.
493 Independent Study (1-15)
Repeatability: May be repeated. Maximum 15 hours.

College Scholars Honors (509)
317 College Scholars Seminar (1-3) (Same as Anthropology 317) or (Same as Anthropology 318) is required of all College Scholars each year and may be taken in any order.
Grading Restriction: Satisfactory/No Credit grading only.
Repeatability: May be repeated. Maximum 8 hours.
Registration Restriction(s): College scholars major.
318 College Scholars Seminar (1-3) (Same as Anthropology 317) or (Same as Anthropology 318) is required of all College Scholars each year and may be taken in any order.
Grading Restriction: Satisfactory/No Credit grading only.
Repeatability: May be repeated. Maximum 8 hours.
Registration Restriction(s): College scholars major.
491 College Honors: Foreign Study (1-15)
Repeatability: May be repeated. Maximum 15 hours.
Registration Restriction(s): College scholars major.
492 College Honors: Off-Campus Study (1-15)
Repeatability: May be repeated. Maximum 15 hours.
Registration Restriction(s): College scholars major.
493 College Honors: Independent Study (1-15)
Repeatability: May be repeated. Maximum 15 hours.
Registration Restriction(s): College scholars major.
498 Honors: College Scholars Studies (2-12) Designed for College Scholars working on senior thesis, project, or performance.
Repeatability: May be repeated. Maximum 16 hours.
Registration Restriction(s): College scholars major.

Communication and Information (248)
150 Communication in an Information Age (3) Overview of human, mass, and mediated communication. Introduction to finding, organizing, and evaluating information.

Communication Studies (250)
201 Introduction to Communication Studies (3) Fundamental theories and practices with particular reference to interpersonal, group, organizational, and public communication.
(Re) Prerequisite(s): Communication and Information 150.
207 Honors: Introduction to Communication Studies (3) Analysis and exploration of the fundamental theories and practices in communication studies.
(Re) Prerequisite(s): Communication and Information 150.
210 Public Speaking (3) Preparation and delivery of informative and persuasive speeches. Topics include research, organization, adapting to an audience, topic selection, reasoning, and evaluating the discourse of others. (OC)
220 Interpersonal Communication (3) Process by which thoughts, feelings, and actions affect and are affected by the face-to-face communication situation.
240 Business and Professional Communication (3) Basic principles of communication within organizations. Topics and activities may include organizational/communication theory, group problem solving, case studies, interviewing, and formal presentations. (OC)
250 Advanced Public Speaking (3) Theory and practice of informative and persuasive speaking.
(Re) Prerequisite(s): 210 or 240.
Communication and Society (3) Study of communication strategies and public opinion, with emphasis on communication media; posters, film, songs, demonstrations, drama, and public address.

Argumentation and Debate (3) Reasoned decision-making with emphasis on analysis, evidence, reasoning, constructing and refuting arguments.

Intercollegiate Forensics (1) For students actively participating in intercollegiate debate.

Nonverbal Communication (3) Exploration of nonverbal communication from human communication perspective; origins and research, usage and coding of nonverbal behavior, research strategies, and theoretical approaches.

Persuasion (3) Methods which contribute to effective and ineffective persuasion. Topics include credibility, message construction, and receiver variables.

Interpersonal Communication Processes (3) Social dimensions of interpersonal communication and relationships.

Group Communication (3) Small group decision-making; evidence, argumentation, leadership, roles, and norms as they affect critical thinking in groups.

Research Methods in Communication Studies (3) Survey of contemporary methods used for research in communication studies. Emphasis on interpreting and evaluating communication research reports.

Communication Theory (3) Analysis and critique of fundamental theories with particular reference to interpersonal, group, organizational, and public communication.

Intercollegiate Forensics (1) For students actively participating in intercollegiate debate.

Intercollegiate Forensics (1) For students actively participating in intercollegiate debate.

Honors Seminar (1) Required of students enrolled in the Honors program.

Topics in Communication Studies (3) Repeatability: May be repeated. Maximum 9 hours.

Communication and Conflict (3) Communication as a significant factor in the development, management, and resolution of conflict at the interpersonal, small group, organizational, or societal levels.

Interpersonal Health Communication (3) Study of the communication processes utilized by political candidates, office holders, and social movement organizers.

Intercollegiate Debate.

Intercollegiate Debate.

455 Political Persuasion (3) Study of the communication processes utilized by political candidates, office holders, and social movement organizers.

466 Rhetoric of the Women's Rights Movement to 1930 (3) Historical and critical study of public address in the campaign for women's rights in the United States from the 1830s to the 1920s. Writing-emphasis course. (Same as Women's Studies 466.)

469 Freedom of Speech (3) Historical and philosophical perspectives on freedom of expression; legal issues in free speech controversies in the U.S. Writing-emphasis course. (Same as American Studies 469; Legal Studies 469.)

476 Rhetoric of the Contemporary Feminist Movement (3) Historical and critical study of rhetoric in the campaign for women's rights in the United States from the 1940s to present. Writing-emphasis course. (Same as Women's Studies 476.)

491 Foreign Study (1-6) Participation in school-sponsored study-abroad program. Application forms and proposal deadlines available in school office.

271 Intercollegiate Forensics (1) For students actively participating in intercollegiate debate.

Registration Restriction(s): 2.75 GPA; minimum student level – junior.

492 Off-Campus Study (1-15) Repeatability: May be repeated. Maximum 15 hours.

493 Independent Study (1-6) Selected readings/research in an area of communication studies to be determined by the student in consultation with supervising faculty member and, ordinarily, in an area of study not covered by school curriculum. Application forms and proposal deadlines available in school office.

Senior Honors Thesis (3) Required of students enrolled in the Honors program.

Senior Honors Thesis (3) Required of students enrolled in the Honors program.

Proseminar in Communication Studies (3) Major theoretical perspectives in communication studies, their interrelationships and applications; consideration of the significance and ethical implications of communication studies in modern society.

Honors Seminar (3) In-depth survey of communication research topics. Topics rotate among health, interpersonal, organizational and team, and public communication.

Registration Restriction(s): 3.0 GPA; minimum student level – junior.

Communication and Conflict (3) Communication as a significant factor in the development, management, and resolution of conflict at the interpersonal, small group, organizational, or societal levels.

270 Argumentation and Debate (3) Reasoned decision-making with emphasis on analysis, evidence, reasoning, constructing and refuting arguments.

Intercollegiate Forensics (1) For students actively participating in intercollegiate debate.

Intercollegiate Debate.

Registration Restriction(s): 3.0 GPA; minimum student level – junior.

Senior Honors Thesis (3) Required of students enrolled in the Honors program.

Comparative and Experimental Medicine – Graduate School of Medicine (262)

Undergraduate Research Participation (1-3) Experience in active biomedical research projects under supervision of faculty. Students in pre-medicine and other biology majors may conduct research projects within designated areas.

Grading Restriction: Satisfactory/No Credit grading only.

Comparative Literature (260)

Cross-Cultural Perspectives in World Literature (3) Literary perspectives and values in different time periods and cultures approached from an international context and including an introduction to the theory, methods, and objectives of comparative literature. Variable content. Writing-emphasis course.

Special Topics in Comparative Literature (3) Repeatability: May be repeated. Maximum 9 hours.

Comparative and Experimental Medicine – Graduate School of Medicine (262)

Twentieth-Century International Novel (3) (See English 452.)

Modern Drama, 1880-1945 (3) (See English 454.)

Independent Study (1-6) Repeatability: May be repeated. Maximum 6 hours.
Computer Science (266)

100 Introduction to Computers and Computing (3) Basic concepts of computer hardware and software. Microcomputer systems and workstations. Networking and the Internet. The interdisciplinary science of computing. (QR)

Contact Hour Distribution: 2-hour lab required.
Credit Restriction: May not be applied toward the computer science major or minor.

102 Introduction to Computer Science (4) Problem solving and algorithm development. Organization and characteristics of modern digital computers with emphasis on developing good programming habits, building abstractions with procedures and data, and programming in a modern computer language. (QR)

Credit Restriction: Students who have received credit for 140 or 160 may not receive credit for 102 without consent of instructor.

140 Data Structures (4) Advanced problem solving and algorithm development, structured programming, data structures and applications, I/O techniques, lists, queues, trees, algorithms, files.

Contact Hour Distribution: 3-hour lab required.
(Re)Prerequisite(s): 102.

160 Computer Organization (4) Number systems, Boolean algebra, combinatorial and sequential circuits, registers, processor functional units and control, pipelining, memory and caching, stored program computing, memory management, computer system organization, assembly language programming.

Contact Hour Distribution: 3-hour lab required.
(Re)Prerequisite(s): 102.

291 Lower-Division Special Topics (1-3) Topics vary. Programming languages, operating systems and application software packages. Repeatability: May be repeated. Maximum 9 hours.

300 Scripts and Utilities (1) Practical tools available under Unix to enable students to become more efficient in performing labs and research projects. Topics to be covered include: sh, csh, grep, find, sort, awk, ed, sed, awk, perl, python, make, rcs, jgraph, gcc/cpp, purify, quantify.

Grading Restriction: Satisfactory/No Credit grading only.
(Re)Prerequisite(s): 140.

302 Fundamental Algorithms (3) Design, analysis, and implementation of fundamental algorithms, such as sorting and searching, and their data structures.
Contact Hour Distribution: 3-hour lab required.
(Re)Prerequisite(s): 140 and 160.

311 Discrete Structures (3) Equivalence relations, partial orderings. Combinations, permutations, analysis of algorithms. Finite automata and regular languages.
(Re)Prerequisite(s): 140 and Mathematics 300.
(De)Prerequisite(s): 160.

340 Foundations of Software Engineering (3) Principles of analysis and design of information systems. Principles of program design and verification, formal objects, formal specifications.
Contact Hour Distribution: 3-hour lab required.
(Re)Prerequisite(s): 311.

350 Introduction to Technical Computing (3) For students in the sciences, engineering, or mathematics. Basic ideas of algorithm design and data structures using a high-level technical language in an interactive environment. Topics may include data analysis, plotting, visualization, and numerical computation.
Contact Hour Distribution: 2-hour lab required.
Credit Restriction: Does not fulfill any requirements for the computer science major.
(Re)Prerequisite(s): Mathematics 142.

360 Systems Programming (3) Introduction to user-level systems programming, file control, process control, memory management, system utilities, network programming.
Contact Hour Distribution: 3-hour lab required.
(Re)Prerequisite(s): 302.

365 Programming Languages and Systems (3) Language paradigms (procedural, functional, object-oriented, logic), language design and implementation issues and language issues related to parallelism.
(Re)Prerequisite(s): 302.
Registration Restriction(s): Computer science major.

370 Introduction to Scientific Computing (3) The design, analysis, and implementation of numerical algorithms for solving problems in science and engineering. Emphasis on program design, including data structures, computational complexity, scientific computing environments, and high-performance software packages.
Contact Hour Distribution: 3-hour lab required.
Credit Restriction: Students may not receive credit for both Computer Science 370 and Mathematics 371.
(Re)Prerequisite(s): 140 and Mathematics 251.
(De)Prerequisite(s): 160.

380 Theory of Computation (3) Countability and diagonalization. Finite automata and regular sets. Push-down automata and context-free languages. Introduction to Turing machines and undecidability.
(Re)Prerequisite(s): 311.

Registration Restriction(s): Minimum student level – senior.

420 Advanced Topics in Machine Intelligence (3) Topics such as search, learning, expert systems, neural networks, pattern recognition and natural language processing. Emphasis on faculty research.
Repeatability: May be repeated. Maximum 9 hours.
Recommended Background: Completion of core courses.

430 Advanced Topics in Hardware Systems (3) Topics such as architecture, parallel processors, microprogramming, networks and communications, emphasis on faculty research.
Repeatability: May be repeated. Maximum 9 hours.
Recommended Background: Completion of core courses.

460 Advanced Topics in Software Systems (3) Topics such as operating systems, compilers, parallel computation, software engineering, database systems and programming languages. Emphasis on faculty research.
Repeatability: May be repeated. Maximum 9 hours.
Recommended Background: Completion of core courses.

470 Advanced Topics in Scientific Computation (3) Topics such as numerical methods, supercomputers and computer modeling and simulation of physical systems. Emphasis on faculty research.
Repeatability: May be repeated. Maximum 9 hours.
Recommended Background: Completion of core courses.

471 Numerical Analysis (3) (See Mathematics 471.)

472 Numerical Algebra (3) (See Mathematics 472.)

480 Advanced Topics in Theoretical Computer Science (3) Topics such as theory of computation, complexity theory, formal languages and graph theory and its applications. Emphasis on faculty research.
Repeatability: May be repeated. Maximum 9 hours.
Recommended Background: Completion of core courses.

493 Independent Study (1-15) Special project in area of student’s primary interest. Directed by Computer Science faculty, perhaps jointly with student’s faculty advisor. Intended for students with a specific project to pursue in conjunction with a faculty member. Project may be from a department other than Computer Science, in which case a faculty member from the appropriate department will help oversee the project.
Repeatability: May be repeated. Maximum 15 hours.
Credit Restriction: Maximum of 6 hours may be applied to the major.
Registration Permission: Consent of instructor.

494 Special Topics in Computer Science (1-3) Repeatability: May be repeated. Maximum 9 hours.

Counselor Education (255)

205 Student Development (1-3) Practice in acquiring knowledge and skill in areas such as interpersonal relations, career decision-making, communication and self-awareness. Individual and small-group format.
Grading Restriction: Satisfactory/No Credit grading only.
Repeatability: May be repeated. Maximum 6 hours.

206 Facilitation of Technical Work Teams (3) Psychological and cultural dynamics of technical work team performance. Supervised experience in leading work teams.
Grading Restriction: Letter grade only.
Registration Restriction(s): Students in the College of Engineering; minimum student level – sophomore.

212 Career and Personal Development (3) Systematic approaches to facilitating career development and life planning.

215 Learning Skills and Study Systems (3) Approaches to enhancing academic performance through study skills, efficient reading and understanding of personnel factors.

Grading Restriction: Letter grade only.
Registration Restriction(s): Students in the College of Engineering; minimum student level – sophomore.

404 Special Topics (1-3) Instructor initiated course offered at convenience of the department on various topics of current interest.
Repeatability: May be repeated. Maximum 15 hours.
406 Engineering Communication and Performance Field Work (3)  
Capstone experience for the engineering communication and performance minor.  
Grading Restriction: Satisfactory/No Credit grading only.  
(RE) Prerequisite(s): 306.

410 Sex Role Development: Implications for Education and Counseling (3)  
Theories and research concerning the development of sexual role and its relevance in educational and counseling settings.  
(Same as Women's Studies 410.)

431 Personality and Mental Health (3)  
Perspectives of mental health  
(Same as Educational Psychology 431.)

480 Interviewing and Counseling Techniques (3)  
An introduction to basic helping skills necessary to the preparation of counselors, teachers, and others involved in human service delivery.

493 Independent Study (1-5)  
Independent investigation of problems in educational and counseling psychology.  
Repeatability: May be repeated. Maximum 15 hours.

Cultural Studies in Education (271)  
400 Professional Studies: Teachers, School, and Society (2)  
Focus on roles and responsibilities of teachers, on how schools are organized and the relationship between the schools and the broader society.

Dance (274)  
101 Practicum: Dance Production (1)  
Supervised technical and promotional production aspects of university dance company.  
Repeatability: May be repeated. Maximum 2 hours.

201 Practicum: Dance Performance (1-2)  
Preparation and presentation of university dance company performances.  
Repeatability: May be repeated. Maximum 16 hours.  
Comment(s): Audition required.

210 Ballet: Level I (2)  
Instruction and practice in elementary classical ballet techniques.  
Repeatability: May be repeated. Maximum 4 hours.

220 Jazz: Level I (2)  
Instruction and practice in elementary jazz dance styles and techniques.  
Repeatability: May be repeated. Maximum 4 hours.

230 Modern: Level I (2)  
Instruction and practice in elementary modern dance techniques.  
Repeatability: May be repeated. Maximum 4 hours.

240 Tap: Level I (2)  
Instruction and practice in elementary tap dance techniques.  
Repeatability: May be repeated. Maximum 4 hours.

310 Ballet: Level II (2)  
Instruction and practice in intermediate classical ballet techniques.  
Repeatability: May be repeated. Maximum 12 hours.

320 Jazz: Level II (2)  
Instruction and practice in intermediate jazz dance styles and techniques.  
Repeatability: May be repeated. Maximum 12 hours.

330 Modern: Level II (2)  
Instruction and practice in intermediate modern dance styles and techniques.  
Repeatability: May be repeated. Maximum 12 hours.

340 Tap: Level II (2)  
Instruction and practice in intermediate tap dance techniques.  
Repeatability: May be repeated. Maximum 12 hours.

380 Special Topics (1-3)  
Selected disciplinary or professional areas of dance.  
Repeatability: May be repeated.

410 Ballet: Level III (2)  
Instruction and practice in advanced classical ballet techniques.  
Repeatability: May be repeated. Maximum 16 hours.

415 Teaching Creative Dance for Children (2)  
Theory, methods, materials and practical experience in the presentation and integration of creative dance in grades K-6. A mini-teaching experience is involved in this class.

420 Jazz: Level III (2)  
Instruction and practice in advanced jazz and musical theater dance styles and techniques.  
Repeatability: May be repeated. Maximum 16 hours.

430 Modern: Level III (2)  
Instruction and practice in advanced modern dance techniques.  
Repeatability: May be repeated. Maximum 16 hours.

440 Composition I (2)  
Choreographic skills emphasizing the basic techniques and concepts of dance composition. This course focuses on the choreography of solos and duets.  
Recommended Background: Minimum of 4 hours of 310, 320, 330, 340, 410, 420, 430.

445 Composition II (2)  
Choreographic skills emphasizing the advanced techniques and concepts of dance composition. This course will focus on the choreography of group works and the technical aspects of production.  
(RE) Corequisite(s): 440.

480 Dance History through the 19th Century (3)  
Survey of the dance of various societies and cultures from pre-history through the 19th century.

493 Directed Independent Studies (1-3)  
Independent study in a specialized area with dance.  
Repeatability: May be repeated. Maximum 9 hours.

495 Dance Pedagogy (3)  
Principles and methods of the teaching of dance with practical application in a mini-teaching experience.  
Registration Restriction(s): Minimum student level – junior.

Ecology and Evolutionary Biology (278)  
202 Ecology and Evolutionary Biology Colloquium (1)  
Weekly discussions of current topics in ecology, behavior, and evolutionary biology including undergraduate research and career opportunities, for declared and potential departmental majors. Course familiarizes students with the contemporary research and with its applications and introduces them to departmental faculty and resources.  
Grading Restriction: Satisfactory/No Credit grading only.  
(DE) Prerequisite(s): Biology 130 or Biology 101 and 102 or Biology 111 and 112.

240 Human Anatomy (4)  
Gross and microanatomy of the human.  
Credit Restriction: May not be applied toward the ecology and evolutionary biology concentration.  
Contact Hour Distribution: 3 hours lecture and 3 hours lab.  
(DE) Prerequisite(s): Biology 130 or Biology 101 and 102 or Biology 111 and 112.

304 Socio-Economic Impact of Plants (3)  
Significance of plants in origin and development of human cultures, evolution of cultivated plants, and role of plants in present civilization.  
Contact Hour Distribution: Includes occasional field trips.  
Credit Restriction: May not be applied toward the ecology and evolutionary biology concentration.

305 Evolution and Society (3)  
Issues and controversies surrounding the teaching and learning of evolution in America today. Writing-emphasis course.  
(Same as Anthropology 305.)  
Credit Restriction: May not be applied toward the ecology and evolutionary biology concentration.  
(DE) Prerequisite(s): Biology 130 or Biology 101 and 102 or Biology 111 and 112 or Anthropology 110.

309 Biology of Human Affairs (3)  
Current topics in biology and their public relevance, especially the interaction between biology and government. Issues include conservation, health, agriculture, national parks, population, etc.

330 Field Botany (3)  
Principles of taxonomy, basic ecological concepts and identification, recognition, collection and preservation of local, native and naturalized plants.  
(Re) Prerequisite(s): Biology 140.

360 Comparative Invertebrate Biology (4)  
Origins, phylogeny and functional anatomy of invertebrates with emphasis on diversity of life forms and adaptations to specific local environments.  
Contact Hour Distribution: 2 hours and 2 labs.

370 Ethology and Sociobiology (3)  
Basic concepts in the evolutionary approach to behavior, including applications to psychology, the social sciences, and the humanities.  
(Same as Psychology 370.)

400 Undergraduate Research (1-2)  
Research projects under supervision of faculty.  
Repeatability: May be repeated. Maximum 8 hours.  
Credit Restriction: Maximum of 4 hours may be applied toward the biological sciences major.  
Registration Permission: Consent of instructor.

402 Practicum in Ecology and Evolutionary Biology (2)  
Participation in individualized practical applications of ecology, behavior, and evolutionary biology in community, government, and industry.  
(DE) Prerequisite(s): Biology 240 and Biology 250.  
Registration Permission: Consent of instructor.

407 Senior Honors Thesis (3)  
Written preparation and oral presentation of faculty-supervised student research.  
(Re) Prerequisite(s): 400.
409 Perspectives in Ecology and Evolutionary Biology (3) Forefront considerations of ecology, behavior, and evolutionary biology. Emphasis on current developments for applications, including societal and economic impacts and moral and ethical implications. An oral presentation and a referenced library-research essay are required. Writing-emphasis course.

410 Plant Evolutionary Morphology (4) Morphology, development, natural history, and evolution of fungi, cyanobacteria, non-vascular plants (algae and bryophytes), and vascular plants (ferns, fern allies, gymnosperms, and flowering plants).

(DE) Prerequisite(s): Biology 102 or Biology 111 or Biology 130.

411 Minicourse in Ecology and Evolutionary Biology (2) Selected advanced topics in ecology, behavior, and evolutionary biology, concentrated in time and subject matter. Repeatability: May be repeated. Maximum 4 hours. Credit Restriction: Maximum 4 hours may be applied toward the departmental major.

Comment(s): See Timetable for prerequisite(s).

412 Minicourse in Ecology and Evolutionary Biology (2) Selected advanced topics in ecology, behavior, and evolutionary biology, concentrated in time and subject matter. Repeatability: May be repeated. Maximum 4 hours. Credit Restriction: Maximum of 4 hours may be applied toward the departmental major.

Comment(s): See Timetable for prerequisite(s).

414 Plant Anatomy (3) Cells, tissues and organs, their development in vegetative and reproductive structures of vascular plants. Emphasis on seed plants.

(DE) Prerequisite(s): Biology 111 and 112 or Biology 130 and 140.

419 Science as Method (3) The dynamic process of scientific discovery, as opposed to a static body of knowledge. Topics included will be comparisons of science, nonscience, and pseudoscience, successful and unsuccessful science, the ethics of scientific research, and the philosophical aspects of the scientific enterprise. Implications for teaching and writing about science will be covered. (Same as Philosophy 419.) Recommended Background: Introductory science or philosophy course.

421 Community Ecology (3) Interactions between individuals, species, communities and environments, including competition, coexistence, predation, herbivory, causes and consequences of biological diversity; biological invasions; application of advanced sampling and analysis techniques; local to global environmental change. Includes periodic field trips or laboratories.

(RE) Prerequisite(s): Biology 250.

433 Plant Ecology (3) Interactions between individuals, species, communities and their environments. Circulation of energy and matter in ecosystems. Includes weekly field trips or laboratory periods and at least two weekend field trips.

(RE) Prerequisite(s): Biology 250.

446 Introduction to Oceanography (4) Basic oceanography, including physical, chemical, geological and biological processes and patterns. Emphasis on oceanic sub-systems such as upwellings, polar oceans, hydrothermal vents, gyres, coral reefs, estuaries, and coastal regions. Field trip to coast required.

(RE) Prerequisite(s): Chemistry 130 and Biology 250.

450 Comparative Animal Behavior (3) Principles and methods of ethology with emphasis on ecological, developmental, physiological and evolutionary aspects. (Same as Psychology 450.)

459 Comparative Animal Behavior Laboratory (3) Introduction to observational and experimental research in ethology. (Same as Psychology 459.)

(RE) Corequisite(s): 450.


Contact Hour Distribution: 3 hours lecture and 2 hours lab/discussion.

(RE) Prerequisite(s): Biology 240.

461 Special Topics in Organismal Biology (3) Evolution, ecology, biogeography, classification, and anatomy of selected animal and plant taxa. Repeatability: May be repeated if topic differs. Maximum 12 hours.

(RE) Prerequisite(s): Biology 240.

465 Evolutionary and Functional Vertebrate Morphology (4) A detailed study of the structure and function of the vertebrates. Analysis of evolutionary patterns of vertebrates using the comparative method and data from anatomy, developmental biology and functional morphology within a phylogenetic context. Laboratory requires intensive dissection to learn vertebrate anatomy, evolutionary trends and specializations.

Contact Hour Distribution: 2 hours and 2 labs.

(RE) Prerequisite(s): Biology 140.

470 Aquatic Ecology (3) Introduction to the physio-chemical nature of inland waters with description of biotic communities and their interrelations.

Contact Hour Distribution: 2 hours and 1 lab.

(RE) Prerequisite(s): Chemistry 130 and Biology 250.

474 Ichthyology (4) Evolution, classification, collection and identification, distribution and biology of fishes with emphasis on freshwater fauna of eastern North America.

Contact Hour Distribution: 2 hours and 2 labs.

(RE) Prerequisite(s): Biology 250.

475 Field Ornithology (2) Intensive one week field course intended to introduce students to the behavior, ecology, and field identification of birds.

(RE) Prerequisite(s): Biology 250.

484 Conservation Biology (3) Application of principles and techniques of ecological research to conservation of biological diversity at genetic, population, community, and ecosystem levels.

(RE) Prerequisite(s): Biology 240 and Biology 250.

490 Undergraduate Seminar (1) Student oral presentations of topics related to developmental and working concepts of ecology and evolution. Repeatability: May be repeated. Maximum 2 hours.

Registration Restriction(s): Biological sciences major; minimum student level – junior.

493 Independent Study (1-9) Independent study under the direction of a faculty member. Repeatability: May be repeated. Maximum 9 hours.

Credit Restriction: Maximum of 3 hours may be applied toward the major.

Registration Permission: Consent of instructor.

495 Evolutionary Ecology (3) Basic concepts in evolutionary and ecological genetics. Biogeography, climate, population genetics, evolution and natural selection, population growth and regulation, competition, niche, experimental ecology, predation, phylogenetics in ecology, biodiversity and conservation.

Credit Restriction: Students may not receive credit for both 495 and 595.

(RE) Prerequisite(s): Biology 250.

Economics (283)

201 Introductory Economics: A Survey Course (4) Theory of consumer behavior, theory of firms, supply and demand, costs of production, market models, national income and employment theory, money and banking, monetary and fiscal policy, debt, and international economics.

(SS)

207 Honors: Introductory Economics (4) Honors course for students of superior ability and interest. Students accepted on the basis of their records. (SS)

Comment(s): 28 ACT composite or 1250 composite SAT required.

300 Special Topics I (3) Variable topics treated at the introductory level.

(RE) Prerequisite(s): 201 or 207.

311 Intermediate Microeconomics (3) Theories of consumer behavior, production and costs of price and behavior of firms in perfectly competitive, monopolistic and imperfectly competitive markets, input prices, income distribution, welfare and general equilibrium.

Credit Restriction: Students may not receive credit for both Economics 311 and 312.

(RE) Prerequisite(s): 201 and Statistics 201.

312 Managerial Economics (3) Microeconomic fundamentals of managerial decision-making and strategy intended for business students. Topics include supply and demand interactions, production and cost, consumer behavior and demand, optimization, market structure, pricing strategy, risk and uncertainty, and game theory.

Credit Restriction: Students may not receive credit for both Economics 311 and 312.

(RE) Prerequisite(s): 201 and Statistics 201.

313 Intermediate Macroeconomics (3) Measurement of income and prices, aggregate demand, output, employment, price determination, inflation, business fluctuations, fiscal and monetary policies and growth.

(RE) Prerequisite(s): 201 and Statistics 201.

Registration Restriction(s): Majors in the College of Business Administration.

322 The Global Economy: Trade and Development (3) Analyses of international trade and finance, and their effects on economic development. Course utilizes a policy-oriented approach drawing upon introductory economic principles. Overview of relevant topics such as theories of economic development, poverty and income inequality, comparative advantage and commodity composition of trade, regional economic integration, foreign investment, finance, and debt. Writing-emphasis course.

Credit Restriction: Students may not receive credit for both Economics 322 and 329.

(RE) Prerequisite(s): 201 or 207.

Credit Restriction: Students may not receive credit for both 322 and 329.

(Re) Prerequisite(s): Business Administration 361.

Comment(s): Students must be in the international business collateral or dual concentration.

Registration Restriction(s): Majors in the College of Business Administration.

331 Government and Business (3) Antitrust and regulatory economics problems in regulation and social control of business organization, oligopoly models. Writing-emphasis course.

(Re) Prerequisite(s): 201 or 207.

333 Law and Economics (3) Analysis of legal decisions and rulings as they affect the allocation and distribution of resources in the economy. Topics include property law, contracts, torts and administrative law, with applications drawn from various areas in economics and case law. Writing-emphasis course.

(Re) Prerequisite(s): 201 or 207.

351 Monetary Economics (3) Role of money in the economy, Federal Reserve System. Evaluation of money policy, U.S. depository institutions and money supply process.

(Re) Corequisite(s): 313.

361 Regional and Urban Economics (3) Overview of regional differences. Theory of industrial and agricultural location and human migration, economic basis for land use patterns, central places, and urban form, regional and urban structure, growth, and methods of analysis, examination of urban problems. Writing-emphasis course.

(Re) Prerequisite(s): 201 or 207.

362 Environmental and Natural Resource Policy (3) Application of introductory microeconomic principles to contemporary environmental and natural resource policy issues such as air pollution, global climate change, population growth, forest management, and endangered species protection. Writing-emphasis course.

(Re) Prerequisite(s): 201 or 207.

371 Public Finance: Expenditure Analysis (3) Problems of collective consumption, external effects, public investment, social decision making. Writing-emphasis course.

(Re) Prerequisite(s): 201 or 207.

377 Introduction to Econometrics (3) Introductory probability, statistics, and econometrics from an economic perspective, with emphasis on skills related to gathering, managing, processing, presenting, and interpreting economic data. Includes the use of statistical software in hands-on research projects. Considers common econometric problems such as multicollinearity, heteroscedasticity, and autocorrelation.

(Re) Corequisite(s): 311 or 313.

381 Special Topics II (3) Variable topics for advanced students.

(Re) Prerequisites: 311 and 313.

Registration permission: Consent of instructor.

413 Macroeconomics: Business Cycles and Growth (3) Analysis of macroeconomic short-run fluctuations and long-term growth. Coverage will also include the role of monetary and fiscal policy on aggregate output, employment, and interest rates.

(Re) Prerequisite(s): 313.

421 International Economics (3) Balance of payments, exchange rate determination, monetary and fiscal policies, monetary arrangements, comparative advantage, tariff and non-tariff trade distortions, protectionist arguments, and regional integration, with analyses based on intermediate-level economic theory.

(Re) Prerequisite(s): 311.

435 Industrial Organization (3) Monopoly and competition in United States economy, interrelationship of market structure, business behavior, and economic performance.

(Re) Prerequisite(s): 311.

436 Economics of Health and Health Care (3) Medical care and health status; demand for medical care and insurance; physician and hospital supplies; government provision of services and insurance; regulation of health care markets. Writing-emphasis course.

(Re) Prerequisite(s): 311.

441 Labor Economics (3) Extension of economic principles to labor markets, public policy questions, demand and supply, theory of wage differentials, unemployment, unions in the private sector, investment in individuals, education and training, mobility.

(Re) Prerequisite(s): 311.

463 Environmental Economics (3) Economic foundations for public decision-making about environmental resources, utilizing tools from intermediate microeconomic theory. Emphasis on the welfare economic approach for the provision of public goods, with specific emphasis on market failure, externalities, benefit-cost analysis, and methods for valuing environmental resources and human health.

(Re) Prerequisite(s): 311.

472 Public Finance: Taxation and Fiscal Federalism (3) Analysis of federal, state, and local government revenue systems, to include individual and corporate income, sales, and property taxes and other tax and non-tax revenue sources. Consideration of current policy issues and relations among various levels of government.

(Re) Prerequisite: 311.

482 Introduction to Mathematical Economics (3) Application of basic mathematical tools (e.g., calculus, matrix algebra, etc.) to major topics of economic theory.

(Re) Prerequisite(s): 311.

Comment(s): Grade of B or better in 311 is required.

492 Economics Off-Campus Study (1-3) Internship or other supervised economic experience with firm, government agency or other relevant organization. Student must seek approval from a faculty member prior to starting work, register for credit in the first semester following work completion, and write a paper describing the economic nature of the work performed.

Grading Restriction: Satisfactory/No Credit grading only.

Repeatability: May be repeated. Maximum 3 hours.

(Re) Prerequisite(s): 311 and 313.

Registration Restriction(s): Economics major.

Registration Permission: Consent of faculty member.

493 Independent Study (1-3) Directed research on subjects of mutual interest to student and faculty member. Student must meet with the faculty member before registering.

Repeatability: May be repeated. Maximum 3 hours.

(Re) Prerequisite(s): 311 and 313.

Comment(s): GPA of 3.0 or better in economics courses required.

Registration Restriction(s): Economics major.

Registration Permission: Consent of faculty member.

498 Honors Thesis (3) Completion of undergraduate thesis.

Registration Restriction(s): Honors economics concentration.

Registration Permission: Consent of faculty advisor.

499 Analysis of Economic Problems (3) Study of the effects of economics on modern society and the practice of economics from a value-oriented perspective. Students will integrate learning from all fields of economics and other disciplines where appropriate, and work as teams to prepare economic analyses of selected economic problems facing modern society. Writing-emphasis course.

(Re) Prerequisite(s): 311 and 313.

Recommended Background: 9 other hours of upper-division economics courses.

Registration Restriction(s): Economics major.

Education (280)

100 Special Topics (1-3) Study in selected disciplinary or professional areas represented in the College of Education, Health, and Human Sciences. Topics to be determined as needs/issues are identified and as resources are available to support the course.

Repeatability: May be repeated. Maximum 3 hours.

Education of the Deaf and Hard of Hearing (285)

410 Practicum with Deaf/Hard of Hearing (3) Supervised practicum with hearing impaired students in preschool, public school, and/or residential school setting.

415 Language Development of Deaf/Hard of Hearing I (3) Language problems of hearing impaired contrasted with scope and sequence of normal language development. Formal linguistic systems used to describe language development problems.


419 Speech Development of Deaf/Hard of Hearing (4) Theories of speech development, approaches in training perception and production of speech, and aural habilitation. Practicum experiences.

424 Nature of Hearing Impairments (3) Anatomy and physiology of hearing; nature and causes of hearing loss; methods and instrumentation for assessment of hearing level; interpretation of audiologic services to medical and other rehabilitative disciplines.
425 Introduction to the Psychology and Education of the Deaf/Hard of Hearing (3) Primarily for those planning to teach the hearing impaired. Research related to psychology, social adjustment, communication methodology, language development and education of the hearing impaired. Survey of literature. Visits to programs.

Educational Interpreting (287)
223 American Sign Language I (3) Expressive and receptive skill development in sign communication. Video text and interactive teaching method used. Class conducted totally in sign.

226 American Sign Language II (3) Expressive and receptive skill development in sign communication. Video text and interactive teaching method used. Class conducted totally in sign.

(RE) Prerequisite(s): 226.

335 Interpreting Techniques (3) Introduces students to linguistic techniques to enhance interpreting performance. Introduction of translation techniques that form the basis for interpreting. Students will practice intralingual technique designs to improve English and ASL skills.


345 Interpreting in Educational Settings (4) Covers issues related to working with deaf and hard of hearing children in mainstream programs. Examines interpreter roles and responsibilities within the classroom setting. Practicum experiences.

350 Voice to Sign Interpretation (3) Interpreting from English to sign language in a variety of physical settings (one-to-one, classroom, assemblies) for students of all ages with varying communication styles; adjusting interpretation to accommodate different student needs. Cross-cultural communication issues interpreting in a manner appropriate to the context, techniques for reducing visual fatigue and overload.

355 Sign to Voice Interpretation (3) Interpreting from sign language to English in a variety of physical settings (one-to-one, classroom, assemblies) for students of all ages with varying communication styles. Selecting appropriate to the context. Attention is also given to cross-cultural communication issues interpreting.

431 American Sign Language III (3) Sequence (431-432) stresses fluency of expressive and receptive sign communication skills. Using language in context is emphasized. Grammatical structures of ASL and cultural implications of the deaf community.

(RE) Prerequisite(s): 226.

432 American Sign Language IV (3) Sequence (431-432) stresses fluency of expressive and receptive sign communication skills. Using language in context is emphasized. Grammatical structures of ASL and cultural implications of the deaf community.

(RE) Prerequisite(s): 431.

435 Linguistics of American Sign Language (3) Introduction to grammatical and linguistic structures of ASL. Language variations, discourse, bilingualism and language contact also covered. Conducted in ASL.

(RE) Prerequisite(s): 435.

440 Educational Interpreting Field Work (6) Practical field experience within approved and supervised mainstream settings. Develop specific interpreting skills. Provides a direct service experience in a supportive learning environment.

Grading Restriction: Satisfactory/No Credit grading only.

Educational Psychology (310)
210 Psychoeducational Issues in Human Development (3) Understanding and application of the psychology of human development to teaching/learning process in educational settings. Primarily for students entering teaching or human services.

215 Learning Skills and Study Systems (3) Approaches to enhancing academic performance through study skills, efficient reading and understanding of personal factors.

401 Professional Studies: Applied Educational Psychology (2) Application of concepts, principles, techniques and models from educational psychology to facilitate student learning and creation of effective classroom environments.

Registration Restriction(s): Qualification – admission to teacher education.

404 Special Topics (1-3) Instructor initiated course offered at convenience of the department on various topics of current interest.

Repeatability: May be repeated. Maximum 15 hours.

431 Personality and Mental Health (3) (See Counselor Education 431.)

432 The Disadvantaged Student: Psychoeducational Perspectives (3) Theory and research regarding etiology, psychosocial behavior and appropriate interventions.

460 Self-Management in the Helping Professions (3) Applications of self-management strategies to career, social, emotional and health domains for both helping professionals and their clientele.

Recommended Background: Introductory course in psychology.

493 Independent Study (1-15) Independent investigation of problems in educational and counseling psychology.

Repeatability: May be repeated. Maximum 15 hours.

Electrical and Computer Engineering (319)
206 Electrical Engineering Computations (4) Engineering problem solving and algorithm development by programming computers. Emphasis on software engineering, object-oriented design, building applications within procedures and data, and programming in a modern computer language. Includes Level 1 design projects which require laboratory work.

255 Introduction to Logic Design of Digital Systems (4) Standard codes, number systems, base conversions and computer arithmetic. Boolean algebra, minimization and synthesis techniques for combinational and sequential logic. Use of VHDL for logic synthesis. Implementation of circuits using MSI and LSI components. Includes Level 1 design projects which require laboratory work.

300 Circuits (5) Fundamental laws of circuit analysis. Ohm’s Law, Kirchhoff’s current and voltage laws, the law of conservation of energy, circuits containing independent and dependent voltage and current sources, resistance, conductance, capacitance and inductance analyzed using nodal and mesh analysis, superposition and Thevenin and Norton transfor- mations, and Norton’s and Thevenin’s Theorems. Steady state analysis of DC and AC circuits. Complete solution for transient analysis for circuits with one and two storage elements. Complex frequency, sinusoidal forcing functions, and natural response. Resonance; general case, special cases in series and parallel circuits. Scaling: magnitude and frequency. Admittance, impedance and hybrid parameters. Includes Level 1 design projects which require laboratory experiments.

Registration Permission: Consent of associate department head.

301 Circuits and Electro Mechanical Components (3) DC and AC circuits, transistors, transformers, motors, generators.

(RE) Prerequisite(s): Physics 231 and Mathematics 231.

302 Electronics and Computer Circuits (3) Analog circuits, operational amplifiers, digital systems and logic circuits, semiconductor devices.

(RE) Prerequisite(s): 301.

313 Probability and Random Variables (3) Axioms of probability, set theory, independence, conditional probability, Bayes’ Theorem, permutations and combinations, histograms, probability density, moments, functions of a random variable, joint probability density, central limit theorem, samples and populations, sample mean and variance, curve fitting, correlation of time signals.

(RE) Prerequisite(s): Mathematics 231.

315 Signals and Systems I (3) Continuous- and discrete-time functions, function transformations, signal energy and power, solution of linear differential equations, system properties, convolution, continuous and discrete-time Fourier series, continuous and discrete-time Fourier transforms, Bode diagrams, correlation.

(RE) Prerequisite(s): 300.

316 Signals and Systems II (3) Sampling theory, theory and application of Laplace transforms, feedback, root locus, gain and phase margin, theory and application of Z Transforms, digital filters, discrete-time state vari- ables.

(RE) Prerequisite(s): 315.


(RE) Prerequisite(s): 300.

335 Electronic Devices (4) Semiconductor physics, theory of p-n junctions; diodes, field-effect transistors, and bipolar transistors; modeling of diode and transistor devices; analysis and design of diode switching and rectifier circuits; basic transistor switching circuits and single stage amplifiers; electronic circuit simulation using SPICE Chemical Engineering.

Includes 1-credit laboratory work involving Level 1 design projects.

(RE) Prerequisite(s): 300.
336 Electronic Circuits (3) Multistage transistor amplifier biasing; gain stages, and output stages; frequency and transient response of open loop linear amplifiers; fundamentals of integrated circuits, operational amplifier applications in basic feedback configurations; basic transistor switching circuits. Includes laboratory experiments and design projects.  
(ED) Prerequisite(s): 335.  
(ED) Corequisite(s): 335.  
341 Fields (3) Coulomb’s law, Gauss’ law, Ampere’s law, Maxwell’s equations for electrostatic and magnetostatic cases; Maxwell’s equations for dynamic case, dynamic potentials, uniform plane wave propagation. Transmission lines.  
(ED) Prerequisite(s): 300 and Mathematics 241.  
(DE) Prerequisite(s): Physics 232.  
342 Analog Communication Amplitude and Frequency Modulation (3) Probability and random variables, signal-to-noise ratio, propagation models, link budget analysis, bandpass signals, amplitude modulation, frequency modulation, spread-spectrum. Includes Level 1 design projects which require laboratory experiments.  
(ED) Prerequisite(s): 315.  
355 Computing System Fundamentals (3) Introduction to machine-level computer organization and programming. Basic microprocessor architectures; memory architectures; structured assembly language programming; intra- and inter-computer communication; I/O systems; device drivers; multi- and distributed processor systems; issues in computer security. Includes Level 1 design projects which require laboratory work.  
(ED) Prerequisite(s): 206 and 255.  
395 Junior Seminar (1) Presentations and discussions related to professional development, including registration, ethics and current topics in electrical engineering.  
Grading Restriction: Satisfactory/No Credit grading only.  
400 Senior Design (5) A major design project that focuses the student’s attention on professional practice, accumulated background of curricular components, and recent developments in the field. This major design emphasis is directed to topics within the field of electrical and computer engineering. Includes Level 3 design projects which require laboratory work.  
(DE) Prerequisite(s): 316 and 342.  
(ED) Prerequisite(s): 355.  
415 Automatic Control Systems (3) Automatic control systems for physical systems with linear models. The methods presented include steady-state error analysis, stability, root locus, Nyquist theory, and Bode plots.  
(ED) Prerequisite(s): 300.  
416 Computer Control Systems (3) Computer controlled systems using state variables and z-transform model representations with sampling theory and its effect of digital control design. Design of digital controllers in both the state space and frequency domains. Includes Level 1 design projects.  
(ED) Prerequisite(s): 316.  
421 Electric Energy Systems (3) Structure and operation of the electrical energy grid; load flow; economic loading; planning; control; reliability. Balanced and unbalanced faults; system protection; system stability. Includes Level 1 design projects.  
(ED) Prerequisite(s): 316 and 325.  
422 Power System Operations and Planning (3) Dynamic phenomena in power systems. Transient stability assessment and enhancement; direct and indirect methods for stability determination in nonlinear systems. Operations planning, unit commitment, economic dispatch, frequency regulation and automatic generation control. Volt-var control, load management, cogeneration and other topics of contemporary concern. Includes Level 1 design projects.  
(ED) Prerequisite(s): 421.  
423 Electric Machines (3) Principles of electromechanical energy conversion. Design procedures for AC and DC machine windings; construction and performance constraints. Effects of machine parameters on steady state and dynamic performances; the d-q model; reference frames. Includes Level 1 design projects.  
(ED) Prerequisite(s): 316 and 325.  
431 Operational Amplifier Circuits (3) Linear and non-linear active circuits using commercial operational amplifiers. Includes operational instrumentation, isolation, bridge, rms and logarithmic converters, multipliers and function generators, rectifiers, references, active filters, modulation and demodulation, sinusoidal generators. Noise fundamentals and calculations in op-amp circuits. Design for specified pole-zero functions. Emphasis on applications including transducer interfacing. Includes Level 1 design projects which require laboratory work.  
(ED) Prerequisite(s): 316 and 336.  
(DE) Prerequisite(s): 342.  
432 Electronic Amplifiers (3) Feedback amplifier principles; wideband linear amplifier design; low-noise preamplifier design; audio power amplifier design. Introduction to radio-frequency amplifier design; oscillator principles. Includes laboratory experiments and design projects. Level 2 design projects require laboratory work.  
(ED) Prerequisite(s): 431.  
441 Digital Communications (3) Quantization and pulse code modulation, binary and Mary signaling, spectra of line codes, link budget analysis, binary communication in the presence of noise, matched filtering and equalization, bandpass digital transmission, introduction to multiple access techniques. Includes Level 1 design projects.  
442 Communication System Design (3) Application of communication theory to system design. Hardware and software design and simulation. Modern communication topics. Includes Level 1 design projects.  
(ED) Prerequisite(s): 441.  
443 Antennas and Propagation (3) Introduction to antenna theory including fundamental antenna concepts and parameters (directivity, gain, patterns, etc.) and signal propagation. Theory and design of linear and loop antennas, arrays, and other simple antennas. Includes Level 1 design projects.  
(ED) Prerequisite(s): 316 and 341.  
(DE) Prerequisite(s): 342.  
446 Electromagnetic Compatibility (3) Principles and practices to avoid interference among and within electrical devices. Parameters and coupling for dipole, biconical, and log-periodic antennas. High frequency circuit elements. Radiated and conducted emissions and susceptibility. Crossstalk, shielding, electrostatic discharge, and EMC regulations. Includes Level 1 design projects which require laboratory work.  
(ED) Prerequisite(s): 316 and 341.  
(DE) Prerequisite(s): 342.  
451 Computer Systems Architecture (3) Architecture and design of microcomputer systems with microprocessors or microcontrollers. Instruction set architectures, software interfaces, processor structures, memory hierarchy, and interfacing. Includes Level 1 design projects which require laboratory work.  
(ED) Prerequisite(s): 355.  
453 Introduction to Computer Networks (3) Principles of computer networking and software design of network protocol with an emphasis on the internet and TCP/IP protocol suite. Includes Level 1 design projects.  
(ED) Prerequisite(s): 206.  
455 Embedded Systems Design (3) Design and development of embedded systems for data acquisition and special-purpose computing systems, such as peripheral interfacing, serial/parallel communications and bus systems. Assembly language programming, software architecture, and machine architecture of microcontrollers. Includes Level 1 design projects which require laboratory work.  
(ED) Prerequisite(s): 355.  
471 Introduction to Pattern Recognition (3) Introduction to statistical decision theory, adaptive classifiers, and supervised and unsupervised learning. Students will explore the application of these techniques in areas of current interest such as face recognition, speech processing, remote sensing, data mining and bioinformatics. Includes Level 1 design projects.  
(ED) Prerequisite(s): 316.  
472 Introduction to Digital Image Processing (3) Basic methods for digitizing, storing, processing, and displaying images. Computational procedures for image enhancement, restoration, coding, and segmentation. Includes Level 1 design projects.  
(ED) Prerequisite(s): 316.  
481 Power Electronics (3) Principles and characteristics of power semiconductor devices, single-phase and polyphase phase-controlled converters, converter control, ac voltage controller. Includes Level 1 design projects and laboratory work.  
(ED) Prerequisite(s): 316 and 325.  
(DE) Prerequisite(s): 336.  
482 Power Electronic Circuits (3) Voltage-fed inverters, PWM principles, control of inverters, dc-dc converters, dc machine drives, resonance converters, step motor drives, brushless dc machine principles. Includes Level 1 design projects.  
(ED) Prerequisite(s): 481.  
491 Special Topics (3) Topics relating to basic design and current practice. Includes Level 1 or Level 2 design projects which may require laboratory work.  
Grading Restriction: May not be repeated for credit. Course may not be repeated to satisfy senior requirements for graduation.  
495 Senior Seminar (1) Current topics in electrical engineering.  
Grading Restriction: May not be repeated for credit.
Elementary Education (322)

325 Teaching Science and Social Studies in Elementary and Middle Schools (3) Methods and materials for teaching science and social studies in elementary and middle schools. Treatment approaches to both fields including inquiry, multisensory activities and group approaches. Registration Restriction(s): Qualification – admission to teacher education.

326 Teaching Language Arts/Reading in Elementary and Middle Schools (3) Language and language development as applied to teaching of oracy (listening-speaking) and certain aspects of literacy (reading process/readiness and writing). Includes methods and materials. Registration Restriction(s): Qualification – admission to teacher education.

351 Laboratory and Field Studies in Elementary Education (1-2) Simulated and actual experiences in which students apply concepts and skills from professional methods courses in a variety of school settings and levels. Grading Restriction: Satisfactory/No Credit grading only. Repeatability: May be repeated. Maximum 3 hours. (RE) Corequisite(s): 422. Registration Restriction(s): Qualification – admission to teacher education.

356 Elementary and Middle School Teaching Laboratory Experience (1) Simulation and micro-teaching experiences to develop planning skills and give feedback to students relative to their ability to apply learning to school settings. (RE) Corequisite(s): 422. Registration Restriction(s): Qualification – admission to teacher education.

421 Elementary and Middle School Science and Social Studies Instruction (3) Methods and materials for teaching science and social studies. Development of functional relationships and individual entities of the two fields. Comment(s): Not open to students with recent course or background in teaching science and/or social studies. Registration Restriction(s): Qualification – admission to teacher education. 

422 Elementary and Middle School Teaching Methods I (6) Methods and materials for teaching elementary and middle school reading, language arts, science, social studies and mathematics. Emphasis on planning, implementation and evaluation of integrative learning experiences. Must be taken prior to professional internship year. Registration Restriction(s): Qualification – admission to teacher education. Registration Permission: Consent of instructor.

429 Language Arts/Reading Instruction in Elementary and Middle Schools (3) Language and language development as applied to teaching of oracy (listening-speaking) and aspects of literacy (reading process/readiness and writing). Comment(s): Not open to students with recent course in language arts methods. Registration Restriction(s): Qualification – admission to teacher education. 

445 Early Childhood Education: Program Development and Teaching in Kindergarten (3) Curriculum planning, classroom organization and management practices for teaching young children; relationship of kindergarten to total elementary school. Registration Restriction(s): Qualification – admission to teacher education.

Engineering Fundamentals (323)

100 Engineering Skills Development (1-3) Exercises in the skills and tools essential to the practice of engineering. Grading Restriction: Satisfactory/No Credit grading only. Repeatability: May be repeated. Credit Restriction: May not be applied toward any engineering degree. Registration Permission: Consent of instructor.

105 Computer Methods in Engineering Problem Solving (1) Introduction to computer applications used in engineering problem solving and communications. Introduction to programming concepts including conditional statements and looping; the development and implementation of logic flow diagrams. (RE) Corequisite(s): 151 or 157. Comment(s): 153 is an acceptable corequisite for transfer students.

151 Physics for Engineers I (4) Calculus based study of basic physics concepts including rotational dynamics, statics, oscillations, waves, fluids, heat and temperature, and first and second law of thermodynamics. Introduction to team work. Introduction to the engineering disciplines, examination of engineering principles and design issues; oral and written presentation skills. Grading Restriction: A, B, C, No Credit grading. (RE) Corequisite(s): 105 and Mathematics 141. Comment(s): A higher level math course in the engineering curriculum is an acceptable corequisite.

152 Physics for Engineers II (4) Calculus based study of basic physics concepts including rotational dynamics, statics, oscillations, waves, fluids, heat and temperature, and first and second law of thermodynamics. Introduction to team work. Introduction to the engineering disciplines, examination of engineering principles and design issues; oral and written presentation skills. (RE) Prerequisite(s): 151. (RE) Corequisite(s): Mathematics 142.

153 Introduction to Engineering (2) Introduction to engineering for entering students with previous credit in mechanics physics. Introduction to the engineering profession and disciplines. Introduction to engineering problem solving and design through individual and team projects. Oral and written reports required. Recommended Background: Advanced placement or transfer credit for calculus-based mechanics physics.

157 Honors: Physics for Engineers I (4) Honors version of 151 for well-prepared students. Grading Restriction: A, B, C, No Credit grading. (RE) Corequisite(s): Mathematics 141. Comment(s): A higher level math course in the engineering curriculum is an acceptable corequisite. Registration Restriction(s): Qualification – admission to Chancellor’s Honors Program.

158 Honors: Physics for Engineers II (4) Honors version of 152. (RE) Corequisite(s): Mathematics 142. Comment(s): A higher level math course in the engineering curriculum is an acceptable corequisite. Registration Restriction(s): Qualification – admission to Chancellor’s Honors Program.

202 Engineering Mechanics (2) Review of vector algebra. Statics of two-dimensional trusses and frames, including methods of joints and sections. Geometric properties of cross sections, including first and second moments and location of centroid. Inertial properties of rigid bodies, including moment of inertia and location of mass center. (RE) Prerequisite(s): 151.

230 Computer Solution of Engineering Problems (2) Primary focus is on development of computer programs in a modern programming language to solve engineering problems. (RE) Prerequisite(s): 152.

301 Engineering Career Planning and Placement (1) Fundamentals of seeking professional employment, including resume construction, interview preparation, contacting prospects, networking, business etiquette, and the entire job-seeking process. Intended for last-term juniors. Grading Restriction: Satisfactory/No Credit grading only.

420 Fundamentals of Engineering (1) Review of topics covered on the general morning session of the Fundamentals of Engineering exam. Comment(s): Mechanical, aerospace, biomedical engineering majors must enroll for letter grade. Registration Restriction(s): Majors in the College of Engineering; minimum student level – senior.

English (339)

101 English Composition I (3) Intensive instruction in writing, focusing on analysis and argument. Strategies for reading critically, analyzing texts from diverse perspectives, developing substantive arguments through systematic revision, addressing specific audiences, integrating sources, and expressing ideas with clarity and correctness. (WC) Grading Restriction: A, B, C, No Credit grading. Comment(s): Students wishing additional help with writing should also register for English 104.

102 English Composition II (3) Intensive instruction in writing, focusing on analysis and argument. Strategies for reading critically, analyzing texts from diverse perspectives, developing substantive arguments through systematic revision, addressing specific audiences, integrating sources, and expressing ideas with clarity and correctness. (WC) Grading Restriction: A, B, C, No Credit grading. Comment(s): Students wishing additional help with writing should also register for English 104.

103 Writing Workshop I (1) Self-paced Writing Center tutorial for students wanting additional instruction while enrolled in English 102 or having ACT English and composite scores at or below 18 (or SAT verbal/composite scores at or below 450/800). Individual instruction in mechanics, paragraph development and essay structure. Credit Restriction: To receive credit, students must participate at least two hours per week and must also pass the 101 class in which they are currently enrolled. (RE) Corequisite(s): 101.
121 Academic English for Non-Native Speakers (4) Development of English academic literacy, including reading, writing, vocabulary, and grammar, as well as some attention to listening, oral presentation, and pronunciation.

Contact Hour Distribution: Meets 4 hours a week.

Comment(s): Admission by English placement exam. Required of all non-native English-speaking students who demonstrate on the English Placement Examination a need for work in English structures, reading, or writing.

131 Composition for Non-Native Speakers of English I (3) Paragraph and composition organization and development with emphasis on informative and persuasive writing. Includes grammar and mechanics. Individual conferences.

Grading Restriction: A, B, C No Credit grading.

Comment(s): Admission by English placement exam.

132 Composition for Non-Native Speakers of English II (3) Writing based on reading and discussion. Analysis of works of literature. Emphasis on research techniques and writing research papers. Individual conferences.

Grading Restriction: A, B, C No Credit grading.

(Re)Prerequisite(s): 101 or 131.

Comment(s): Admission by English placement exam.

201 British Literature I: Beowulf through Johnson (3) Major literary works from three periods - Middle Ages, Renaissance and Restoration, and 18th century. Writing-emphasis course. (AH)

(Re)Prerequisite(s): 102 or 118.

202 British Literature II: Wordsworth to the Present (3) Major literary works from three periods - Romantic, Victorian, and 20th century. Writing-emphasis course. (AH)

(Re)Prerequisite(s): 102 or 118.

206 Introduction to Shakespeare (3) An overview of Shakespeare's world and his work. (AH) (WC)

207 Honors: British Literature I (3) Enriched section of 201. (AH)

(Re)Prerequisite(s): 102 or 118.

Registration Restriction(s): 3.25 GPA.

208 Honors: British Literature II (3) Enriched section of 202. (AH)

(Re)Prerequisite(s): 102 or 118.

Registration Restriction(s): 3.25 GPA.

211 Literature of the Western World I: Ancient, Medieval, and Renaissance (3) Writing-emphasis course. (AH)

(Re)Prerequisite(s): 102 or 118.

222 Literature of the Western World II: Enlightenment, Romantic, and Modern (3) Writing-emphasis course. (AH)

(Re)Prerequisite(s): 102 or 118.

231 American Literature I: Colonial Era to the Civil War (3) Development of American literature from its beginnings to the Civil War. Writing-emphasis course. (AH)

(Re)Prerequisite(s): 102 or 118.

232 American Literature II: Civil War to the Present (3) Development of American literature from Civil War to the present. Writing-emphasis course. (AH)

(Re)Prerequisite(s): 102 or 118.

233 Major Black Writers (3) Black American literature as a literary tradition. Writing-emphasis course. (Same as Africana Studies 233.) (AH)

(Re)Prerequisite(s): 102 or 118.

237 Honors: American Literature I: Colonial Era to the Civil War (3) Enriched section of 231. (AH)

(Re)Prerequisite(s): 102 or 118.

Registration Restriction(s): 3.25 GPA.

238 Honors: American Literature II: Civil War to the Present (3) Enriched section of 232. (AH)

(Re)Prerequisite(s): 102 or 118.

Registration Restriction(s): 3.25 GPA.

251 Introduction to Poetry (3) Poetry as a distinct mode of artistic expression. Critical tools for perceptive reading of poems. Writing-emphasis course. (AH)

(Re)Prerequisite(s): 102 or 118.

252 Introduction to Drama (3) Critical tools for perceptive reading of play texts. Writing-emphasis course. (AH)

(Re)Prerequisite(s): 102 or 118.

253 Introduction to Fiction (3) Fiction from the eighteenth through the twentieth centuries, emphasis on the novel. Critical tools necessary for judging varieties of fiction. Writing-emphasis course. (AH)

(Re)Prerequisite(s): 102 or 118.

254 Themes in Literature (3) Study of important themes in English, American, and World literatures. Some sample themes are religion, crime, law, ecology, science, exploration, revolution, colonization initiation, education, Multigenre focus. See Timetable for topics. Writing-emphasis course (AH) (WC)

(Re)Prerequisite(s): 102 or 118.

255 Public Writing (3) Rhetorical strategies for effective communication about public issues. Students will learn to write for multiple audiences and may be asked to participate in collaborative writing projects with business, academic, or public-education organizations. (WC)

(Re)Prerequisite(s): 102 or 118.

263 Introduction to Creative Writing (3) Practice in writing poetry and fiction, combined with study of models and techniques. Writing-emphasis course.

(Re)Prerequisite(s): 102 or 118.

281 Introduction to Film Studies (3) Selected world cinema feature films. Critical techniques necessary for understanding and analysis of narrative cinema. Basic elements of film expression and contours of film history. Writing assignments. (Same as Cinema Studies 281.)

(Re)Prerequisite(s): 102 or 118.

295 Business and Technical Writing (3) Principles of written communication in science and business. (WC)

(Re)Prerequisite(s): 102 or 118.

301 British Culture to 1660 (3) English literature in the context of parallel developments in art, architecture, music, and social and intellectual history. Writing-emphasis course.

(Re)Prerequisite(s): 102 or 118.

302 British Culture: 1660 to Present (3) English literature in the context of parallel developments in art, architecture, music, and social and intellectual history. Writing-emphasis course.

(Re)Prerequisite(s): 102 or 118.

321 Introduction to Old English (3) Language and literature of England from c. 700 to c. 1100. Reading of prose works and shorter poetry in Old English. Cultural context of Anglo-Saxon England explored through critical essays, histories, and primary texts in translation. Focus on manuscript evidence and medieval and modern textual practices. Writing-emphasis course. (Same as Linguistics 321.)

(Re)Prerequisite(s): 102 or 118.

331 Race and Ethnicity in American Literature (3) Examines the role of ethnic and racial identity in the literature of the United States. Writing-emphasis course. (Same as Africana Studies 331.)

(Re)Prerequisite(s): 102 or 118.

332 Women in American Literature (3) Women as writers and as subjects in American literature from its beginnings to the present. Writing-emphasis course. (Same as Women’s Studies 332.)

(Re)Prerequisite(s): 102 or 118.

333 Black American Literature and Aesthetics (3) Black American literature and aesthetics since 1899 with emphasis on cultural evaluations and the principles of being “American.” Writing-emphasis course. (Same as Africana Studies 333.)

(Re)Prerequisite(s): 102 or 118.

334 Film and American Culture (3) American films as both works of art and social documents. Relationship between the medium of film and American culture in the 20th century. Writing-emphasis course. (Same as American Studies 334; Cinema Studies 334.)

(Re)Prerequisite(s): 102 or 118.

351 The Short Story (3) American, British, and international. Content varies.

(Re)Prerequisite(s): 102 or 118.
355 Rhetoric and Writing (3) Strategies of writing on personal and academic subjects. Discussion of student and professional writing. (WC)
(RE) Prerequisite(s): 102 or 118.

360 Technical and Professional Writing (3) For students who need to sharpen their technical communication skills. Writing of definitions, process descriptions, proposals, abstracts, executive summaries, and major reports. (WC)
(RE) Prerequisite(s): 102 or 118.
Registration Restriction(s): Minimum student level – junior.

363 Writing Poetry (3) Introduction to writing poetry. (WC)
(RE) Prerequisite(s): 102 or 118.

364 Writing Fiction (3) Introduction to writing novels and short stories. (WC)
(RE) Prerequisite(s): 102 or 118.

365 Writing Drama and the Screenplay (3) Introduction to writing one-act and full-length plays, as well as screenplays.
(RE) Prerequisite(s): 102 or 118.

371 Foundations of the English Language (3) Phonology, morphology, and syntax of English. History of the English language to 1600. (Same as Linguistics 371.)
(RE) Prerequisite(s): 102 or 118.

372 The Structure of Modern English (3) Survey of approaches – traditional, descriptive, and generative-transformational – to the structure of modern English. (Same as Linguistics 372.)

376 Colloquium in Literature (3) Methods and objectives of literary study; conferences to plan student’s program in major.
(RE) Prerequisite(s): 102 or 118.
Recommended Background: 200-level literature package.

381 Introduction to Folklore (3) Essential terms and concepts in modern folklore/folk-life studies. Emphasis on North American materials – folktale, folksong, myth, legend, proverbs, riddles, superstitions, dances, games, and architecture. (Same as American Studies 381.)
(RE) Prerequisite(s): 102 or 118.

389 Literature of the English Bible (3) Types of literature in the Bible – legend, folktale, history, biography, poetry, prophecy, apocalyptic. (Same as Religious Studies 389.)
(RE) Prerequisite(s): 102 or 118.

398 Junior-Senior Honors Seminar (3) Seminar for students admitted to English honors program. Variable content determined by instructor, but usually focused on a particular literary period, genre, or issue. (WC)
(RE) Prerequisite(s): 102 or 118.
Comment(s): Enrollment limited to 15. See Director of Undergraduate Studies in English for details.

401 Medieval Literature (3) Reading and analysis of selected medieval literary masterpieces in modern English. Writing-emphasis course. (Same as Medieval Studies 405.)
(RE) Prerequisite(s): 102 or 118.

402 Chaucer (3) Reading and analysis of the Canterbury Tales and Troilus and Criseyde in Middle English. (Same as Medieval Studies 406.)
(RE) Prerequisite(s): 102 or 118.

404 Shakespeare I: Early Plays (3) Shakespeare’s dramatic achievement before 1601. Reading and discussion of selected plays from romantic comedies, including Twelfth Night; English histories, including Henry IV; and early tragedy, including Hamlet.
(RE) Prerequisite(s): 102 or 118.

405 Shakespeare II: Later Plays (3) Shakespeare’s dramatic achievement between 1601 and 1613. Reading and discussion of selected plays from great tragedies, including Othello; problem plays, including Measure for Measure; and dramatic romances, including The Tempest.
(RE) Prerequisite(s): 102 or 118.

406 Renaissance Drama (3) English theatre between 1590 and 1640. Representative plays by Shakespeare’s contemporaries – Marlowe, Webster, Jonson.
(RE) Prerequisite(s): 102 or 118.

409 Spenser and his Contemporaries (3) Principal achievements in prose and poetry of the 16th-century authors – Spenser, Wyatt, Marlowe, More, Sidney and Bacon.
(RE) Prerequisite(s): 102 or 118.

(RE) Prerequisite(s): 102 or 118.

411 Literature of the Restoration and Early 18th Century: Dryden to Pope (3) Survey of English literature and culture from 1660 to 1745.
(RE) Prerequisite(s): 102 or 118.

412 Literature of the Later 18th Century: Johnson to Burns (3) Survey of English literature and culture from 1745 to 1800.
(RE) Prerequisite(s): 102 or 118.

413 Restoration and 18th-Century Genres and Modes (3) Study of one major genre or literary mode such as drama, novel, poetry, nonfiction, prose, satire, romance, or epic written between 1660 and 1800. Repeatability: May be repeated.
(RE) Prerequisite(s): 102 or 118.

414 Romantic Poetry and Prose I (3) Emphasis on Wordsworth, Coleridge, and Blake, with readings from Lamb, De Quincey, and other prose writers.
(RE) Prerequisite(s): 102 or 118.

415 Romantic Poetry and Prose II (3) Emphasis on Keats, Shelley and Byron, with readings from Hazlitt, Peacock, and other prose writers.
(RE) Prerequisite(s): 102 or 118.

416 Early Victorian Literature (3) May include poetry by Tennyson and the Browning; prose by Carlyle, Newman, and Mill.
(RE) Prerequisite(s): 102 or 118.

419 Later Victorian Literature (3) May include poetry by the Pre-Raphaelites, Arnold, Hopkins, and Hardy; prose by Arnold, Ruskin, and Carroll; plays by Gilbert and Wilde.
(RE) Prerequisite(s): 102 or 118.

420 The 19th-Century British Novel (3) Major novelists from Scott to Hardy.
(RE) Prerequisite(s): 102 or 118.

421 Modern British Novel (3) Authors such as Joyce and Woolf through contemporary British fiction writers.
(RE) Prerequisite(s): 102 or 118.

422 Women Writers in Britain (3) Emphasis on the literary consciousness and works of women writers in Britain. Course content will vary. Authors covered may include Marie de France, Margery Kempe, Aemilia Lanyer, Elizabeth Cary, Aphra Behn, Frances Burney, Mary Wollstonecraft, Mary Shelley, George Eliot, Virginia Woolf, and Doris Lessing. Writing-emphasis course. (Same as Women’s Studies 422.)
Repeatability: May be repeated. Maximum 6 hours.
(RE) Prerequisite(s): 102 or 118.

423 Colonial and Post-Colonial Literature (3) Emphasis on historical and theoretical methodologies for reading colonial and post-colonial literature. Repeatability: May be repeated with instructor’s consent. Maximum 6 hours.
(RE) Prerequisite(s): 102 or 118.

431 Early American Literature (3) From the earliest texts to 1830, including exploration and discovery, Native American, colonial, revolutionary, and early national works.

432 American Romanticism and Transcendentalism (3) Prose and poetry of the American Renaissance, from c. 1830 to the end of the Civil War. Includes writers such as Cooper, Poe, Hawthorne, Melville, Emerson, Thoreau, Stowe, Douglass, Whitman, Dickinson.
(RE) Prerequisite(s): 102 or 118.

433 American Realism and Naturalism (3) Literature from the time of the Civil War to World War II, including such writers as Twain, Howells, James, Jewett, Freeman, Crane, Norris.
(RE) Prerequisite(s): 102 or 118.

434 Modern American Literature (3) World War I to the present.
(RE) Prerequisite(s): 102 or 118.

435 American Novel before 1900 (3) From earliest sentimental novels through Brown and Cooper, and major figures to 1900, including Hawthorne, Melville, Stowe, Clemens, and James.
(RE) Prerequisite(s): 102 or 118.

436 Modern American Novel (3) Authors such as Faulkner, Steinbeck, Welty.
(RE) Prerequisite(s): 102 or 118.

441 Southern Literature (3) Southern writing from colonial period into the 20th century, including frontier humorists, local color writers, and southern literary renaissance.
(RE) Prerequisite(s): 102 or 118.

442 American Humor (3) Development of American humor from the early 19th century into the 20th century, with particular emphasis on Mark Twain. (Same as American Studies 442.)
(RE) Prerequisite(s): 102 or 118.

443 Topics in Black Literature (3) Content varies according to particular genres, authors, or theories from 1845 to the present, including Langston Hughes and the Harlem Renaissance, Richard Wright and Gwendolyn Brooks, writing by black women, international black literature in English, and black American autobiography. (Same as Africana Studies 443.)
(RE) Prerequisite(s): 102 or 118.
451 Modern British and American Poetry (3) From Yeats and Frost to Auden, Stevens, and more recent poets. (RE Prerequisite(s): 102 or 118.

452 Modern Drama, 1880-1945 (3) Survey of British, American, and international drama from the advent of modern drama to the end of World War II. (Same as Comparative Literature 452.) (RE Prerequisite(s): 102 or 118.

453 Contemporary Drama (3) Survey of British, American, and international drama since World War II. (RE Prerequisite(s): 102 or 118.

454 20th-Century International Novel (3) Fiction in English translation from such writers as Kafka and Camus through contemporary authors. (Same as Comparative Literature 454.) (RE Prerequisite(s): 102 or 118.

455 Persuasive Writing (3) Focuses on writing and analyzing persuasive texts in public, private, and academic contexts. (WC) (RE Prerequisite(s): 355.

456 Contemporary/Postmodern Literature (3) Studies in literature written after World War II. Content will vary. Repeatability: May be repeated with consent of instructor. Maximum 6 hours. (RE Prerequisite(s): 102 or 118.

460 Technical Editing (3) Editing technical material for publication. Principles of style, format, graphics, layout, and production management. (RE Prerequisite(s): 380.

462 Writing for Publication (3) Principles and practices of writing for publication. Dissertations, theses, articles, and reports in science and technology. (RE Prerequisite(s): 360.

463 Advanced Poetry Writing (3) Development of skills acquired in basic poetry-writing course. (RE Prerequisite(s): 363.

464 Advanced Fiction Writing (3) Development of skills acquired in basic fiction-writing course. (RE Prerequisite(s): 364.

466 Writing, Layout, and Production of Technical Documents (3) Principles of design for desktop publishing. Production of various documents to be incorporated into a professional portfolio. (RE Prerequisite(s): 360.

470 Special Topics in Rhetoric (3) Topics vary. Repeatability: May be repeated with consent of department. Maximum 6 hours. (RE Prerequisite(s): 355.

471 Sociolinguistics (3) Language in relation to society. Empirical and theoretical focus. Emphasis on large-scale units – tribes, nations, social groups. (Same as Linguistics 471.) (DE Prerequisite(s): 371 or 372 or Linguistics 200.

472 American English (3) Phonological, morphological, and syntactic characteristics of major social and regional varieties of American English, with attention to their origins, functions, and implications for cultural pluralism. (Same as Linguistics 472.) (DE Prerequisite(s): 371 or 372 or Linguistics 200.

474 Teaching English as a Second or Foreign Language I (3) Introduces major issues surrounding teaching ESL/EFL, including pedagogical implications of teaching ESL/EFL; introduction to second language acquisition; learner variables in language learning; traditional and innovative approaches to ESL/EFL; basic features of American English grammar necessary for teaching ESL. (Same as Linguistics 474.) (RE Prerequisite(s): 102 or 118. Recommended Background: Second year of a foreign language.

476 Second Language Acquisition (3) How humans learn second languages. Examines theoretical models and research on such issues as differences between first and second language acquisition; the effect of age; cognitive factors in second language acquisition; learner variables; sociocultural factors; and implications for second/foreign language instruction. (Same as Linguistics 476.) (RE Prerequisite(s): 102 or 118.

477 Pedagogical Grammar for ESL Teachers (3) Aspects of English syntax and morphology presenting difficulties for non-native learners of English. Basic and complex sentence structures; the noun and article system; and verb tense, aspect, modality, and complementation. (Same as Linguistics 477.) (RE Prerequisite(s): 102 or 118.

479 Literary Criticism (3) Historical survey of major works of literary criticism. (RE Prerequisite(s): 102 or 118.

480 Fairy Tale, Legend, and Myth: Folk Narrative (3) Study of forms of folk narrative; notably includes Grimm’s, Andersen’s, Irish, English, Appalachian, African, and Native American tales. (RE Prerequisite(s): 102 or 118.

481 Studies in Folklore (3) Topic varies. Repeatability: May be repeated if topic differs. Maximum 6 hours. (RE Prerequisite(s): 102 or 118.

482 Major Authors (3) Content varies. Concentrated study of at least one of the most influential writers in British or American literary history (e.g., Donne, Pope, Austen, Tennyson, Whitman, Faulkner, Lawrence, Baldwin, or Morrison). Repeatability: May be repeated. Maximum 6 hours. (RE Prerequisite(s): 102 or 118.

483 Special Topics in Literature (3) Topic varies. Repeatability: May be repeated. Maximum 6 hours. (RE Prerequisite(s): 102 or 118.

484 Special Topics in Writing (3) Original writing integrated with reading, usually taught by a professional author. Repeatability: May be repeated. Maximum 6 hours. (RE Prerequisite(s): 102 or 118.

485 Special Topics in Language (3) (Same as Linguistics 485.) Repeatability: May be repeated with consent of department. Maximum 6 hours. (RE Prerequisite(s): 102 or 118.

486 Special Topics in Criticism (3) Content varies. Special topics in theoretical and practical approaches to British and American literature. Repeatability: May be repeated with consent of department. Maximum 6 hours. (RE Prerequisite(s): 102 or 118.

489 Special Topics in Film (3) Content varies. Particular directors, film genres, national cinema movements, or other topics. (Same as Cinema Studies 489.) Repeatability: May be repeated with consent of department. Maximum 6 hours. (RE Prerequisite(s): 102 or 118.

490 Language and Law (3) Language in the Anglo-American legal process: focus on differences between spoken and written language; lexical and syntactic ambiguity; pragmatics; speech act analysis; and the language rights of linguistic minorities. (Same as Legal Studies 490; Linguistics 490.) (RE Prerequisite(s): 102 or 118.

491 Foreign Study: Drama in Stratford and London (1-4) Seeing, studying, and writing about drama as performed in London and Stratford-upon-Avon during the summer. Repeatability: May be repeated once with instructor’s permission. (RE Prerequisite(s): 102 or 118.

492 Off-Campus Study: Drama in New York (3) Seeing, studying, and writing about drama as performed in New York City. (RE Prerequisite(s): 102 or 118.

493 Independent Study (1-6) Tutorial in subjects not adequately covered in regular courses. Repeatability: May be repeated. Maximum 6 hours. (RE Prerequisite(s): 102 or 118.

495 Introduction to Rhetoric and Composition (3) Introduction to the historical, theoretical, and empirical modes of inquiry in rhetoric and composition and their implications for the teaching of composition. (RE Prerequisite(s): 355.

496 The Rhetoric of Legal Discourse (3) Applying basic principles of persuasive writing to legal materials. Writing position papers, briefs, and memoranda, students learn issue identification and argument. Critical reading and discussion of both professional and student writing. Introductory legal research techniques. No prior legal knowledge necessary. (Same as Legal Studies 496.) (RE Prerequisite(s): 355.

498 Senior Honors Thesis (3) Second semester of English honors program. Working individually, the student produces a substantial critical or creative project under the direction of two members of the professional staff. (RE Prerequisite(s): 398.

499 Senior Seminar (3) Intensive study of an author, period, genre, or of problems in language, literary history, or theory. Content varies, but all sections address problems of value from an interdisciplinary perspective. Substantial research paper required. Capstone experience. Writing-emphasis course. (WC) (RE Prerequisite(s): 102 or 118. Comment(s): Completion of 15 upper-division hours in English required. Registration Restriction(s): English major.

English Education (340)

141 Efficient Reading and Study Skills (2) Improvement of reading comprehension and rate, intensive vocabulary enrichment, study skills as they relate to content area subjects. Grading Restriction: Satisfactory/No Credit grading only.
456 Teaching Speech and Drama, Grades 7-12 (3) Purposes, techniques, materials and evaluation for teaching speech and drama in secondary schools. Required for certification in speech. Registration Restriction(s): Qualification – admission to teacher education.

459 Teaching English in the Secondary School (3) Techniques of teaching composition, language, and literature. Registration Restriction(s): Qualification – admission to teacher education.

460 Teaching Reading and Literature in the Secondary School (3) Teaching basic reading skills and literature.

Entomology and Plant Pathology (341)

201 Impact of Insects and Plant Diseases on Human Societies (3) Insects and plant diseases have had a significant influence on human history, culture, and lifestyles. The science of entomology and plant pathology helps humankind understand the impact of insects and plant pathogens on these dimensions of human existence. The development of strategies to capitalize on the beneficial aspects of these organisms will also be explored. (NS)

313 Plant Pathology (3) Introduction to the microorganisms and environmental conditions causing disease in plants. Biology of pathogens. Host-pathogen interactions, disease development and principles of control.

Contact Hour Distribution: 2 hours and 1 lab.

321 Economic Entomology (3) Structure, life history, habits and principles of control of important insect pests of farm, garden, orchard and household.

Contact Hour Distribution: 2 hours and 1 lab.

325 Veterinary Entomology (3) Identification, biology and control of arthropods that attack major livestock species. Introduction to entomology, methods of insect control, major pest species groups and problems associated with specific host production operations.

Contact Hour Distribution: 2 hours and 1 lab.

405 Mycology (3) Survey of the fungal kingdom and traditional allies in the context of phyla and classes. Systematics, biology, reproduction, structure-function, physiology, and ecology are illustrated with material and cultural techniques in laboratories.

Contact Hour Distribution: 2 hours lecture and one 2-hour lab.
Credit Restriction: Students cannot receive credit for both 405 and 505.
Recommended Background: Biology 130 and Ecology and Evolutionary Biology 110.

410 Diseases and Insects of Ornamental Plants (3) Symptoms, identification and management of diseases and insect pests that affect plants in greenhouse, nursery, and landscape environments.

411 Forest Insects and Diseases (3) Insects and pathogens associated with trees and shrubs will be identified and their impacts on host plants evaluated.

448 Taxonomy of Adult Insects (3) Classification, phylogeny, and distribution of insects and related arthropods. Lectures on theory and practice of systematics and major features of insect structure and evolution. Laboratory practice on methods of collection, preservation, and study of insects, with emphasis on order and family identification of adults. Insect collection and one or more field trips required.
Credit Restriction: Students receiving credit for 448 cannot receive credit for 548.

451 Plant Tissue Culture (3) Methods for the culture of cells, tissues, and organs including media preparation and maintenance of cultures. (Same as Plant Sciences 451.)
Contact Hour Distribution: Lecture and lab.
Registration Permission: Consent of instructor.

493 Independent Study in Entomology or Plant Pathology (1-4) Laboratory, field, or library research in entomology, plant pathology, or integrated pest management under the guidance of a faculty member.
Repeatability: May be repeated. Maximum 6 hours.

Environmental and Soil Sciences (345)

120 Soils and Civilizations (3) Investigation of the close linkage between soil conservation and degradation and the consequences to ancient civilizations and environmental degradation and its societal impacts during modern times. Comparison of past soil management practices to present-day issues of soil salinization, erosion, and sitiation. Introduction to the role of soil resources in current global environmental issues and conflicts. (CC)

210 Introduction to Soil Science (4) Differences in soils: soil genesis, physical, chemical, and biological properties of soil; relation of soil to land use and pollution; soil management relative to tillage, erosion, moisture supply, temperature, aeration, fertility and plant nutrition.
Contact Hour Distribution: 3 hours lecture and one 2-hour lab.

220 Waters and Civilizations (3) Investigation and discussion of the societal impacts on ancient and modern civilizations of water issues including irrigation, flood control, droughts and desertification, dam construction, aquifers, drinking water, water pollution, and water rights. (CC)
Contact Hour Distribution: 3 hours lecture.

242 Soil Morphology (1) Intensive course involving describing, classifying and interpreting soils in preparation for regional and national soil judging contests.
Contact Hour Distribution: 1 hour and 1 lab.
Repeatability: May be repeated. Maximum 4 hours.
Registration Permission: Consent of instructor.

301 Professional Development (1) Techniques of effective professional communications; professional ethics; interviewing and the job search. (OC)
Registration Restriction(s): Minimum student level – junior.

324 Soil and Water Conservation (3) Investigation of hydrologic principles regarding soil and water conservation. Topics include: hydrologic cycle, water quality, soil properties, erosion prediction and control, and techniques to protect natural resources.
Contact Hour Distribution: 2 hours lecture and one 2-hour lab.
(Re) Prerequisite(s): 210.

334 Soil Nutrient Management and Fertilizers (3) Influence of soil properties on nutrient availability to plants. Management of inorganic and organic fertilizer materials and the determination of their fate in the soilplant system. Nutrient management as it relates to agricultural sustainability and soil quality.
Contact Hour Distribution: 2 hours and 1 lab.
(Re) Prerequisite(s): 210.

355 Environmental Soil Biology (3) Biology and biochemistry of the soil environment as it applies to environmental and agricultural processes. Topics include microbial ecology, biogeochemical cycling of soil elements, soil quality and bioremediation.
(Re) Prerequisite(s): 210 and Microbiology 210.

343 Environmental Soil Chemistry (3) Composition and chemical properties of soils and processes that govern fate and behavior of chemicals in the soil environment. Topics include: clay mineralogy; soil organic matter; mineral weathering and stability; aqueous speciation; surface chemistry; ion exchange, adsorption, and molecular retention; oxidation-reduction; and soil acidity, alkalinity, and salinity.
(Re) Prerequisite(s): Chemistry 110 or Chemistry 350.

442 Soil Genesis and Classification (3) Soil genesis and formation; observing and describing morphology of agricultural and forest soils; chemical and physical properties, classification. Includes 3 weekend field trips.
Contact Hour Distribution: 2 hours and 1 lab.
(Re) Prerequisite(s): 210.

444 Transport Processes in Soil (3) Basic understanding of soil physical properties and processes; influence of soil physical properties on water and chemical movement in soil; practical experience in the measurement and analysis of soil physical properties, water flow, and chemical movement in soil.
(Re) Prerequisite(s): 210 and Physics 221.

462 Environmental Climatology (3) Study of atmosphere as environment. Physical, chemical and biological factors affecting climates of various earth environments; meteorological process affecting biosystems. Climatic change and the human impact on the atmosphere, consequences of climatic change and mitigation policies, microclimates and urban climates, atmospheric pollution, extreme events and ozone depletion. Design and operation of weather information systems; automated weather stations.
Recommended Background: Computer proficiency.

492 Internship (1-6) Supervised experience with a departmentally-approved employer. Student is responsible for making arrangements. Requirements include maintaining a daily log, supervisor evaluations, and a final report.
Grading Restriction: Satisfactory/No Credit grading only.
Repeatability: May be repeated. Maximum 6 hours.
Registration Permission: Consent of instructor.

493 Problems in Environmental and Soil Sciences (1-3) Special research problems in environmental sciences.
Repeatability: May be repeated. Maximum 6 hours.
Registration Permission: Consent of instructor.

Exercise Science (347)

100 Orientation to Exercise Science (1) Overview of discipline and professional areas for incoming exercise science majors. Must be taken prior to admission to the exercise science major.

260 Exercise Science Practicum (1) First practicum experience to support and clarify career goals.
Grading Restriction: Satisfactory/No Credit grading only.
(Re) Prerequisite(s): 100.
325 Athletic Training Techniques (3) Prevention of athletic injuries through sound conditioning programs and practices; recognition and immediate treatment of injuries.
   (RE) Prerequisite(s): 332.
   Registration Restriction(s): Exercise science major.

332 Applied Anatomy (3) Structure and roles of bones, joints and muscles in human movement and exercise; related biomechanical principles.

350 Physical Activity Epidemiology (3) Epidemiological examination of the relationship of physical activity with the morbidity and mortality of chronic disease and related risk factors.

380 Special Topics (1-3) Study in selected disciplinary or professional areas of exercise science.
   Repeatability: May be repeated. Maximum 6 hours.

411 Physical Activity for Special Populations (3) Nature of various disabilities and implications for physical activity programming. Course requirements include out-of-class practicum working with individuals who have disabilities.
   (RE) Prerequisite(s): 332.
   Registration Restriction(s): Exercise science major; 2.5 GPA.

414 Fitness Testing and Exercise Prescription (3) Relationship of exercise to cardiorespiratory function, body composition, strength and flexibility. Measurement and evaluation of fitness in normal populations.
   (RE) Prerequisite(s): Biochemistry and Cellular and Molecular Biology 230.
   Registration Restriction(s): Exercise science major; 2.5 GPA.

   (RE) Prerequisite(s): 332 and Physics 221.
   Registration Restriction(s): Exercise science major; 2.5 GPA.

426 Exercise Science Practicum II (1-6) Supervised experience in exercise/fitness areas.
   Grading Restriction: Satisfactory/No Credit grading only.
   Repeatability: May be repeated. Maximum 10 hours.
   Registration Restriction(s): 2.5 GPA.

440 Strength and Conditioning Programs (3) Covers scientific and practical foundations of strength and conditioning programs and program design applied to healthy adults, athletes, youth, and older adults. Provides teaching experiences with young adults and requires the development of educational materials. This course is designed to prepare students for nationally recognized strength and conditioning certification exams.
   (RE) Prerequisite(s): 332 and Biochemistry and Cellular and Molecular Biology 230.
   (DE) Prerequisite(s): Physical Education 252.
   Registration Restriction(s): Exercise science major; 2.5 GPA.

480 Physiology of Exercise (3) Lecture and laboratory class dealing with functional and metabolic aspects of physical activities, exercise, and environment. Laboratory includes exercises on weight training, heart rate and muscle function.
   Contact Hour Distribution: 2 lectures and 1 lab.
   (RE) Prerequisite(s): Biochemistry and Cellular and Molecular Biology 230 or Biochemistry and Cellular and Molecular Biology 440.
   (DE) Prerequisite(s): 426.
   Registration Restriction(s): Exercise science major; 2.5 GPA.

490 Exercise Physiology/Fitness Internship (12-15) Full-time practicum in exercise/fitness at approved agency.
   Grading Restriction: Satisfactory/No Credit grading only.
   (RE) Prerequisite(s): 414 and 422.
   Registration Restriction(s): Exercise science major; 2.5 GPA.
   Registration Permission: Consent of instructor.

493 Directed Independent Studies (1-3) Independent study in a special area with exercise science.
   Repeatability: May be repeated. Maximum 9 hours.
   Registration Restriction(s): Exercise science major; 2.5 GPA.
   Registration Permission: Consent of instructor.

497 Honors Research Project (3-6) Senior research project done under supervision of a faculty member. Includes design of research project, writing proposal for institutional review board approval, data collection and analysis, and presentation of results. Project should be approved with two semesters of study remaining.
   Registration Restriction(s): Minimum student level – senior.

Finance (349)

301 Financial Management (3) Principles of financial management. Investment, financing and asset management functions of the firm.
   (RE) Prerequisite(s): Business Administration 201.

402 Special Topics in Finance (3-6) Junior- and senior-level finance seminar.
   Repeatability: Not repeatable for credit. May be taken once for 3-6 hours.
   (RE) Prerequisite(s): 301.
   (RE) Corequisite(s): Accounting 301.
   Registration Restriction(s): Majors in the College of Business Administration.

425 Investment and Portfolio Management (3) Rigorous introduction to the fundamental principles and concepts of the valuation of stocks and bonds (financial assets) in competitive and efficient financial markets. Risk and return analysis of portfolios of financial assets, capital market theory, security market theory, and financial market microstructure.
   (RE) Prerequisite(s): 301.
   (RE) Corequisite(s): Accounting 301.
   Registration Restriction(s): Majors in the College of Business Administration.

435 Financial Markets and Institutions (3) Examine the process of capital formation and allocation, including an evaluation of money and capital markets. Study the theories and mathematics of interest rate determination and characterize the financial services firms, which participate in these markets. Review the corporate policies and practices of financial service firms, including management of interest-rate, default, technology, and regulatory risks.
   (RE) Prerequisite(s): 301.
   (RE) Corequisite(s): Accounting 301.
   Registration Restriction(s): Majors in the College of Business Administration.

455 Financial Management: Theory and Practice (3) Decision-making topics in financial management including valuation, capital budgeting under uncertainty, cost of capital, capital structure theory and dividend policy. Major writing requirement.
   (RE) Prerequisite(s): 425.
   Registration Restriction(s): Majors in the College of Business Administration.

475 Insurance and Financial Planning Management (3) Course will cover the basic principles of risk management and insurance; and the basic principles of financial, estate, and retirement planning.
   (RE) Prerequisite(s): 301.
   (RE) Corequisite(s): Accounting 301.
   Registration Restriction(s): Majors in the College of Business Administration.

485 Real Estate Finance and Investment Analysis (3) Explores the utilization of cash flow models to evaluate the financing of and investment in real property. In addition to examining financial feasibility analysis in detail, emphasis is also placed on understanding the factors influencing the dynamics of urban land markets and the government policy issues that must be addressed in urban areas.
   (RE) Prerequisite(s): 301.
   (RE) Corequisite(s): Accounting 301.

492 Off-Campus Study (1-3) Professional internship with practicing professionals under the direction of a faculty member.
   Grading Restriction: Satisfactory/No Credit grading only.
   Repeatability: May be repeated. Maximum 3 hours.
   Credit Restriction: Free elective credit only.
   Registration Restriction(s): Finance major.
   Registration Permission: Consent of instructor.

493 Independent Study (1-3) Grading Restriction: Letter grade only.
   Repeatability: May be repeated. Maximum 3 hours.
   Registration Restriction(s): Finance major.
   Registration Permission: Consent of instructor.

495 Investment Fund Management (1-3) Members of this class (or investment team) manage over a half-million dollar portfolio of common stocks on behalf of the Tennessee Valley Authority (TVA). This team also engages in a 25-university investment performance competition sponsored by TVA.
   Repeatability: May be repeated. Maximum 3 hours.
   Comment(s): 3.0 in all upper-division business courses required.
   Registration Permission: Consent of instructor.

First Year Studies (355)

101 First Year Studies (1) Integration into the academic community, including the nature and purpose of a college education, expectations for academic success, organization of university disciplines, and special emphasis on academic and career planning. Meets once a week.
   Grading Restriction: A, B, C, No Credit grading.

401 Peer Mentor Techniques (1) Training of upper-class students as mentors and advisors for freshmen. Includes cognitive and developmental theories of the college-age student, teaching and learning styles, group communication and listening techniques, mentoring and advising skills.
   Registration Permission: Consent of instructor.
Food Science and Technology (390)

101 Science of Foods (3) (See Hotel, Restaurant, and Tourism 101.)

150 History and Culture of Food (3) Impact of people and historical events on the production, distribution, and consumption patterns of food; the role of food as an indicator of cultural, societal, and historical changes around the world; major, technological advances in food processing and their impact on the globalization of the food supply.

Contact Hour Distribution: 3 hours lecture.

240 Field Observations in Food Processing (3) Introduction to, observation of and familiarization with processing, packaging, quality control and distribution of different types of foods.

Contact Hour Distribution: 1 hour discussion and one 4-hour lab.

Registration Restriction(s): Food science and technology major.

269 Meat Evaluation and Grading (2) Grading standards for quality and yield; principles for evaluating beef, pork and lamb, and application of standards for institutional meat cuts. Practice grading, judging carcasses and cuts, and application of purchase specifications.

301 Professional Development (1) Professional development requirements, resources and opportunities. Individual written and oral report and group discussion on careers and food companies.

Registration Restriction(s): Minimum student level – sophomore.

340 Food Preservation and Packaging (3) Principles, methods and equipment used for preservation of foods.

Contact Hour Distribution: 2 hours lecture and 1 lab. Recommended Background: Microbiology 210.

401 Professional Food Science Communication (1) Individual reports and group discussion on current topics.

Repeatability: May be repeated. Maximum 3 hours.

Registration Restriction(s): Minimum student level – junior.

410 Food Chemistry (3) Reactions of water, proteins, lipids, carbohydrates, minerals, enzymes, vitamins, and additives in foods.

Contact Hour Distribution: 3 hours lecture.

(Re) Prerequisite(s): Chemistry 110 or Chemistry 350.

415 Food Analysis (4) Principles, methods and techniques for qualitative and quantitative analyses of composition and physical, chemical, and biological properties of food and food ingredients.

Contact Hour Distribution: 3 hours and one 2-hour lab.

(Re) Prerequisite(s): Chemistry 110 or 350.

419 Food Chemistry Lab (1) Interaction of water, proteins, lipids, carbohydrates, minerals, enzymes, vitamins, and additives in foods and methods of evaluation of chemical properties of foods.

Contact Hour Distribution: One 2-hour lab.

(Re) Corequisite(s): 410.

420 Food Microbiology (2) Physical, chemical and environmental factors moderating growth and survival of foodborne microorganisms; pathogenic and spoilage microorganisms affecting quality of foods and their control.

(Re) Prerequisite(s): Microbiology 210 or Microbiology 310.

429 Food Microbiology Lab (3) Methods for examination, enumeration, cultivation and identification of foodborne microorganisms.

(Re) Corequisite(s): 420.

430 Sensory Evaluation of Food (3) Principles and methods of sensory evaluation of foods.

Contact Hour Distribution: 2 hours and 1 lab.

Recommended Background: A statistics course.

441 Food Engineering (3) Units and dimensions, physical properties, transport processes, fluid flow, heat transfer, thermal and nonthermal preservation processes, refrigeration, freezing, evaporation, psychrometrics, mass transfer, membrane separations, dehydration.

Contact Hour Distribution: 2 hours and one 2-hour lab.

(Re) Prerequisite(s): Physics 101 or Physics 221.

442 Special Topics in Food Science and Technology (1-3) Topics of current concern to the food industry.

Repeatability: May be repeated. Maximum 9 hours.

445 Application of Food Chemistry and Processing Principles (4) Interactions and functions of dairy, egg, cereal and other plant based ingredients during the production and storage of processed food products.

Contact Hour Distribution: 3 hours lecture and 1 lab.

(Re) Prerequisite(s): 410 and 340.
FORENSIC SCIENCE (420)

420 Introduction to Forensic Science (3) This course provides an overview of the field of forensic science, including the history, current applications, and future directions. It covers the basics of crime scene investigation, the collection and preservation of evidence, and the roles of various forensic disciplines such as ballistics, serology, and toxicology. Credit Restriction: Students cannot receive credit for both 420 and 520.

421 Forensic Science Laboratory (1) This laboratory course provides hands-on experience in various forensic techniques, including fingerprinting, bloodstain pattern analysis, and trace evidence identification. Credit Restriction: Students cannot receive credit for both 420 and 520.

422 Seminar in Forensic Science (3) This seminar course focuses on current research and issues in forensic science, with guest speakers from various forensic laboratories and agencies. Credit Restriction: Students cannot receive credit for both 420 and 520.

423 Internship in Forensic Science (1-6) This internship provides students with practical experience in a forensic laboratory or agency. The credit earned depends on the number of hours worked. Credit Restriction: Students cannot receive credit for both 420 and 520.
217 Honors: Intermediate French (3) For students of superior ability in French. Students follow enriched program with emphasis on speaking ability and reading, including literary selections (CC). Comment(s): Incoming freshmen admitted on basis of diagnostic test, high school average, and performance on ACT.

218 Honors: Intermediate French (3) For students of superior ability in French. Students follow enriched program with emphasis on speaking ability and reading, including literary selections. (CC)

(Re)Prerequisite(s): 217. Comment(s): Incoming freshmen are admitted on the basis of diagnostic test, high school average, and performance on ACT. Students with a grade of A in 211 may enter 218 with permission of instructor. Credit for 300 is given to students receiving a grade of A or B in 218.

300 Transitional Grammar Review and Reading (3) For students who have completed the intermediate-level sequence and who need additional preparation in reading comprehension, vocabulary acquisition, and key areas of grammar. Credit Restriction: May not be applied toward the major or minor. (Re)Prerequisite(s): 212 or 218.

301 Elements of French for Upper-Division and Graduate Students (3) Elements of language, elementary and advanced readings. Grading Restriction: No auditors. Credit Restriction: No credit for students who have completed 111 and 112 or equivalent. Comment(s): Open to graduate students (for undergraduate credit) preparing for simultaneous translation to English.

302 Elements of French for the Upper-Division and Graduate Students (3) Elements of language, elementary and advanced readings. Grading Restriction: No auditors. Credit Restriction: No credit for students who have completed 111-112 or equivalent. Comment(s): Open to graduate students (for undergraduate credit) preparing for language examinations and upper-division students desiring reading knowledge of the language.

333 Intermediate Composition and Grammar (3) Emphasizes writing skills. Review of major grammatical points in French. (Re)Prerequisite(s): 212 or 218.

334 Intermediate Conversation (3) Emphasizes speaking skills. Further review of French grammar. Required of all French majors. (Re)Prerequisite(s): 333.

345 French for Business (3) Contemporary French language as it applies to business transactions. Understanding and composing business letters; oral communication and elements of French culture related to good business practices.

346 Methods of Historical Linguistics (3) (See German 456.)

351 History of French Literature (3) Chronological view of French literature in relation to the specific historical developments that have influenced it. (Re)Prerequisite(s): 333.

352 History of French Literature (3) Chronological view of French literature in relation to the specific historical developments that have influenced it. (Re)Prerequisite(s): 333.

400 Consecutive and Simultaneous French-English and English-French Translation (3) Consecutive translation to and from English. Introduction to simultaneous translation to English. (Re)Prerequisite(s): 333.

410 Medieval French Literature (3) Major representative works of Medieval French literature. Texts in modern French. Writing-emphasis course. (Same as Medieval Studies 410.) (Re)Prerequisite(s): 351 or 352.

411 French Literature of the 16th Century (3) Highlights of 16th-century French literature. Excerpts from Rabelais and Montaigne; readings of poems from the writers from Lyon and members of the Pléiade. Writing-emphasis course. (Re)Prerequisite(s): 351 or 352.

412 French Literature of the 17th Century (3) Masterpieces of 17th-century French literature. Writing-emphasis course. (Re)Prerequisite(s): 351 or 352.

413 French Literature of the 18th Century (3) Major works of the Enlightenment. Writing-emphasis course. (Re)Prerequisite(s): 351 or 352.

414 French Literature of the 19th Century (3) French Romanticism and its couturier movements: Realism, Farnaisanism and Naturalism. Writing-emphasis course. (Re)Prerequisite(s): 351 or 352.

415 French Literature of the 20th Century (3) Evolution of 20th-century French literature. Writing-emphasis course. (Re)Prerequisite(s): 351 or 352.

420 French Cinema (3) The French cinema from its earliest days through the New Wave directors. May be applied toward the French major. Writing-emphasis course. (Same as Cinema Studies 420.) (Re)Prerequisite(s): 351 or 352.

421 Phonetics (3) Foundation in the science of phonetics. Practical exercises and individual performance. (Re)Prerequisite(s): 333.

422 Advanced Grammar (3) Improving one's written French by studying basic and more refined structures of the French language. Writing creative free-style compositions. Writing-emphasis course. (Re)Prerequisite(s): 333.

423 Advanced Conversation (1) Informal conversation with native speaker on contemporary topics. Stresses in-class contact rather than outside preparation.

Contact Hour Distribution: Meets 2 hours a week. (Re)Prerequisite(s): 333.

424 Advanced Conversation (1) Informal conversation with native speaker on contemporary topics. Stresses in-class contact rather than outside preparation.

Contact Hour Distribution: Meets 2 hours a week. (Re)Prerequisite(s): 333.

425 Introduction to Descriptive Linguistics (3) Initiation into the theory and practice of techniques of linguistic analysis in the subfields of phonetics, phonology, morphology, syntax, semantics, pragmatics and historical linguistics; discussion of their relevance to the learning and teaching of foreign languages and to the study of literary texts. Writing-emphasis course. (Same as German 425; Linguistics 425; Russian 425; Spanish 425.)

Recommended Background: Linguistics 200.

431 Highlights of French Civilization (3) Survey of French civilization from the Gauls to World War II. Historical events, daily life, all forms of art. Writing-emphasis course. (Re)Prerequisite(s): 351 or 352.

432 Contemporary French Culture (3) Current French cultural issues placed in historical perspective with a comparative emphasis. In English with readings in French for majors. May be applied toward the French major. Writing-emphasis course.

433 French and Francophone Women Writers (3) Works by women writers in French considered in cultural context. In English, readings in French for majors. May be applied toward the French major. Writing-emphasis course. (Same as Women's Studies 433.)

434 Literature of Quebec (3) Survey of literature of Quebec, as well as French literature connected with North America. Readings include explorers and missionary works, such as the Voyages of Champlain and the Journals of the Jesuits, as well as the literature of contemporary Quebec. Writing-emphasis course. (Re)Prerequisite(s): 351 or 352.

440 Capstone Experience in French (3) Synthesizing senior colloquium and tutorial in which students reflect on the raison d'être of the discipline from a multidimensional point of view. Writing-emphasis course. Registration Restriction(s): Minimum student level – senior.

445 Advanced French for Business (3) Study of advanced contemporary French language and culture as they relate to business transactions. A comparative approach is used to explore differences and similarities between Francophone business culture(s) and those of North America and Japan. Students build upon their knowledge of business terminology while being sensitized to cultural differences and the dangers of simplistic stereotyping. Writing-emphasis course. (Re)Prerequisite(s): 345.

450 Special Topics (3) Selected topics in French studies. Repeatability: May be repeated if topic differs. Maximum 6 hours.
490 Internship (1-15) Career-related experiences in the United States or abroad.
Grading Restriction: Satisfactory/No Credit grading only.
Repeatable: May be repeated. Maximum 15 hours.
Registration Restriction(s): French major/longueur and world business concentration.

491 Foreign Study (1-15)
Repeatable: May be repeated. Maximum 15 hours.
Registration Permission: Consent of program chair.

492 Off-Campus Study (1-15)
Repeatable: May be repeated. Maximum 15 hours.
Registration Permission: Consent of program chair.

493 Independent Study (1-15)
Repeatable: May be repeated. Maximum 15 hours.
Registration Permission: Consent of program chair.

Geography (415)

101 World Geography (3) Selected topics and world regions, especially those with problems or situations of contemporary interest, to illustrate geographical points of view, concepts, and techniques. (SS)
Comment(s): 101 and 102 do not have to be taken in sequence.
Contact Hour Distribution: 3 hours lecture and 2 hours lab.

102 World Geography (3) Selected topics and world regions, especially those with problems or situations of contemporary interest, to illustrate geographical points of view, concepts, and techniques. (SS)
Comment(s): 101 and 102 do not have to be taken in sequence.
Credit Restriction: World Geography 102 may not be taken concurrently with these courses. The shape of the Earth, map scales, coordinate systems, and projections. Self-paced, online course with writing emphasis.
Contact Hour Distribution: 3 hours lecture and 2 hours lab.

131 Geography of the Natural Environment I (4) Characteristics and processes of the earth’s surface and lower atmosphere; their interaction to produce a world pattern of distinctive environments significant to humanity. Covers elements and controls of climate, atmospheric circulation, precipitation and storms, the hydrological cycle, world climate and vegetation patterns, and climate change. (NS)
Contact Hour Distribution: 3 hours lecture and 2 hours lab.

132 Geography of the Natural Environment II (4) Characteristics and processes of the earth’s surface and lower atmosphere; their interaction to produce a world pattern of distinctive environments significant to humanity. Covers earth materials, tectonic activity, geomorphic processes and landforms, soils, and human impacts on the landscape. (NS)
Contact Hour Distribution: 3 hours lecture and 2 hours lab.
(Re)Prerequisite(s): 131.

210 Introductory Technical Geography (1) Covers basic concepts required in 310, 410, 411, and 413. Recommended to be taken prior to or concurrently with these courses. The shape of the Earth, map scales, coordinate systems, and projections. Self-paced, online course with writing (offline) final exam.
Contact Hour Distribution: 2 hours lecture and 2 hours lab.

320 Cultural Geography: Core Concepts (3) Background and method of cultural geography; basic concepts and theories focusing on cultural landscape, culture regions, cultural ecology, innovation and diffusion, cultural integration, and world patterns of cultural phenomena.
Contact Hour Distribution: 2 hours lecture and 2 hours lab.

334 Meteorology (3) Dynamic atmosphere and resulting weather events. Nature of individual weather elements, their measurement and analysis over time and space.
(Re)Prerequisite(s): 131.


345 Population and Environment (3) Global and local patterns of population distribution and change as they relate to culture, economic development, technology, and the environment and the future. Writing-emphasis course.


361 Regional Geography of the United States and Canada (3) Physical, economic, and social distributions as they interrelate to and give distinctive character to regions of the United States and Canada. Writing-emphasis course.

363 Geography of the American South (3) Geographical appraisal of the southeastern United States, including physical environment and human resources. Origin and development of contemporary economic and cultural traits of the area. Writing-emphasis course.

365 Geography of Appalachia (3) Interrelation of physical, economic, and social patterns that give distinctive character to the region and its parts, especially in southern Appalachia. Appalachia in perspective in the contemporary American scene. Writing-emphasis course.

366 Geography of Tennessee (3) Survey of the geography of the state of Tennessee including its cultural, economic, and physical resources, as well as an examination of the state’s diversity, development, and its geographic connections within the Southeast region and beyond. Writing-emphasis course.

371 Geography of Europe (3) Physical, cultural, and economic characteristics of Europe. Emphasis on the geographical dimensions of change in contemporary Europe. Writing-emphasis course.

373 Geography of South America (3) Physical, cultural, and economic characteristics of the countries of South America. Writing-emphasis course. (Same as Latin American Studies 373.)

379 Geography of Africa (3) Physical, cultural, and economic characteristics of Africa, with particular emphasis on the area to the south of the Sahara. Writing-emphasis course. (Same as Africana Studies 379.)

410 Global Positioning Systems and Geographic Data (3) Theory, field, and laboratory use of Global Positioning Systems for capturing digital geographic data; management of geographic data, including coordinate systems, datum issues, scanning digitalizing, map standards, and uncertainty in Geographic Information Systems.
Contact Hour Distribution: 2 hours lecture and 2 hours lab.

411 Introduction to Geographic Information Science (3) Concepts and methods of spatial analysis and their application using geographic information systems software and techniques. Emphasizes both theoretical and applied aspects of GIS.
Contact Hour Distribution: 2 hours lecture and 2 hours lab.
(Re)Prerequisite(s): 310.

412 Advanced Cartography Techniques (3) Cartographic design and data display techniques for reference and thematic maps. Basic principles and methods of map reproduction.
Contact Hour Distribution: 2 hours lecture and 2 hours lab.
(Re)Prerequisite(s): 310.

413 Remote Sensing: Types and Applications (4) Principles and uses of remote sensing imagery, digital data, and spectral data, with particular emphasis on geographic interpretation and mapping techniques.
Contact Hour Distribution: 3 hours lecture and 2 hours lab.
(Re)Prerequisite(s): 411.

414 Spatial Databases and Data Management (3) Types, sources, acquisition, and documentation of spatial data. Spatial database management systems and methods for data sharing.
Contact Hour Distribution: 2 hours lecture and 2 hours lab.
(Re)Prerequisite(s): 411.

415 Quantitative Methods in Geography (4) Geographic application of statistical techniques, point pattern analysis, spatial analyses, and correlation and regression techniques.
Contact Hour Distribution: 3 hours lecture and 2 hours lab per week.
(Re)Prerequisite(s): Mathematics 115 or Statistics 201.

419 Practicum in Cartography/Remote Sensing (2-6) Supervised practice in design and production of maps and other graphic materials in the Cartographic Services Laboratory or a similar organization.
Repeatable: May be repeated. Maximum 6 hours.
Registration Permission: Consent of department.

421 Geography of Folk Societies (3) Geographical study of folk culture, emphasizing traditional material culture and rural settlement, with examples drawn from eastern North America and selected foreign areas.

423 Geography of American Popular Culture (3) Geographical study of regional variation in popular cultures, especially focused on youth cultures in the United States. Writing-emphasis course. (Same as American Studies 423.)

432 Dendrochronology (4) Principles, techniques, and interpretation in tree-ring science. Applications in geography, climate, ecology, forestry, archaeology, and earth sciences.
Contact Hour Distribution: 3 hours lecture and 2 hours.
(Re)Prerequisite(s): 132.

433 The Land-Surface System (3) Characteristics of surface form, water, vegetation, and surface materials, and their regional interrelationships. People as evaluators and agents of change.
(Re)Prerequisite(s): 132.
434 Climatology (3) General circulation system leading to world pattern of climates. Climatic change and modification, and interrelationships of climate and human activity.  
(Re) Prerequisite(s): 131.

435 Biogeography (3) Study of the changing distribution patterns of plants and animals on a variety of spatial and temporal scales. The effects plate tectonics, Pleistocene climatic change, and human activity of world biota.  
Recommended Background: Introductory physical geography or coursework in botany or ecology.

436 Water Resources (3) Global water resources and hydrologic processes, including water availability, flooding, and water quality issues examined from physical and economic geographic perspectives.  
(DE) Prerequisite(s): 132.

439 Plant Geography of North America (3) Characteristics and distribution of major plant communities of Canada, the U.S., Mexico, and Central America. Relationships to climate, soil, fire, and human disturbance. Long-term history and future prospects.  
Recommended Background: Introductory physical geography or coursework in botany or ecology.

441 Urban Geography of the United States (3) Concepts and theories concerning development and significance of systems of cities and internal morphology of cities in the United States. Writing-emphasis course.

442 Urban Social Geography (3) Geographical study of urban culture; social production of neighborhoods; social and behavioral aspects of territoriality, residential mobility, segregation, and the rise of post-industrial and global cities.

443 Rural Geography of the United States (3) Geographical appraisal of rural areas of the United States, including small towns and urban fringes. Problems and potentials of rural America. Writing-emphasis course.

449 Geography of Transportation (3) Examination of transportation systems, emphasizing their effects on trade patterns, land use, location problems, and development.

450 Process Geomorphology (3) (See Geology 450.)

454 Terrain Analysis (3) Analysis of landscape history from digital elevation datasets and traditional topographic maps. Basement materials and structures; and erosional and depositional evidence, including fluvial, glacial, aeolian, and shoreline features, of past climatic and biological regimes.  
(DE) Prerequisite(s): 132 or Geology 101 and 102 or Geology 107 and 108.

466 Teaching and Learning Geography (3) Preparation of prospective teachers in the content, skills, strategies, and understandings needed for the effective teaching and assessment of geography in the K-12 schools. Course organization and content based largely on that of the National Geography Standards.

490 Internship (1-15) Career-related experience for geography majors with business, nonprofit, and government organizations.  
Grading Restriction: Satisfactory/No Credit grading only.  
Repeatability: May be repeated. Maximum 6 hours.  
Registration Permission: Consent of department.  

491 Foreign Study (1-15)  
Repeatability: May be repeated. Maximum 15 hours.  
Registration Permission: Consent of department.

492 Off-Campus Study (1-15)  
Repeatability: May be repeated. Maximum 15 hours.  
Registration Permission: Consent of department.

493 Independent Study (1-15)  
Repeatability: May be repeated. Maximum 15 hours.  
Registration Permission: Consent of department.

494 Undergraduate Research Experience (1-3) Supervised participation in active research projects.  
Grading Restriction: Satisfactory/No Credit grading only.  
Repeatability: May be repeated. Maximum 6 hours.  
Registration Permission: Consent of department.

495 Special Topics in Geography (1-4) Topics vary.  
Repeatability: May be repeated with consent of instructor. Maximum 8 hours.  
Registration Permission: Consent of instructor.

497 Honors: Senior Thesis (3) Students develop undergraduate thesis topic under the guidance of a faculty advisor.  
Comment(s): Completion of 75 hours with 3.2 GPA required.  
Registration Permission: Consent of thesis advisor.

498 Honors: Senior Thesis (3) Completion of senior thesis.  
Comment(s): Grade of A in 497 is required.  
Registration Permission: Consent of thesis advisor.

499 Proseminar in Geography (3) Major themes in geography, especially trends over the past 40 years. A required course for geography majors.  
Comment(s): To enroll, students must have completed 12 hours in geography.  
Registration Restriction(s): Minimum student level – senior.

Geology (424)

101 The Dynamic Earth (4) Physical processes within and upon the Earth’s surface, including the formation of rocks, plate tectonics and earthquakes, and landscapes. (NS)  
Contact Hour Distribution: 3 hours lecture and one 2-hours lab or field period.

102 Earth, Life, and Time (4) Fossils, evolution and ancient environments, plus a review of 4.5 billion years of Earth history. (NS)  
Contact Hour Distribution: 3 hours lecture and one 2-hours lab or field period.

103 The Earth’s Environments (4) Contemporary problems and solutions related to nature and human disturbance of the environment. Topics include: natural hazards, global climate change, pollution, resource depletion. (NS)  
Contact Hour Distribution: 3 hours lecture and one 2-hours lab or field period.

107 Honors: The Dynamic Earth (4) Laboratory and field emphasis to understanding physical processes, including the formation of rocks, plate tectonics, earthquakes, and landscapes. (NS)  
Contact Hour Distribution: One 2-hour lab and 2 field trips.  
Credit Restriction: Students may not receive credit for both 101 and 107.

108 Honors: Earth, Life, and Time (4) Laboratory and field emphasis to understanding fossils, evolution, and ancient environments throughout 4.5 billion years of Earth history. (NS)  
Contact Hour Distribution: One 2-hour lab and 2 field trips.  
Credit Restriction: Students may not receive credit for both 102 and 108.

201 Biodiversity: Past, Present, and Future (3) Introduction to how biodiversity has changed through time, especially past mass extinctions and current extinctions from human activities. Topics include measurement of biodiversity, how biodiversity originates, and the dynamics of extinction. (NS)  
Credit Restriction: May not be applied toward the geology major.

202 Earth as an Ecosystem: Modern Problems and Solutions (3) Study of the earth as an integrated system between physical and biological processes. Focus is on human disturbances such as habitat destruction and pollution. (NS)  
Credit Restriction: May not be applied toward the geology major.

203 Geology of National Parks (3) Geologic principles, processes, and earth materials responsible for the spectacular landscapes of national parks. Focus on interactions among internal earth processes, surficial earth processes, and human interactions. Writing-emphasis course. (NS)  
Contact Hour Distribution: 3 hours lecture and an optional field trip.  
Credit Restriction: May not be applied toward the geology major.

205 Age of the Dinosaurs (3) Survey of the major groups of dinosaurs: skeletal structure, ecology, environments, evolutionary history, and extinction. (NS)  
Credit Restriction: May not be applied toward the geology major.

310 Mineralogy (4) Introduction to the concepts of crystal chemistry, x-ray diffraction, optical mineralogy, and geochemical analysis of the important rock-forming minerals. Laboratory includes hand-specimen, x-ray diffraction, and microscopic identification of minerals.  
Contact Hour Distribution: 3 hours lecture and one 2-hour lab.  
(Re) Prerequisite(s): Chemistry 120.  
(DE) Corequisite(s): Chemistry 130.  
Recommended Background: Two 100-level geology courses.

320 Paleobiology (4) Critical analysis of the preserved record of ancient life, with emphases on recognition of evolutionary patterns, processes, and extinctions; interpretation of ancient environments; and the integrated use of fossils and other geological features in solving problems of geologic correlation and age dating. Statistical and qualitative approaches applied to field and laboratory data.  
Contact Hour Distribution: 3 hours lecture and one 2-hour lab.  
Recommended Background: Two 100-level geology courses.

330 Igneous and Metamorphic Petrology (4) Study of the properties of crystalline rocks, the processes that produce them, and the tectonic environments in which they form. Topics include interpretation of rock textures, phase diagrams, geochemical and isotopic compositions, magma generation and differentiation, effects of temperature, pressure, and fluids on mineral equilibria and kinetics.  
Contact Hour Distribution: 3 hours lecture and one 2-hour lab.  
(Re) Prerequisite(s): 310.
340 Earth Sedimentary Processes (4) Earth surface processes, including weathering and soil formation, the hydrologic cycle, physical sediment transport, biological and chemical sedimentation, and sediment genesis, applied to interpretation of the stratigraphic record. Contact Hour Distribution: 3 hours lecture and one 2-hour lab. Recommended Background: Two 100-level geology courses or consent of instructor.

370 Earth Structure and Geophysics (4) Stress and strain; mechanics and recognition of geologic structures (faults, joints, folds, foliations, lineations, microstructures); introductory plate tectonics; introductory earthquake and reflection seismology. Laboratory: geologic map interpretation, cross-section construction, fabric diagrams, fault-plane solutions, strain analysis, seismic interpretation. Field work includes field observation and measurement, recording data, regional geology. Contact Hour Distribution: 3 hours lecture and one 2-hour lab. Recommended Background: 310, 330, 340, and Physics 135 or consent of instructor.

380 Planetary Geoscience (4) Geologic, geophysical, and geochemical systems and processes at planetary scales. Topics include accretion, differentiation, outgassing, seismology, magnetism, geochronology, remote sensing, processes modifying surface morphology and materials, geochemical cycles, planetary exploration. Contact Hour Distribution: 3 hours lecture and one 2-hour lab. Recommended Background: Two 100-level geology courses.

401 Quantitative Methods in Geology (3) Applications of calculus and differential equations to problems in the earth sciences. Examples of the diffusion equation in hydrogeology; the wave equation in geophysics; mechanical modeling and boundary conditions in structural geology and tectonics. Contact Hour Distribution: 3 hours lecture. Recommended Background: Mathematics 142. Recommended Background: Two 100-level geology courses.

410 Mineral Science (3) Crystal chemistry of the rock-forming minerals. Interaction of electromagnetic radiation and crystalline solids. Optical properties of minerals, visible and infrared spectroscopy, and X-ray diffraction. Laboratory exercises emphasize thin section and X-ray diffraction methods of mineral analysis. Contact Hour Distribution: 2 lectures and one 2-hour lab. Recommended Background: Two 100-level geology courses.

411 Optical Mineralogy (2) Laboratory course on the principles of optical mineralogy. Use of petrographic microscope to identify rock-forming minerals with applications to petrology and environmental mineralogy. Recommended Background: Two 100-level geology courses.

412 Elements of X-ray Diffraction (2) Laboratory course on principles and applications of X-ray diffraction. Phase identification, quantitative determination of mineral abundances in mixtures, and crystal structure determination. Recommended Background: Mathematics 142. Recommended Background: Two 100-level geology courses.

440 Field Geology (5) Summer field course for advanced undergraduate geology majors and first-year graduate students in geology. Taught off-campus and requires the full time of the student. The course provides a synthesis of the major aspects of the geological sciences in a societal context. Field techniques demonstrated, practiced, and applied to the solution of geologic problems. Recommended Background: At least 16 hours from 310, 320, 330, 340, 370. Registration Permission: Consent of instructor.

450 Process Geomorphology (3) Integrative approach to the development of the surface of the Earth based upon case histories, maps, remote sensing imagery. (Same as Geography 450.) Contact Hour Distribution: 2 hours lecture and one 2-hour lab. Recommended Background: Two 100-level or 200-level geology courses or consent of instructor.

455 Basic Environmental Geology (3) Applications of the geological sciences toward a comprehension of the effects of geological processes on humans and the effects of human activities on the Earth’s environments. Recommended Background: Two 100-level or 200-level geology courses or consent of instructor.

460 Principles of Geochemistry (4) Applications of chemical principles to geologic systems with emphasis on problem-solving techniques. Topics include phase diagrams, partitioning of trace elements, thermodynamic principles for evaluating stabilities of mineral assemblages, aqueous solutions, and applications of radiogenic and stable isotopes to geologic systems. Contact Hour Distribution: 3 hours lecture and one 2-hour lab. Recommended Background: Chemistry 130 and Mathematics 142. Recommended Background: Two 100-level or 200-level geology courses or consent of instructor.

470 Applied Geophysics (3) Basic principles of data collection, processing, and analysis for several common geophysical techniques will be presented through lectures, computer assignments (labs), and field work. Passive (earthquake) and active (reflection and refraction) seismology, potential fields (gravity and magnetism), heat flow, electromagnetics (including ground penetrating radar), and electrical techniques will be covered. Contact Hour Distribution: 3 hours lecture and one 2-hour lab. Recommended Background: Two 100-level geology courses or consent of instructor. Recommended Background: 330, 340, or 370 or consent of instructor.

480 Principles of Economic Geology (4) Basic principles of data collection, processing, and analysis for several common geophysical techniques will be presented through lectures, computer assignments (labs), and field work. Passive (earthquake) and active (reflection and refraction) seismology, potential fields (gravity and magnetism), heat flow, electromagnetics (including ground penetrating radar), and electrical techniques will be covered. Contact Hour Distribution: 3 hours lecture and one 2-hour lab. Recommended Background: Two 100-level geology courses or consent of instructor. Recommended Background: 330, 340, or 370 or consent of instructor.

485 Principles of Hydrogeology (3) Physical principles of flow, flow equations, geologic controls, aquifer analysis, water well design/testing, introduction to transport processes. (Same as Civil Engineering 485.) Recommended Background: Two 100-level geology courses or consent of instructor. Recommended Background: 310, 330, 340, and Physics 135 or consent of instructor.

486 Hydrogeology Laboratory (1) Application and demonstration of hydrogeological principles in the field and laboratory. Recommended Background: One 100-level geology course or consent of instructor.

490 Special Problems in Geology (1-3) (CC) Student- or instructor-initiated course offered at the convenience of the department, with focus on specialized topics in the geological sciences. Repeatability: May be repeated. Maximum 12 hours.

491 Foreign Study (1-12) Repeatability: May be repeated. Maximum 12 hours. Credit Restriction: Maximum of 3 hours may be applied to the geology major. Registration Permission: Consent of instructor.

492 Off-Campus Study (1-12) Repeatability: May be repeated. Maximum 12 hours. Credit Restriction: Maximum of 3 hours may be applied to the geology major. Registration Permission: Consent of instructor.

493 Independent Study (1-12) Student- or instructor-initiated independent study. Repeatability: May be repeated. Maximum 12 hours. Credit Restriction: Maximum of 3 hours may be applied to the geology major. Registration Permission: Consent of instructor.

German (433)

101 Elementary German (3) Language laboratory required. Credit Restriction: Not available to students eligible for 150. Recommended Background: At least two years of German in high school. Comment(s): Placement exam required.

102 Elementary German (3) Language laboratory required. Credit Restriction: Not available to students eligible for 150. Recommended Background: At least two years of German in high school. Comment(s): Placement exam required.

111 Language Laboratory (0)

112 Language Laboratory (0)

150 Elementary German Transition (3) This course is designed to prepare students for enrollment in German 201. Credit Restriction: Since 150 is a review of elementary German, students who receive credit in this course may not also receive credit for any other 100-level German course and, therefore, also forfeit the 6 hours of elementary language credit awarded through placement examination. Recommended Background: At least 2 years of German in high school. Comment(s): Placement exam required.

201 Intermediate German (3) (CC) Recommended Background: 202 or placement exam.

202 Intermediate German (3) (CC) Recommended Background: 201.

215 German Special Topics (1-12) Repeatability: May be repeated 8 topic differs. Maximum 6 hours.

301 Introduction to German Literature (3) Recommended Background: 202 or placement exam.

302 Introduction to German Literature (3) Recommended Background: 202 or placement exam.
305 Readings in German (3) Topics in both literary and nonliterary fields. Students or student groups are encouraged to suggest topics for future courses. 
Repeatability: May be repeated. Maximum 6 hours. 
Recommended Background: 202 or placement exam.

311 Conversation and Composition (3) 
Repeatability: May be repeated. Maximum 6 hours. 
Recommended Background: 202 or placement exam.

312 Conversation and Composition (3) 
Repeatability: May be repeated. Maximum 6 hours. 
Recommended Background: 202 or placement exam.

323 German Film (3) A study of the German cinema from the earliest days to the present. Writing-emphasis course. (Same as Cinema Studies 323.)

331 Elements of German for Upper-Division and Graduate Students (3) Elements of language, elementary and advanced readings and a final 10,000 word translation project. 
Grading Restriction: A, B, C, No Credit grading. 
Credit Restriction: No credit for students who have completed 101-102. 
Comment(s): Open to graduate students (for undergraduate credit) preparing for language examinations and upper-division students desiring reading knowledge of the language.

332 Elements of German for Upper-Division and Graduate Students (3) Elements of language, elementary and advanced readings and a final 10,000 word translation project. 
Grading Restriction: A, B, C, No Credit grading. 
Repeatability: May be repeated. Maximum 6 hours. 
(RE) Prerequisite(s): 331 or 301. 
(DE) Prerequisite(s): 302 or 311 or 312. 
Comment(s): Open to graduate students (for undergraduate credit) preparing for language examinations and upper-division students desiring reading knowledge of the language.

350 German-Jewish Topics in Literature and Culture (3) Selected themes, issues, figures, movements, and problems in the German-Jewish relationship as reflected in literature and culture from the 1750s to the present. Variable content. Writing-emphasis course. (Same as Judaic Studies 350.) 
Repeatability: May be repeated with approval of department. Maximum 6 hours.

363 Modern German Culture (3) German culture from the mid-19th century to the present: customs, art, music, literature, society, state. Readings in English for non-majors and in German for majors. Fulfills upper-level distribution requirement for foreign studies for those who have not satisfied the history requirement with Western Civilization. 
Writing-emphasis course. 
Credit Restriction(s): Major credit, but no foreign language credit.

411 Advanced Conversation and Composition (3) 
(RE) Prerequisite(s): 311 and 312.

412 Advanced Conversation and Composition (3) 
(RE) Prerequisite(s): 311 and 312.

415 German Special Topics (3) 
Repeatability: May be repeated if topic differs. Maximum 6 hours. 
(RE) Prerequisite(s): 202.

416 Metropolis Revisited (3) The 20th-century German or Austrian metropolis in the mirror of history, literature, theory, art, architecture, and music. Taught in English. 
(RE) Corequisite(s): 101 and 102.

419 German Fairy Tales and Literary Fantasies (3) How and why forms of literary fantasies ranging from apocalyptic dreams to enchanted visions have changed over the centuries. Strong interdisciplinary component, tracing intersections between philosophy, psychology, religion and literary history, as well as exploring the relationship between literary, musical and artistic representations of specific themes. 
(RE) Prerequisite(s): 301 and 302.

420 Selected Topics in German Literature from 1750 to the Present (3) 
(RE) Prerequisite(s): 301 and 302.

425 Introduction to Descriptive Linguistics (3) (See French 425.)

426 Methods of Historical Linguistics (3) Phonetics, distinctive feature analysis, sound change types, nature of sound change, principles of reconstruction and fundamental assumptions about language change through time. Non-phonological linguistic change, language families. Proto-Indo-European and other proto-languages. (Same as French 426, Linguistics 426; Russian 426, Spanish 426.) 
(RE) Prerequisite(s): 311 and 312. 
(DE) Prerequisite(s): 301 or 302.

431 Images of Nature and the Body in German Culture (3) Representations of nature from idyllic refuge and object of praise to scientific object and precarious resource. Other themes include sexuality, the body, childhood, and aging. Discussions based on literary and documentary texts and films. 
(RE) Prerequisite(s): 301 and 302.

432 German Creative Thinking: Interdisciplinary Dialogues (3) Interdisciplinary connections between German literature and art, music, philosophy, theatrical praxis, psychology, dance, anthropology, history, and the sciences. Comparative analyses of literary and non-fictional texts, films, and other media. 
(RE) Prerequisite(s): 301 and 302.

433 Nation, Race, and Ethnicity (3) Examination of cultural constructions of nation, race, and ethnicities and the role they have played in German-speaking countries since the eighteenth century. Close study and analysis of fiction, non-fiction, and films that address controversial topics such as assimilation, integration, racial/ethnic identity formation and multiculturalism. 
(RE) Prerequisite(s): 301 and 302.

434 Extraordinary Wo(Men)–Outcasts, Rebels, Martyrs, and Saints (3) Examination of German texts and visual media that have challenged mainstream thinking throughout the centuries. Strong interdisciplinary component, focusing on literary and artistic forms that depict struggles involving religion, politics and gender. 
(RE) Prerequisite(s): 301 and 302.

435 Structure of the German Language (3) Contrastive English-German segmental and suprasegmental phonemes, contrastive English-German linguistic structures, selected topics in advanced German grammar and syntactic analysis. (Same as Linguistics 435.) 
(RE) Prerequisite(s): 311 and 312. 
(DE) Prerequisite(s): 301 and 302.

436 History of the German Language (3) Development of the German language from Indo-European through Proto-Germanic, Old High German, Middle High German to New High German. Internal and external linguistic history of German speech. (Same as Linguistics 436.) 
(RE) Prerequisite(s): 311 and 312. 
(DE) Prerequisite(s): 301 and 302.

477 German Honors (1) Preparation of honors paper portfolio and oral presentation. 
Registration Permission: Consent of department.

478 German Honors (1) Preparation of honors paper portfolio and oral presentation. 
Registration Permission: Consent of department.

485 Business German (3) German used in fields of business, government, administration and economics. 
(RE) Prerequisite(s): 311 and 312.

490 Internship (1-15) Career-related experiences in the United States or abroad. 
Grading Restriction: Satisfactory/No Credit grading only. 
Registration Restriction(s): German major/language and world business concentration.

491 Foreign Study (1-5) 
Repeatability: May be repeated. Maximum 15 hours. 
Registration Permission: Consent of program chair.

492 Off-Campus Study (1-15) 
Repeatability: May be repeated. Maximum 15 hours. 
Registration Permission: Consent of program chair.

493 Independent Study (1-15) 
Repeatability: May be repeated. Maximum 15 hours. 
Registration Permission: Consent of instructor.

494 German Community Service Practicum (1) Supervised by the director of the lower-division German program. Students assist German classes at local schools or they perform supervised service with local institutions that promote awareness of German culture among the general public. 
Repeatability: May be repeated. Maximum 3 hours. (Maximum 1 hour per semester.) 
(DE) Prerequisite(s): 411 or 485. 
Registration Permission: Consent of program chair.

497 Senior Honors (1-6) 
Repeatability: May be repeated. Maximum 6 hours. 
Registration Permission: Consent of program chair.

Global Studies (440)

250 Introduction to Global Studies (3) (See Sociology 250.) (CC)

393 Global Justice and Human Rights (3) (See Philosophy 393.)

482 Special Topics in Global Cinema (3) (See Modern Foreign Languages and Literatures 482.)

491 Foreign Study (1-15) 
Repeatability: May be repeated. Maximum 15 hours. 
Comment(s): Requires advance approval of hours and topic by program chair.

493 Independent Study (1-15) 
Repeatability: May be repeated. Maximum 15 hours. 
Comment(s): Requires advance approval of hours and topic by program chair.
Health (449)

110 Personal Health and Wellness (3) Information and behavior necessary to approach health and wellness scientifically and to develop confidence in judgments affecting personal health and wellness.
Credit Restriction: Students who have received credit for 330 may not receive credit for this course.

200 Seminar in Human Sexuality (2) Problems and responsibilities of being male and female as they relate to health and wellness.
Grading Restriction: Satisfactory/No Credit grading only.

225 Alcohol/Drugs and the College Student (2) Problems related to use and abuse of substances potentially harmful to health and wellness. Covers alcohol, drugs, tobacco and other substances.
Grading Restriction: Satisfactory/No Credit grading only.

230 Cardiopulmonary Resuscitation (2) Theory and skills to implement basic cardiac life support following cardiac arrest due to such conditions as heart attack, drowning, electrocution, suffocation, poisoning, drug intoxication, and vehicular and other accidents. Educational and preventive aspects of controlling cardiovascular disease. Leads to basic life support certification.

300 Health Education, Promotion, and Behavior (3) Health education goals, roles, target populations in school, community and health care settings; health careers and opportunities; health behavior and intervention techniques; health appraisal techniques; health promotion strategies.

305 Health of Adolescents (3) Profile of health needs, interests, and behaviors of adolescents and attention to the roles and functions of practitioners relating to youth and youth culture.

306 Health Instruction in Elementary Grades (3) School health program for the child in elementary grades. Students become familiar with organizing and presenting health content, health education program development, organizing and presenting health content, health education program development, and community resources, and communicating healthful lifestyle.

310 Advanced First Aid and Emergency Care (3) Theory and practice of first aid and emergency care. Provides essential information for developing functional first aid capabilities of lay persons. Course leads to advanced first aid and emergency care certification. Applicant must be at least 18 years old for certification.

330 Wellness For Health Professions (3) Emphasis on taking personal responsibility for one’s health. Includes topics related to the healthy lifestyle and provides specific guidelines of how to change inappropriate behaviors.
Credit Restriction: Students who have received credit for 330 may not receive credit for 110.

375 Health Communications (3) Communication strategies for health educators in various settings. Emphasis on interpersonal relationships, public relations, leadership, small group processes, health teams, and effective use of media.
(Re) Prerequisite(s): 300 or Public Health 300.

400 Consumer Health (3) Major consumer health care providers and health care services. Selecting, purchasing, evaluating and financing medical and health care services/products. (Same as Public Health 400.)

406 Death, Dying, and Bereavement (3) Aspects of dying, death and handling the trauma of loss. Medical, financial, physical, legal, and social implications of death. (Same as Safety 406.)

420 Sex Education as it Relates to Human Sexuality (3) Science of human sexuality. Emphasis on the trends, issues, and content of sex education.

425 Women’s Health (3) Factors influencing women’s health and women as consumers in nation’s health service delivery systems. Study of health problems/concerns of women and techniques for prevention, maintenance and/or correction. (Same as Women’s Studies 425.)

426 Health Education Program Planning (3) Principles of curriculum development, administration, implementation, methodology, and evaluation.
(Re) Prerequisite(s): 300 or 375.

430 Suicide and Crisis Intervention (3) Factors which make suicide a serious health problem. Assessment, intervention, and prevention techniques.

435 Substance Use and Abuse (3) Drug and alcohol abuse problems and suspected causes; pharmacology of drugs and effects on society; strategies for intervention and education.

465 Aging and Health (3) Aging process in a health perspective as it relates to health promotion and wellness of the aged.

470 Special Topics (1-3) For advanced students, teachers, school administrators, nurses and other paramedical personnel. Lectures, demonstrations, films, field trips, and supervised research in special health/wellness or health promotion issues.
Repeatability: May be repeated. Maximum 12 hours.
Registration Restriction(s): Minimum student level – junior.
304 History of the Roman Empire (3) 27 BC-AD 211. Age of Augustus, expansion of Roman citizenship, Flavian and Antonine dynasties, barbarians and Romans, the Second Sophistic, the Severans. Writing-emphasis course. (Same as Classics 304.)

305 History of the Late Roman Empire (3) AD 197-491. The Severan empire and the 3rd-century crisis, Diocletian and Constantine, the Christian empire, rise of bureaucratic government, the development of barbarian kingdoms, fall of the Roman Empire, from Roman to Byzantine in the east. Writing-emphasis course. (Same as Classics 305.)

307 Honors: Introduction/Historical Problems (3) Historical analysis, philosophy of history, principles and techniques of research emphasizing the roles of climates of opinion and frames of reference and the problems of evidence, interpretation and objectivity. Required of students working for honors in history. Registration Permission: Consent of honors director.

312 Medieval History (3) Early Middle Ages – 300-1100. Formation of medieval society and institutions. (Same as Medieval Studies 312.)

313 Medieval History (3) Later Middle Ages – 1100-1400. Height of medieval civilization, and its waning in the 14th century. (Same as Medieval Studies 313.)

314 Renaissance Europe (3) The period traditionally seen as a transition from the Middle Ages to the modern world. Interrelationship of cultural, social, economic, political and intellectual developments, with an emphasis upon historical interpretation.

315 Reformation Europe, 1500-1650 (3) The period during which Europe witnessed religious disunity, economic dislocation and insecurity, political centralization, intellectual skepticism, the origins of modern science, war and the witch craze. (Same as Religious Studies 315.)

316 Early Modern Europe, 1650-1800 (3) Dynamic conflict of a search for order in an age of revolutions, seen in the continued push for political centralization, the impact of the scientific revolution, the intellectual flowering known as the Enlightenment, and the English and French Revolutions.

319 Modern Europe, 1750-1914 (3) Political, industrial and intellectual revolutions against traditions. Topics such as the modern population explosion, urbanization, the political emergence of the middle class and the masses, nationalism, imperialism, rationalism and Romanticism in social thought and politics. Writing-emphasis course.

320 Contemporary Europe, 1900-Present (3) The transformation from industrial to post-industrial society and the transformation of the European nation-state. Topics such as war and depression and the consequent political and social instability; totalitarian control; decolonization; the impact of Freud, Einstein and existentialism; welfare states; and the problems of European unification. Writing-emphasis course.


322 Christian Thought in Late Antiquity (3) (See Religious Studies 322.)

323 Deviance and Persecution in the Christian West, 1100-1700 (3) Emergence and shifts in movements of dissent; popular perceptions and ecclesiastical policies and institutions designed to uncover and combat heretics, homosexuals, Jews, and witches. Writing-emphasis course.

330 History of England (3) To 1688. Medieval state, church, and society; origins of Anglo-American law, the monarchy and parliamentary government, the Reformation.

331 History of England (3) 1689 to the present. Seventeenth-century revolutions, commercial, agricultural and industrial revolutions; class conflict, empire, the welfare state, world wars, economic, social and cultural history. Themes include England's status as England's first colony from the Norman period to Cromwell and beyond, peasant revolt, Catholic-Protestant antagonism, nationalist revolutionary movements, the famine, home rule, partition, and independence in the 20th century, with continuing sectarian tensions.

340 History of Russia (3) To the middle of the 19th century.

341 History of Russia (3) From the middle of the 19th century.

342 History of Nazi Germany (3) The coming to power of the Nazi party in Germany, origins of ideology, rise and fall of the Third Reich. Topics include foreign policy, social policy, World War II, Hitler's brutal rule and racial programs, culminating in mass murder and genocide against the Jews of Europe. Writing-emphasis course.

350 Colonial America to 1763 (3) Social and cultural developments in the American colonies from the point of contact between Europeans and native peoples through the mid-18th century. Writing-emphasis course.

351 The American Revolution, 1763-1789 (3) The growing estrangement of the American colonies from the British Empire, the War for Independence, and the creation of a new American republic. Writing-emphasis course.

352 The United States During the Jacksonian Era, 1815-1860 (3) An examination of the major economic and political developments in antebellum America within the framework of the struggle between nationalism and sectionalism.

353 The Civil War and Reconstruction Era, 1860-1877 (3) An examination of the major political, economic, and social developments in the United States during the Civil War and Reconstruction era.

354 United States, 1877-1933 (3) America's political, economic, and social development from the Gilded Age through the Great Depression.

355 United States, 1933 to the Present (3) American experience from Roosevelt's New Deal through World War II and the Cold War to present. Emphasizes domestic history but includes military and foreign policy.

356 The 1960s in America (3) The politics, social movements, and cultural rebellions of the 1960s. Topics include race riots, anti-war protests, new art forms, Great Society legislation, the rise of neoconservatism, the movement of Africans from the South to the North, and the movement of women from the home to the workplace. Writing-emphasis course.

360 History of Latin America (3) Colonialism and independence – 1500-1825. Writing-emphasis course. (Same as Latin American Studies 360.)

361 History of Latin America (3) National development – 1825 to present. Writing-emphasis course. (Same as Latin American Studies 361.)

366 History and Archaeology of Mesopotamia (3) Mesopotamia (Assyria and Babylonia) from the 5th millennium to the Iron Age. Specific topics will include the development of village and state-level societies, and the emergence of social and political institutions, literacy, imperialism, and intersocietal interaction. Writing-emphasis course.

369 History of the Middle East (3) Rise and spread of Islamic civilization to the 16th century. Writing-emphasis course. (Same as Judaic Studies 369.)

370 History of the Middle East (3) The Middle East from the 16th century to the present. Impact of the West and background of current problems in the area. Writing-emphasis course. (Same as Judaic Studies 370.)

371 African History (3) Survey of sub-Saharan Africa from 700-1700. State creation, trade, spread of Islam. Writing-emphasis course. (Same as Africana Studies 371.)

372 African History (3) Dynamics of Africa's encounter with Europe from 1500 to the present. Slave trade, colonial, and independence eras. Writing-emphasis course. (Same as Africana Studies 372.)

373 Historical Issues (3) Variable content. Broad thematic issues in historical perspective. Especially suitable for non-majors, also open to majors. Lecture-discussion. Repeatability: May be repeated. Maximum 9 hours.

374 A History of Imperialism since 1850 (3) Relationships between the West and Africa, Asia, and Latin America since 1870 across a broad spectrum of critical issues. Includes economic interdependence and underdevelopment, ideologies in conflict with non-Western world views, and the search for individual identity in circumstances of cultural disruption. Writing-emphasis course.

375 Revolutions in Historical Perspective (3) Comparative history of major revolutions which transformed political, social, and economic structures in the Western, Russian, Chinese, Mexican, and Vietnamese. Contrasts and common patterns in their causes, phases and outcomes. Relations between leaders and masses. Major theories of revolution. Writing-emphasis course.

381 History of South Africa (3) South African history from the pre-colonial period through the apartheid and post-apartheid eras. Topics include African state formation and resistance to European colonization, the impact of industrialization, the evolution of modern resistance movements, and the first democratic elections in 1994. Writing-emphasis course. (Same as Africana Studies 381.)
383 History of Jewish Civilization I (3) Biblical-Talmudic periods (1200 BCE-600 CE). Origins of the Israelites, development of independent Israelite and Jewish states in the ancient Near East, rise of Jewish Diaspora communities, cultural convergences with Hellenism and early Christianity, and the development of Rabbinic Judaism. Writing-emphasis course. (Same as Judaic Studies 383.)

384 History of Jewish Civilization II (3) Medieval-present. The resiliency of Jewish civilization in the face of external pressures; Sephardic and Ashkenazi Jewry in medieval Europe, North Africa and the Middle East; Jewish mysticism; Judaism’s encounter with modernity, Hasidism, the Haskala; the Reform movement and Zionism; the Holocaust; the foundation of the State of Israel; and assimilation and the future of Judaism. Writing-emphasis course. (Same as Judaic Studies 384.)

385 Studies in World History (3) Variable content. Selected topics in world history involving analysis of two or more world cultures.
Repeatability: May be repeated. Maximum 9 hours.

389 History of China (3) China to 1600. Surveys the history of Chinese society from the Neolithic Revolution to 1600. Governmental structure, social organization, economic and technological developments, religious practices, artistic, intellectual and literary traditions, and cross-cultural exchanges. Writing-emphasis course.

390 History of China (3) China since 1600. Highlights China’s transformation from a dynastic system to a modern nation state and examines the forces, internal and external, driving China toward a major revolution in the 20th century. Writing-emphasis course.

391 Chinese Intellectual History (3) Surveys the history of intellectual traditions in China through the present. Examines the formation and transformation of cultural values, the social and political roles of intellectuals, and interactions between elite and popular cultural patterns. Writing-emphasis course.

392 History of Japan (3) Japanese history from mythological origins to the postwar age, with emphasis on politics and society. Topics include the influence of disease on society, Japanese feudalism, popular culture in the 1700s, the Meiji restoration, and Japanese militarism. Writing-emphasis course.
Credit Restriction: Students who have received credit for 395 may not receive credit for 392.

395 The Crusades and Medieval Christian-Muslim Relations (3) The major Christian crusades in the Middle East and Spain, 1050 to 1500; their civil wars and campaigns; present-day relationship. Writing-emphasis course. (Same as Africana Studies 395.)

407 Honors: Senior Paper (3) Bibliographic search, research and conceptual clarification for the senior paper.

408 Honors: Senior Paper (3) Organization and writing of the senior honors thesis. Required of students working for honors in history.
Credit Restriction(s): Grade of A or B required for honors credit.

429 Medieval Intellectual History (3) The evolution of thought in Europe from late antiquity to the advent of Humanism, especially connections between major thinkers and their social, economic, and professional contexts. Writing-emphasis course.

430 European Intellectual and Cultural History (3) Renaissance to Revolution – 1300-1789.

431 European Intellectual and Cultural History (3) Romanticism to Relativism – 1750-present.

432 Women in European History (3) Comparative analysis of the roles of women in Medieval, Renaissance and Victorian Europe. Relationship between family structure, sexual attitudes and the economic and political roles of women with an emphasis on autobiographical writings by women. Writing-emphasis course. (Same as Women’s Studies 432.)

439 Southeastern Indian History (3) Southeastern Indian history from the protohistoric period to the present. Interaction of Euroamerican, African-American, and Native-American peoples; warfare, slavery, resettlement and other policies from the American Revolution to 20th-century problems such as tribal sovereignty and dependency. Writing-emphasis course.

441 The American West (3) From 1803 to present, with emphasis on diverse ethnic cultures, colonial status, extractive industries, aridity, and the ongoing debate over the preservation of natural resources on federal lands. Writing-emphasis course.

442 Indian-White Relations in United States History (3) Dilemma of two cultures existing side by side; background and formulation of official Indian policy; undermining of policy by frontier circumstances; Indian wars and campaigns; present-day relationship. Writing-emphasis course.

443 History of the South (3) Old South from colonial period through the Civil War.

444 History of the South (3) New South from Reconstruction through the Second Reconstruction.

445 The African-American Experience from the Colonial Period to the Civil War (3) Africans in American society from the colonial period to the Civil War. Impact of the African slave trade on the cultural, economic, and social development of the colonies; slave culture, adaptation, and resistance; freed black people; and the formation of an African-American society. Writing-emphasis course. (Same as Africana Studies 445.)

446 The African-American Experience from the Civil War to the Present (3) Topics in 19th- and 20th-century African-American history. Writing-emphasis course. (Same as Africana Studies 446.)

449 History of Tennessee (3) Tennessee’s history from the 18th century to the present. Writing-emphasis course.

450 History of United States Foreign Relations to World War II (3) Surveys the history of United States foreign relations from independence to entry into World War II.

451 United States Military History, 1754 to the Present (3) The nation’s broad strategic aims and means used to attain them, shifting strategy, tactics and weaponry involved in wars, and relationship between American society and its armed forces. Writing-emphasis course. (Same as Military Science and Leadership 430.)

452 The American Experience in World War II (3) Diplomacy and warfare in Europe and Asia and the impact of the war on American society.

453 Women in American History (3) Approaches of 432 applied to American society. Writing-emphasis course. (Same as Women’s Studies 453.)

454 Cities and Urbanization in American History (3) Origins, growth, and influence of American cities in development of the nation, from colonial era to present. Writing-emphasis course.

459 Jefferson’s America, 1789-1815 (3) Nation-building in the United States from the Constitution to the War of 1812. Economic modernization, the new national government, the first political party system, foreign relations, the changing status of women, the growth of cities, and changing ideas about deference, class, and community. Writing-emphasis course.

460 History of Brazil (3) History of Latin America’s largest nation. History of boom and bust economic cycles, slavery and the abolition of slavery, populism, military rule, and democratization. Writing-emphasis course. (Same as Latin American Studies 460.)

461 Cuban Revolution in Historical Perspective (3) Cuban history with major emphasis on Cuban Revolution and Cuban-U.S. relations. Writing-emphasis course. (Same as Latin American Studies 461.)

462 History of Mexico (3) Pre-Columbian, colonial, national, and modern Mexican history, emphasizing the 20th century’s first true social revolution, the Mexican Revolution, and contemporary social and economic problems. Writing-emphasis course. (Same as Latin American Studies 462.)

470 Studies in British History (3) Variable content. Selected themes and issues in British history.
Repeatability: May be repeated. Maximum 9 hours.

471 Studies in Western European History (3) Variable content. Particular aspects of western European history such as witchcraft, revolutions, or nationalism.
Repeatability: May be repeated. Maximum 9 hours.

472 Studies in Central European History (3) Variable content.
Repeatability: May be repeated. Maximum 9 hours.

473 Studies in Eastern European History (3) Variable content. Selected aspects of eastern European history, especially on Russian and Polish history.
Repeatability: May be repeated. Maximum 9 hours.

474 Studies in Medieval and Early Modern European History (3) Variable content. Particular aspects of medieval and early modern Europe.
Repeatability: May be repeated. Maximum 9 hours.

475 Studies in Latin American History (3) Variable content. Significant issues in Latin American history. Writing-emphasis course. (Same as Latin American Studies 475.)

476 Studies in Asian History (3) Variable content. Particular aspects of Middle Eastern and East Asian history such as modernization in the Middle East, revolution in China, Japanese Feudalism, and others.
Repeatability: May be repeated. Maximum 9 hours.

479 Studies in United States History (3) Variable content. Particular aspects of United States history.
Repeatability: May be repeated. Maximum 9 hours.
### Hotel, Restaurant, and Tourism (514)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisite(s)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>210</td>
<td>Foodservice Operations Management (3)</td>
<td></td>
<td>Course restricted to junior and senior</td>
</tr>
<tr>
<td>211</td>
<td>Hotel and Resort Operations (3)</td>
<td></td>
<td>Course restricted to junior and senior</td>
</tr>
<tr>
<td>224</td>
<td>Tourism Management (3)</td>
<td></td>
<td>Course restricted to junior and senior</td>
</tr>
<tr>
<td>311</td>
<td>Human Resources Management in Hospitality and Retailing (3)</td>
<td></td>
<td>Course restricted to junior and senior</td>
</tr>
<tr>
<td>326</td>
<td>Food and Lodging Cost Control (1-3)</td>
<td></td>
<td>Course restricted to junior and senior</td>
</tr>
<tr>
<td>341</td>
<td>Food Safety and Sanitation for the Food Service Industry; Hazard Analysis</td>
<td>(DE) Prerequisite(s): 210 and 211.</td>
<td>Course restricted to junior and senior</td>
</tr>
<tr>
<td>360</td>
<td>Issues and Trends in Consumer Service (3)</td>
<td></td>
<td>Course restricted to junior and senior</td>
</tr>
<tr>
<td>390</td>
<td>Professional Development (3)</td>
<td></td>
<td>Course restricted to junior and senior</td>
</tr>
<tr>
<td>392</td>
<td>Legal Issues in Service Management (3)</td>
<td></td>
<td>Course restricted to junior and senior</td>
</tr>
<tr>
<td>410</td>
<td>Strategic Planning for the Hospitality Industry (3)</td>
<td>(RE) Prerequisite(s): 390</td>
<td>Course restricted to junior and senior</td>
</tr>
<tr>
<td>425</td>
<td>Legal Issues in Service Management (3)</td>
<td>(RE) Prerequisite(s): 390</td>
<td>Course restricted to junior and senior</td>
</tr>
<tr>
<td>435</td>
<td>Conventions and Meetings: Pursuit and Attainment (3)</td>
<td>(RE) Prerequisite(s): 210 or 211,</td>
<td>Course restricted to junior and senior</td>
</tr>
<tr>
<td>440</td>
<td>Special Topics: Hotel, Restaurant, and Tourism (1-3)</td>
<td>(RE) Prerequisite(s): 210 or 211</td>
<td>Course restricted to junior and senior</td>
</tr>
<tr>
<td>445</td>
<td>Advanced Food Production and Service Management (3)</td>
<td>(RE) Prerequisite(s): 390</td>
<td>Course restricted to junior and senior</td>
</tr>
<tr>
<td>450</td>
<td>Advanced Lodging Management (3)</td>
<td>(RE) Prerequisite(s): 390</td>
<td>Course restricted to junior and senior</td>
</tr>
<tr>
<td>484</td>
<td>International and Multicultural Tourism (3)</td>
<td>(RE) Prerequisite(s): 390</td>
<td>Course restricted to junior and senior</td>
</tr>
<tr>
<td>492</td>
<td>Directed Professional Experience II (9)</td>
<td>(RE) Prerequisite(s): 392 and 410</td>
<td>Course restricted to junior and senior</td>
</tr>
<tr>
<td>494</td>
<td>Directed Professional Experience II (9)</td>
<td>(RE) Prerequisite(s): 392 and 410</td>
<td>Course restricted to junior and senior</td>
</tr>
</tbody>
</table>

**Notes:**
- (DE) Prerequisite(s): 210 and 211.
- (RE) Prerequisite(s): 390, 211, and Accounting 200.
- (DE) Prerequisite(s): Mathematics 123 and 119.
Human Resource Management (530)
330 Foundations of Organizational Behavior (3) Behavioral processes in organizations: perception, motivation, power and influence, leadership; behavioral contingencies: group behavior, teamwork, politics, conflict, culture, change and development. (RE) Prerequisite(s): Business Administration 353. Registration Restriction(s): Majors in the College of Business Administration.

340 Training Systems: Strategies and Techniques (3) Fundamental knowledge, strategies and techniques of training systems – needs assessment, transfer of training, methods, evaluation. Broadening roles of training due to its strategic nature, changing nature of the workforce, the workplace, and technology. Develop original training modules with multiple components. (RE) Corequisite(s): Business Administration 353. Registration Restriction(s): Majors in the College of Business Administration.

350 Employee and Labor Relations (3) Evolution of and current practices related to effective workplace relations between the employer and employee. The examination of the union and nonunion environments for the organization. The establishment and maintenance of a safe, healthy, diverse and secure workplace. (RE) Corequisite(s): Business Administration 353. Registration Restriction(s): Majors in the College of Business Administration.

460 Compensation, Benefits, and Technologies for Human Resource Management (3) Compensation and benefits including direct and indirect compensation. Total reward systems that are used by companies and the common parts of a reward system. Mandated regulations of compensation and benefits, e-HR technologies and systems used for compensation and benefits management. (RE) Prerequisite(s): Business Administration 353. Registration Restriction(s): Majors in the College of Business Administration.

470 Staffing Organizations (3) Theory, methods, and issues pertaining to technical aspects of successful organizational staffing: legal environment, measurement and validation, performance appraisal and criterion development, selection tests, recruitment. (RE) Prerequisite(s): Business Administration 353. Registration Restriction(s): Majors in the College of Business Administration.

492 Off-Campus Study (1-6) Practical application and classroom instruction in human resources. Aspects of career development and the transition to the corporate world. Repeatability: May be repeated. Maximum 6 hours. Registration Restriction(s): Human resource management major. Registration Permission: Consent of instructor.

493 Independent Study (3) Readings, research, and special projects. Repeatability: May be repeated. Maximum 6 hours. Registration Restriction(s): Majors in the College of Business Administration. Registration Permission: Consent of instructor.

Industrial Engineering (556)
202 Work Methods and Measurement (3) Productivity and work design. Techniques of work methods design including flow, activity, and worker machine charts as well as work methods improvement techniques. Human work design criteria for the improvement of work methods. Stopwatch time studies, predetermined time systems, and work sampling are used to establish, document, and maintain time standards, standard data, and allowances. Learning curves and wage payment systems. Contact Hour Distribution: 2 hours lecture and 2 hours lab. (RE) Prerequisite(s): Engineering Fundamentals 230. (RE) Corequisite(s): Statistics 251. Recommended Background: Completion of freshman engineering courses. Comment(s): Available to other majors who have completed an introductory course in probability and statistics.

250 Sophomore Seminar (1) Exposure to the engineering design process through an apprenticeship with senior design teams in Industrial Engineering 422. Apprentices will maintain a journal documenting their activities in observing and assisting the senior design teams. Principles of professional oral communications. Topics and activities may include group problem solving, case studies, and formal presentations on the engineering design process employed by the senior design engineers with which they assisted. Grading will be based on journal submissions, contributions to the design team, and the quality of the presentations. Contact Hour Distribution: 2-hour lab. Grading Restriction: Satisfactory/No Credit grading only. (RE) Prerequisite(s): Engineering Fundamentals 152. Registration Restriction(s): Industrial engineering major; minimum student level – sophomore.

300 Engineering Data Analysis and Process Improvement (3) Engineering statistical methods as applied to modern engineering and business environments, process improvement, inferences about process output and behavior, and measurement systems. An introduction to the use of designed experiments to improve process. Contact Hour Distribution: 2 hours lecture. (RE) Prerequisite(s): Statistics 251 or Mechanical Engineering 345. Comment(s): Available to other majors who have completed an introductory course in probability and statistics.

301 Operations Research in Industrial Engineering I (3) Integrated system modeling concepts; linear mathematical programming models including the original simplex procedure, transportation and assignment problems, revised simplex procedure, dual simplex procedure, parametric linear programming (sensitivity analysis), and integer linear programming. (RE) Prerequisite(s): Mathematics 200. Recommended Background: Completion of an introductory course in probability and statistics.

304 Introduction to Human Factors Engineering (3) Human capabilities and limitations affecting work, work place, and work environment design. Emphasis on human factors methodology, human input requirements, human outputs, the design of human-machine interfaces, the analysis of stress on performance, environmental factors such as noise, lighting, and atmospheric conditions. Focus on designing the task to fit the person. Comment(s): Available to other majors who have completed an introductory course in probability and statistics. Registration Restriction(s): Minimum student level – junior.

310 Operation Research in Industrial Engineering II (3) Network models including PERT-CPM, introduction to nonlinear programming, dynamic programming, stochastic processes, and queuing theory. Basic decision analysis techniques and their applications in engineering practice. (RE) Prerequisite(s): 300 and 301. Recommended Background: Completion of a computer-programming course.

330 Manufacturing Materials/Processes (3) Characteristics of materials and processes used in modern manufacturing. (RE) Prerequisite(s): Materials Science and Engineering 201.

340 Process Improvement through Planned Experimentation (3) Review of fundamentals of continuous improvement, advanced statistical process control techniques, and strategies for short production runs. Use of experimental design techniques to improve processes, including single and multiple-factor designs, blocking and confounding, and fractional designs. Full factorial designs are compared to fractional designs to balance experimental efficiency with loss of information. Lab component utilizes statistical and simulation software to provide hands-on experience. Contact Hour Distribution: 2-hour lab. (RE) Prerequisite(s): 202 and 300. Recommended Background: Completion of an introductory course in probability and statistics.

350 Junior Seminar (1) The role of the industrial engineer in the fields of specialization; necessary training for each specialization, and project opportunities. Review of written communication in science and engineering. Topics and activities include case studies, literature searches, and preparation of written engineering reports including abstracts, executive summaries, and recommendations. (WC) Grading Restriction: Satisfactory/No Credit grading only. Contact Hour Distribution: 2-hour lab. Registration Restriction(s): Industrial engineering major; minimum student level – junior.

401 Integrated Manufacturing Systems (3) NC and CNC machine tools, robotics and related materials handling systems, hard automation, alternative integrated manufacturing systems, and manufacturing information/control systems. (RE) Prerequisite(s): 202 and 330.

402 Production System Planning and Control (3) Theory and application of forecasting systems including regression and time series models. Independent demand inventory models, including development of safety stock. All modules of Manufacturing Resource Planning (MRP) Systems, master production scheduling, resource requirements planning, bill of material and inventory file structures, material requirements planning, capacity planning, shop floor and purchase order control. Overview of just-in-time inventory concepts and MRP’s role in manufacturing automation. (RE) Prerequisite(s): 202 and 310.

403 Industrial Engineering Applications (1) To enhance and integrate the industrial engineering educational experience in preparing senior industrial engineering students for their transition to professional practice. Grading Restriction: Satisfactory/No Credit grading only. (RE) Corequisite(s): 422. Recommended Background: Completion of one semester of industrial engineering senior-level courses. Registration Permission: Consent of instructor.

Registration Restriction(s): Restricted to majors in the College of Engineering; minimum student level – junior.

406 Simulation (3) Simulation of complex production processes using current simulation software. Introduction to modeling concepts, flowcharting, random number generation, design of experiments; simulation logic and computer animation. Utilization of statistical tools to analyze inputs and outputs to simulation models. Lab component provides hands-on experiences in developing simulation models for relevant industrial engineering case studies.

Contact Hour Distribution: 2 hours lecture and 1 lab.

(Re) Prerequisite(s): 300 and 310.

Recommended Background: Completion of 202 and an introductory course in probability and statistics.

421 Information Systems Analysis and Design (3) Systems engineering approach to analysis and design of systems of information. Topics include: system development life cycle, system analysis methodologies, data analysis techniques, system design, joint application design, and rapid application design. Lab introduces analysis and design software tools.

(Re) Corequisite(s): 402.

Recommended Background: Completion of an introductory course in probability and statistics.

Registration Restriction(s): Industrial engineering major; minimum student level – senior.

422 Senior Problems Analysis (3) Current real-world problems will be drawn from local production and service organizations and presented by personnel from these organizations. Senior industrial engineering students will solve these real-world problems under the guidance of their instructor using industrial engineering methodology. These problems emphasize problem definitions, analysis, and presentation with considerations for engineering standards and realistic economic, environmental, ethical, safety, social, political, and other pertinent constraints.

Recommended Background: Completion of one semester of industrial engineering senior-level courses.

Registration Permission: Consent of instructor.


Registration Restriction(s): Minimum student level – senior.

427 Introduction to Lean Systems (3) Introduces a framework to implement improvements within an enterprise. This framework will focus on designing both the physical system and the associated information system. The students will be introduced to the basic concepts of facilities design based upon process design and requirements. The design of the physical and information systems will be based on integrating the concepts, best technology, and tools of lean enterprise and Six Sigma. Areas will include case studies, industry based projects, and the preparation of written engineering reports.

(Re) Corequisite(s): 406.

Recommended Background: 350, 401, and completion of an introductory course in probability and statistics.

450 Senior Seminar (1) Selected topics of interest to industrial engineers, including ethics, life-long learning, contemporary issues in engineering. Formal oral presentations and the preparation of articles by the students on the selected topics.

Contact Hour Distribution: 2-hour lab.

Grading Restriction: Satisfactory/No Credit grading only.

Registration Restriction(s): Industrial engineering major; minimum student level – senior.

454 Visual Basic Applications in Engineering (3) Fundamentals of designing, implementing, and distributing certain Visual Basic applications. Transformation of programming paradigms into object-oriented and code solutions using the Microsoft Visual Basic 6 rapid application development tool. Develop an understanding of the Visual Basic event-driven programming concepts, terminology, and available tools. Demonstrations and class discussion will supplement the provided class notes. Practical problems and projects will be assigned.

(Re) Prerequisite(s): 421.

Recommended Background: Completion of an introductory course in probability and statistics.

455 Human-Computer Interaction (3) Introduction to the analysis, design, production, and implementation of systems requiring interaction between humans and computers (HCI). Includes human sensory systems, human memory capacity, computer hardware/software requirements, input/output device design, and error message handling.

(Re) Prerequisite(s): 304.

Recommended Background: Completion of an introductory course in probability and statistics.

Registration Restriction(s): Minimum student level – junior.

483 Introduction to Reliability Engineering (3) (See Nuclear Engineering 483.)

484 Introduction to Maintenance Engineering (3) (See Nuclear Engineering 484.)

493 Special Topics in Industrial Engineering (1-3) Recent developments in industrial engineering including new areas of application, research techniques and new methodologies.

Repeatability: May be repeated: Maximum 6 hours.

Registration Restriction(s): Minimum student level – junior.

494 Special Topics in Industrial Engineering (1-3) Recent developments in industrial engineering including new areas of application, research techniques and new methodologies.

Repeatability: May be repeated: Maximum 6 hours.

Registration Restriction(s): Minimum student level – junior.

495 Special Topics in Industrial Engineering (1-3) Recent developments in industrial engineering including new areas of application, research techniques and new methodologies.

Repeatability: May be repeated: Maximum 6 hours.

Registration Restriction(s): Minimum student level – junior.

Information Management (558)

341 Business Process Analysis (3) Topics include strategic uses of information technology in business processes, analysis of business processes (including transaction processing cycles), analysis of business process risk exposures and controls, and conceptual modeling and the development of information systems.

(Re) Corequisite(s): Business Administration 342.

Registration Restriction(s): Majors in the College of Business Administration; minimum student level – junior.

342 Introduction to Database Systems (3) Fundamentals of database technology, database design, database use, database system controls, and database implementation. Focus is on developing the technical and business skills necessary to successfully gather information and improve business processes in technology-driven environments. Students work with modern database management systems software and develop database project management skills.

(Re) Prerequisite(s): 341.

Registration Restriction(s): Majors in the College of Business Administration.

442 e-Enterprise (3) Introduction to Internet enabled business processes that connect buyers, suppliers, and trading partners in dynamic, real-time information sharing partnerships. The course discusses and illustrates how the complete value chain, from procurement of raw materials on the supply side to consumer retailing and customer management on the demand side, is integrated and made potentially more efficient.

(Re) Prerequisite(s): 341.

Registration Restriction(s): Majors in the College of Business Administration.

443 Business Applications and Tools (3) Fundamentals of business application logic, business application architectures, and project management. Students learn to apply advanced tools associated with spreadsheets and databases, including the creation of objects, arrays, macros, and modules (using Visual Basic algorithms), for use in the design and development of object-oriented applications.

(Re) Prerequisite(s): 341.

Registration Restriction(s): Majors in the College of Business Administration.

Information Sciences (560)

102 Technologies for Information Retrieval (3) Principles, selection, and use of computer-based information management applications; software identification and task appropriate uses; telecommunications, utilities, and memory management systems; multiple operating systems and technology for national network connections; information services via computers.

310 Information Seeking: Resources and Strategies (3) Information as critical resource for research and decision-making; emphasis on planning, executing, and evaluating information searches. Focus on topic of student’s major.

330 Books and Related Materials for Children (3) Materials for children in leisure time or classroom activities; criteria for selecting books, magazines, recordings, films and related materials; storytelling and other devices for encouraging reading.
410 History of the Book (3) History of writing and various methods of bookmaking.

450 Writing About Science and Medicine (3) (See Journalism and Electronic Media 450.) (WC)

460 Introduction to Electronic Communication and Information Resources on the Internet (3) Exploration of worldwide information and communication resources: email, newsgroups, Web logs (blogs), and the World Wide Web. Discussion of information issues: copyright, censorship, privacy and access.

470 Advanced Electronic Communication and Information Resources on the Internet (3) Exploration of advanced information and communication issues, resources and tools: forms, scripting and search engines.

(RE) Prerequisite(s): 460.

Instructional Technology (569)

486 Introduction to Instructional Computing (3) Classroom uses of computers, applications for teachers, overview of computer operation and software for teachers of all grades.

Instructional Technology and Educational Studies (570)

495 Special Topics (1-3) Topics to be assigned.
Repeatability: May be repeated. Maximum 12 hours.

Interdisciplinary Programs (581)

100 Selected Topics (1-3)
Repeatability: May be repeated. Maximum 6 hours.

400 Selected Interdisciplinary Topics (1-12) Acceptable for major or minor credit in any interdisciplinary program with the consent of the Director of Interdisciplinary Programs and the respective chairperson.
Repeatability: May be repeated. Maximum 12 hours.

491 Foreign Study (1-15)
Repeatability: May be repeated. Maximum 15 hours.
Registration Permission: Consent of Director of Interdisciplinary Studies.

492 Off-Campus Study (1-15)
Repeatability: May be repeated. Maximum 15 hours.

493 Independent Study (1-15)
Repeatability: May be repeated. Maximum 15 hours.

Interior Design (582)

141 Introduction to Interior Design (2) Orientation to the profession; relationship to allied fields; contemporary development; philosophical approaches.
Registration Restriction(s): 3.0 GPA.

171 Visual Studies (3) Classification and properties of two and three-dimensional visual organization; design principles; visual and spatial elements within simple and complex visual systems; role of movement in experiencing scale and volumetric space.
Contact Hour Distribution: 3-hour studio.
(RE) Prerequisite(s): 171 and Architecture 171.
Registration Restriction(s): Interdepartmental major.

172 Introduction to Microenvironments (3) Human perceptions in micro-scale environments (residential, commercial, public spaces). Introduction to basic analytic and behavioral programming techniques.
Contact Hour Distribution: 3-hour studio.
(RE) Prerequisite(s): 171 and Architecture 171.

200 Human-Environment Systems (3) Role of culture in defining environment; physical, social and conceptual aspects of human-environment systems; impact of environment on human behavior, feelings and values; mutual-casual properties of behavior-environment systems.

221 Theory of Color (2) Introduction to basic color theory and its application to interior environments. Explores aesthetics and psycho-physiological effects.
(RE) Prerequisite(s): 172 and Architecture 172.

261 Materials and Resources for Interiors (2) The development and application of materials and resources used in interior architectural space.
(RE) Prerequisite(s): 172.

271 Fundamentals of Interior Design I (6) Principles of spatial organization; creative problem-solving and communication techniques for micro-interior environments; perspective drawing, model building, experimentation with black and white media.
Contact Hour Distribution: 6-hour studio.
(Re) Prerequisite(s): 171 and 172.
(DE) Prerequisite(s): 141 and Mathematics 123.

272 Fundamentals of Interior Design II (6) Problem solving, spatial organization of micro environments, increasingly larger scale; communication of total design solution graphic, audio and photographic techniques; emphasis on the use of color.
Contact Hour Distribution: 6-hour studio.
(Re) Prerequisite(s): 271.
(Re) Corequisite(s): 221.

311 History of Interior Architecture (4) Interior architecture, decoration and decorative arts within cultural context, ancient through 19th centuries, emphasis on Italy, France, England, and America.
(Re) Prerequisite(s): Art History 172 and Art History 173.
(DE) Prerequisite(s): 272.

312 History of Contemporary Interior Architecture (2) Interior architecture, furniture, design philosophies, 19th-century roots for 20th-century developments, Europe and America. Design as influenced by movements in the fine arts, technological advances, cultural context.
(Re) Prerequisite(s): 311.

331 Working Drawings (3) Building on previous computing skills, this course focuses on interior construction documentation through computer-aided design application. Course will emphasize technical graphic conventions, codes and regulations affecting the health, safety, and welfare of public.
Contact Hour Distribution: 3-hour studio.
(Re) Prerequisite(s): 272 and Architecture 231.

360 Business Principles and Practices (3) Interprofessional relationships and business practices, responsibilities, and liabilities.
(Re) Prerequisite(s): 272.

371 Intermediate Interior Design I (6) Studio problems of intermediate complexity with emphasis on programming and schematic design phases; in-depth analysis of current programming methods; integrates and extends previous knowledge of spatial organization and planning of micro and macro environments.
Contact Hour Distribution: 6-hour studio.
(Re) Prerequisite(s): 271 and 331.

372 Intermediate Interior Design II (6) Studio problems of intermediate complexity; integrates and extends previous knowledge of working drawings, materials and sources, design methods, spatial organization and planning of micro and macro environments.
Contact Hour Distribution: 6-hour studio.
(Re) Prerequisite(s): 371 and 331.

400 Proxemics (2) Analysis of space and behavior within a cultural context. Application to design and the design process. Examination of theoretical foundations and concepts from environment and behavior. Simulation techniques and methods for identifying behavioral design requirements.
Contact Hour Distribution: 2-hour studio.
(Re) Prerequisite(s): 360 and 372.

411 History of American Interior Architecture (3) Historical developments in interior architecture and decorative arts within cultural context, colonial era through 19th century.

420 Practicum for Interior Design (3) Supervised experience in a professional design firm; business practices, project management and design philosophy.
(Re) Prerequisite(s): 360 and 372.

433 Digital Graphics for Interior Design (3) Theory and techniques of visual problem solving as applied to application of interior design.
Contact Hour Distribution: 3-hour studio.
(Re) Prerequisite(s): 272 and Architecture 231.
Registration Restriction(s): 3.0 GPA.

460 Lighting for Interior Design (3) Lecture presentation of design principles in lighting, acoustics and mechanical systems. Course will emphasize fundamentals of lighting design practices and techniques. (QR)
(Re) Prerequisite(s): 271 and Physics 161.
(Re) Corequisite(s): 372.

466 Environmental Factors in Design (3) Human factors and associated research techniques and design methodologies related to the built environment.
471 Advanced Interior Design I (6) Non-residential studio problems of advanced complexity; integrates and extends previous experiences utilizing systematic design methodologies.  
**Contact Hour Distribution:** 6-hour studio.  
(RE) Prerequisite(s): 372 and 420.  
(DE) Prerequisite(s): 460.  
(RE) Corequisite(s): 400.  
472 Advanced Interior Design II (6) Comprehensive studio problems of advanced complexity; integrates and extends previous experiences utilizing systematic design methodologies.  
**Contact Hour Distribution:** 6-hour studio.  
(RE) Prerequisite(s): 471.  
480 Furniture Design (4) Human factors data applied to design of body support, task support, storage and systems, construction drawings and scale models; advanced millwork design; materials and manufacturing processes.  
**Contact Hour Distribution:** 2-hour lecture and 2-hour studio.  
(RE) Prerequisite(s): 372 or Architecture 372.  
491 International Study (1-15) Individual or group studio and/or study abroad; academic research, field investigation, or studio experiences.  
Determination of credit based on particular international experience.  
**Repeatability:** May be repeated. Maximum 15 hours.  
493 Directed Studies in Interior Design (1-4) Student or staff initiated research or studio investigation of special topic.  
**Repeatability:** May be repeated. Maximum 8 hours.  
**Credit Restriction:** Elective credit only.

**Italian (584)**

111 Elementary Italian (3) Introduction to Italian. Language laboratory required.  
112 Elementary Italian (3) Introduction to Italian. Language laboratory required.  
(RE) Prerequisite(s): 111.  
211 Intermediate Italian (3) Sequence stresses reading, writing, listening and speaking Italian to prepare for upper-division courses in the language. Language laboratory required.  
**CC**  
(RE) Prerequisite(s): 112.  
212 Intermediate Italian (3) Sequence stresses reading, writing, listening and speaking Italian to prepare for upper-division courses in the language. Language laboratory required.  
**CC**  
(RE) Prerequisite(s): 211.  
311 History of Italian Literature (3) Chronological view of Italian literature in relation to the specific historical developments that have influenced it.  
(RE) Prerequisite(s): 212.  
312 History of Italian Literature (3) Chronological view of Italian literature in relation to the specific historical developments that have influenced it.  
(RE) Prerequisite(s): 212.  
314 Highlights of Italian Civilization (3) Survey of Italian civilization with special attention to major social, political and cultural achievements.  
(RE) Prerequisite(s): 212.  
341 Intermediate Grammar, Composition and Conversation (3) Grammatical analysis of Italian prose; review of grammatical principles and their application in translation from English to Italian, both written and oral; exercises in free composition.  
(RE) Prerequisite(s): 212.  
342 Intermediate Grammar, Composition and Conversation (3) Grammatical analysis of Italian prose; review of grammatical principles and their application in translation from English to Italian, both written and oral; exercises in free composition.  
(RE) Prerequisite(s): 341.  
401 Dante and Medieval Culture (3) Introduction to the significance of this great Italian writer. Writing-emphasis course.  
*(Same as Medieval Studies 401.)*  
402 Petrarch and Boccaccio (3) Writing-emphasis course.  
*(Same as Medieval Studies 402.)*  
403 Literature of the Rinascimento (3) From Pucci to Tasso, the Quattrocento and the Cinquecento.  
404 The Modern Italian Short Story (3)  
406 The Modern Italian Novel (3)  
409 Directed Readings (3)  
410 Italian Theatre (3) Survey of Italian theatre from Renaissance to present.

**Italian Cultural Studies (584)**

414 Italian Cultural Studies (3) This course will examine Italian culture as a set of practices characteristic of Italian society, from its mode of material production to its eating habits, dress codes, celebrations, and rituals. The objective of the course is to achieve a greater understanding of contemporary Italian culture. Writing-emphasis course.  
421 Topics in Italian Literature and Cinema (3) Examination of Italian literature and cinema from 1930 to the present focusing on literary works translated into English and adapted into film. Objectives of the course are to investigate the relationship between literature and cinema and to achieve a greater understanding of Italian culture since 1930. Films will be shown in Italian with English subtitles. Writing-emphasis course.  
*(Same as Cinema Studies 421.)*  
**Repeatability:** May be repeated. Maximum 15 hours.  
490 Internship (1-15) Career-related experiences in the United States or abroad.  
**Grading Restriction:** Satisfactory/No Credit grading only.  
**Repeatability:** May be repeated. Maximum 15 hours.  
**Registration Restriction(s):** Italian major/language and world business concentration.  
491 Foreign Study (1-15)  
**Repeatability:** May be repeated. Maximum 15 hours.  
493 Independent Study (1-15)  
**Repeatability:** May be repeated. Maximum 15 hours.

**Japanese (589)**

151 Elementary Japanese I (5)  
*(See Asian Languages 151.)*  
152 Elementary Japanese II (5)  
*(See Asian Languages 152.)*  
251 Intermediate Japanese I (5)  
*(See Asian Languages 251.)*  
**(CC)**  
252 Intermediate Japanese II (5)  
*(See Asian Languages 252.)*  
**(CC)**  
313 Japanese Literature in English Translation (3)  
*(See Asian Languages 313.)*  
314 Japanese Literature in English Translation (3)  
*(See Asian Languages 314.)*  
351 Advanced Japanese I (4)  
*(See Asian Languages 351.)*  
352 Advanced Japanese II (4)  
*(See Asian Languages 352.)*  
413 Topics in Japanese Literature (3)  
*(See Asian Languages 413.)*  
451 Readings in Pre-Modern Japanese Literature (3)  
*(See Asian Languages 451.)*  
452 Readings in Modern Japanese Literature (3)  
*(See Asian Languages 452.)*

**Journalism and Electronic Media (592)**

**WC**  
**Contact Hour Distribution:** Lecture and lab.  
(RE) Prerequisite(s): English 102 and Communication and Information 150.  
201 Writing for Mass Media (3) Principles and practice of news writing for print and electronic media. Comprehensive overview of the major forms of writing for the mass media.  
**WC**  
**Credit Restriction(s):** Credit not available for majors in the College of Communication and Information.  
(RE) Prerequisite(s): English 102.  
**Contact Hour Distribution:** Lecture and lab.  
(RE) Prerequisite: 200.  
223 Foundations of Video Production (3) A foundational course designed to introduce the process of writing and producing video programs. Includes lectures and lab hours in both studio and field production. Students are introduced to writing and aesthetics while working hands-on with all studio and field equipment in the electronic video process from conception through production to post-production. As part of this class, students will provide production support for ongoing cable television programs produced for the campus cable channel.  
**Contact Hour Distribution:** Lecture and lab.  
(RE) Prerequisite(s): 200 and 275.
275 Introduction to Journalism and Electronic Media (3) Overview of print and electronic media, including content selection, delivery methods, economic and ownership structures, and media effects.

Contact Hour Distribution: Lecture and lab.

280 Communication Graphics (3) Principles and practice in the visual aspect of communication. Emphasis on graphic design, typography, illustration and photography, printing and production techniques and publication design.

Contact Hour Distribution: Lecture and lab.

(RE) Prerequisite(s): 200 or 201.

290 Photojournalism (3) Principles and practice of photography as a creative tool of communication. Basic camera technique, digital photography, historical and contemporary photojournalism.

Contact Hour Distribution: Lecture and lab.

302 Readership and Audience Analysis (3) Measurement and analysis of readership/audience. Broad overview of methods used for newspaper, magazine, radio, television, cable, and the Internet. Applications to both internal decision-making and external communication in media.

(RE) Prerequisite(s): 275.

311 Electronic News Writing and Reporting (3) Writing and reporting for electronic news media (radio, television/cable, and the Internet). Lecture and lab course with writing emphasis. Introduction to Computer Assisted Reporting (CAR).

Contact Hour Distribution: Lecture and lab.

(RE) Prerequisite(s): 200 and 275.

315 Print/Web News Writing and Reporting (3) Gathering and writing news for publication in magazines and newspapers.

(RE) Prerequisite(s): 200.

320 Mass Media Commercial Writing and Promotion (3) Study of media (print, radio, television, cable, Internet) commercial writing and promotion with an emphasis on writing persuasive messages. Analysis of markets and research data. Planning promotional campaigns.

(RE) Prerequisite(s): 200 and 275.

333 Print/Web Editing (3) Methods and practice in judging news, editing copy, writing headlines and designing newspapers and magazines. Emphasis on precise word use and news display.

Contact Hour Distribution: Lecture and lab.

(RE) Prerequisite: 315 or Public Relations 320.

336 Intermediate Video Production (3) Emphasis on concepts related to message design, development, field acquisition, writing, digital videography, producing and directing video productions. Students are introduced to nonlinear digital editing. As part of the class, students provide production support for on-going programs produced for digital cable television channel.

Contact Hour Distribution: Lecture and lab.

(RE) Prerequisite: 236.

360 Electronic Media Performance (3) Development of vocal, visual, and performance skills for announcers, interviewers, newscasters, and reporters.

Contact Hour Distribution: Lecture and lab.

(RE) Prerequisite(s): 275.

365 Sports Broadcasting (3) Introduction to the skills needed to perform as a radio or TV sportscaster. Includes voice and diction training, interviewing athletes, radio and TV sportscasting, and play-by-play techniques.

Contact Hour Distribution: Lecture and lab.

(RE) Prerequisite(s): 200 and 275.


375 Sports Reporting Across the Media (3) An introductory course in gathering, writing and presenting sports news in a variety of formats, including print, photography, radio, television and the Web.

Contact Hour Distribution: Lecture and lab.

400 Mass Communication Law and Ethics (3) Emphasis on legal issues affecting print and electronic media, including libel, privacy, copyright, free press-fair trial, governmental regulations of advertising, electronic media and public relations. Also includes ethical standards and practices. (Same as Legal Studies 400.)

411 Electronic News Gathering (3) Writing, reporting, shooting, editing, and producing for the electronic news media. Lecture and lab course providing students with experience as reporters/producers for a television and cable news program. Includes an overview of electronic news-gathering equipment as well as non-linear video editing.

Contact Hour Distribution: Lecture and lab.

(RE) Prerequisite: 311.

412 Opinion Writing (3) Analysis of editorial positions and practices. Writing editorials/columns for newspapers, magazines, corporate publications, and electronic media (radio, television, cable, Internet), with emphasis upon study and use of rhetorical devices and logic.

414 Magazine and Feature Writing (3) Techniques of writing features and in-depth articles for mass circulation and specialized magazines or newspapers. Organizing and presenting material, with attention to problems in areas such as business, science, agriculture, and the humanities. (WC)

(RE) Prerequisite(s): 333.

415 Magazine Industry Workshop (3) Introduction to the magazine industry including management, design, writing and editing, and interactively analyzing print and electronic format magazines. Planning new products for the marketplace.

Contact Hour Distribution: Lecture and lab.

(RE) Prerequisite(s): 414.

420 Media Sales (3) Problems and practices of newspaper, radio, television, cable, and Internet advertising sales. Practical experience in radio and television sales. Use of ratings and new technology in sales presentations.

(RE) Prerequisite(s): 302 and 320.


Contact Hour Distribution: Lecture and lab.

(RE) Prerequisite: 222.

430 Public Affairs Reporting (3) Reporting (including database reporting) and writing about courts, government and public agencies. Event and issue-oriented journalism of politics and public affairs.

(RE) Prerequisite(s): 333.

433 Editing and Layout for Print/Web (3) Editing and layout for newspapers, magazines and online publishing.

Contact Hour Distribution: Lecture and lab.

(DE) Prerequisite(s): 333.

436 Advanced Video Production (3) Students are actively involved in the program development process, including conceiving, writing and producing original video productions, as well as maintenance of existing shows airing weekly on the University's digital cable channel. Advanced post-production techniques, including non-linear digital editing.

Contact Hour Distribution: Lecture and lab.

(RE) Prerequisite: 336.

444 Journalism as Literature (3) Study of writers from the 17th century to the modern era whose works have endured as both journalism and literature. An emerging genre called literary journalism will be examined as a means of cultural reporting with a personal narrative style. (WC)

446 Video Capstone (3) Overview of production management. The course will be taught in conjunction with visiting professionals from a variety of corporate and commercial video production facilities. In-depth seminars on production management, including budgeting, planning, staffing, producing, directing, and evaluating video projects. Students are involved in managing productions produced for digital cable channel.

(RE) Prerequisite: 436.

450 Writing about Science and Medicine (3) Writing workshop to analyze examples of successful science writing and write series of articles for general public based on scientific journals, news conferences, technical meetings and interviews. (Same as Information Sciences 450.) (WC)

451 Environmental Writing (3) Writing for news media (including the Internet) on such environmental issues as sprawl, forests, air pollution, energy, and invasive species. Students hear presentations from and interview experts in environmental science and reporting. Exemplary environmental writing is analyzed. (WC)

456 Science Writing as Literature (3) Survey of important science writing for the general public across the spectrum of science, engineering, and medicine. Works by authors such as Arthur C. Clarke, Stephen J. Gould, and Richard Selzer will be analyzed for literary qualities in a quest to understand why some science writing succeeds. (WC)

457 Media and Society (3) Media processes and effects on society. Major theories/research are introduced and applied to current issues.

(RE) Prerequisite(s): 200 and 275.

460 Electronic News Operations (3) Production of news programs for television, cable and the Internet. Advanced course in electronic news gathering, reporting, digital videography, non-linear editing, and producing. Computerized newsroom and studio are utilized.

Contact Hour Distribution: Lecture and lab.

(RE) Prerequisite(s): 411.

465 Media and Diversity (3) Major theories/research are introduced regarding media effects on public perceptions and attitudes toward various social groups (e.g., groups based on gender, class, race/ethnicity, and sexual orientation). Discussion of historical and legal implications of media effects. (Same as Women's Studies 465.)

(RE) Prerequisite(s): 200 and 275.

Registration permission: Consent of instructor.
470 Cable, Broadband, and Interactive Digital Media (3) History and structure of cable television and other broadband delivery systems (DBS, Internet, etc.). Development of digital broadcasting, interactive television, and other broadband media systems and digital technologies. Regulatory, policy, programming, and management issues arising from new media and digital technologies. (RE) Prerequisite(s): 275.

475 Sports Writing (3) Writing sports stories, features and columns. Sports writing is considered from the standpoint of sportswriters, sports information specialists and others with an interest in writing about sports.


485 Media Management (3) Business policies and practices of newspaper, broadcast, cable, and Internet operations. Departmental functions, cost and income analysis, leadership styles and techniques with an emphasis on mid and senior level management. Job-hunting guidelines provided.


493 Independent Study (1-15) Repeatability: May be repeated. Maximum 15 hours. Comment(s): Approval of hours and topics by advisor required.

498 Practicum (1-2) Work and learning experience at newspaper, radio, television, cable, Web, or other non-broadcast facilities. Final written report required. Grading Restriction: Satisfactory/No Credit grading only. Registration Restriction(s): Minimum student level – senior.

499 Foreign Study (1-15) Repeatability: May be repeated. Maximum 15 hours.

499 Special Topics (3) Topics vary. Repeatability: May be repeated. Maximum 6 hours.

498 Internship (3) Full-time (30-40 hours per week) work experience in news, production, or sales and management with non-university professional organization. Educational experience beyond that available at the university. Final term paper. Credit Restriction(s): No retroactive credit for previous work experience. Registration Restriction(s): Minimum student level – senior.

Judaic Studies (595)

311 Ancient Hebraic Religious Traditions (3) (See Religious Studies 311.)

312 Religious Aspects of Biblical and Classical Literature (3) (See Religious Studies 312.)

320 Women and Religion (3) (See Religious Studies 320.)

322 Medieval Philosophy (3) (See Philosophy 322.) (WC)

350 German-Jewish Topics in Literature and Culture (3) (See German 350.)

369 History of the Middle East (3) (See History 369.)

370 History of the Middle East (3) (See History 370.)

381 Introduction to Judaism (3) (See Religious Studies 381.)

383 History of Jewish Civilization I (3) (See History 383.)

384 History of Jewish Civilization II (3) (See History 384.)

385 Contemporary Jewish Thinkers (3) (See Religious Studies 385.)

386 Voices of the Holocaust (3) (See Religious Studies 386.)

395 The Crusades and the Medieval Christian-Muslim Relations (3) (See History 395.)

405 Modern Jewish Thought (3) (See Religious Studies 405.)

425 Early Christian and Byzantine Art to 1350 (3) (See Art History 425.)

431 Medieval Art of the West 800-1400 (3) (See Art History 431.)

484 Studies in Jewish History (3) (See History 484.)

Latin American Studies (600)

251 Introduction to Latin American Studies (3) (See History 255.) (CC)

252 Introduction to Latin American Studies (3) (See History 256.) (CC)

313 Peoples and Cultures of Mesoamerica (3) (See Anthropology 313.)

314 Peoples and Cultures of South America (3) (See Anthropology 316.)

315 Aspects of Luso-Brazilian Literature (3) (See Portuguese 315.)

316 Luso-Brazilian Cinema and Literature (3) (See Portuguese 316.)

319 Caribbean Cultures and Societies (3) (See Anthropology 319.)

331 Introduction to Hispanic Culture (3) (See Spanish 331.)

333 Survey of Spanish-American Literature: 1700 to Present (3) (See Spanish 333.)

334 Survey of Hispanic Literatures: Beginnings-1700 (3) (See Spanish 334.)

360 History of Latin America (3) (See History 360.)

361 History of Latin America (3) (See History 361.)

373 Geography of South America (3) (See Geography 373.)

401 Cultural Plurality and Institutional Changes in Latin America (3) (See Spanish 401.)

402 Latin American Studies Seminar (3) (See Spanish 402.)

431 Topics in Literature and Language of the Portuguese Speaking World (3) (See Portuguese 431.)

432 Topics in the Literature and Language of the Portuguese Speaking World (3) (See Portuguese 432.)

456 Latin American Government and Politics I (3) (See Political Science 456.)

360 History of Brazil (3) (See History 360.)

461 Cuban Revolution in Historical Perspective (3) (See History 461.)

462 History of Mexico (3) (See History 462.)

465 Latin American Film and Culture (3) (See Spanish 465.)

475 Studies in Latin American History (3) (See History 475.)

479 Disenchanted Texts in Hispanic Literature (3) (See Spanish 479.)

491 Foreign Study (1-15) Repeatability: May be repeated. Maximum 15 hours.

492 Off-Campus Study (1-15) Repeatability: May be repeated. Maximum 15 hours.

493 Independent Study (1-15) Repeatability: May be repeated. Maximum 15 hours.

Legal Studies (617)

244 Professional Responsibility (3) (See Philosophy 244.) (AH) (OC)

301 The Legal Environment of Business (3) (See Business Law 301.)

330 Law in American Society (3) (See Political Science 330.)

331 Sociological Research (3) (See Sociology 331.)

340 Women, Politics, and the Law (3) (See Women’s Studies 340.)

341 Judicial Process (3) (See Political Science 341.)

362 Roman Law (3) (See Classics 362.)

392 Philosophy of Law (3) (See Philosophy 392.)

393 Global Justice and Human Rights (3) (See Philosophy 393.)

400 Mass Communication Law and Ethics (3) (See Journalism and Electronic Media 400.)

401 Political Analysis (3) (See Political Science 401.)

430 United States Constitutional Law: Sources of Power and Restraint (3) (See Political Science 430.)

431 United States Constitutional Law: Civil Rights and Liberties (3) (See Political Science 431.)

435 Criminal Law and Procedure (3) (See Political Science 435.)

442 Administrative Law (3) (See Political Science 442.)

445 Administration of Justice (3) (See Political Science 445.)

451 Criminal Justice (3) (See Sociology 451.)

455 Society and Law (3) (See Sociology 455.)

469 Freedom of Speech (3) (See Communication Studies 469.)

470 International Law (3) (See Political Science 470.)

490 Language and Law (3) (See English 490.)

493 Independent Study (1-3) Repeatability: May be repeated. Maximum 3 hours. Registration Permission: Consent of chair.
### Linguistics (623)

- **200 Language, Linguistics, and Society (3)** Introduction to linguistics with focus on language development and use of language by individuals and groups.
  - (DE) Prerequisite(s): English 102 or 118 or 132.
- **321 Introduction to Old English (3)** (See English 321.)
- **371 Foundations of the English Language (3)** (See English 371.)
- **372 The Structure of Modern English (3)** (See English 372.)
- **400 Topics in Linguistics (3)** 
  - Repeatability: May be repeated. Maximum 6 hours.
- **411 Linguistic Anthropology (3)** (See Anthropology 411.)
- **423 The Development of Diachronic and Synchronic Linguistics (3)** Development of western linguistic thought from the Hebrews and Greeks through modern times. Readings from Boas, Sapir, Bloomfield, and others.
  - Recommended Background: 9 hours of courses (300 or above) required for linguistics concentration.
- **425 Introduction to Descriptive Linguistics (3)** (See French 425.)
- **426 Methods of Historical Linguistics (3)** (See German 426.)
- **429 Romance Linguistics (3)** (See French 429.)
- **431 Topics in Hispanic Linguistics (3)** (See Spanish 430.)
- **435 Structure of the German Language (3)** (See German 435.)
- **436 History of the German Language (3)** (See German 436.)
- **471 Sociolinguistics (3)** (See English 471.)
- **472 American English (3)** (See English 472.)
- **474 Teaching English as a Second or Foreign Language I (3)** (See English 474.)
- **476 Second Language Acquisition (3)** (See English 476.)
- **477 Pedagogical Grammar for ESL Teachers (3)** (See English 477.)
- **485 Special Topics in Language (3)** (See English 485.)
- **490 Language and Law (3)** (See English 490.)
- **491 Foreign Study (1-15)** 
  - Repeatability: May be repeated. Maximum 15 hours.
- **492 Off-Campus Study (1-15)** 
  - Repeatability: May be repeated. Maximum 15 hours.
- **493 Independent Study (1-15)** 
  - Repeatability: May be repeated. Maximum 15 hours.

### Logistics (626)

- **310 Intermediate Logistics (3)** The concepts, principles, and methods used to plan, organize, and manage logistics activities in a global environment. Activities covered include: customer service, order fulfillment, inventory, materials and distribution planning, transportation, warehousing, and network design.
  - (RE) Prerequisite(s): Business Administration 331.
  - Registration Restriction(s): Majors in the College of Business Administration.
- **411 Logistics Analytical Methods I (3)** Introduction to the principle analytical tools and models that are used in logistics; application of the analytical tools to logistics problems; using these techniques to support negotiations in a global business world.
  - (RE) Prerequisite(s): 310.
  - Registration Restriction(s): Majors in the College of Business Administration.
- **412 Logistics Analytical Methods II (3)** Advanced analytical tools and techniques used to solve strategic, tactical, and operational global supply chain problems; managing the use of quantitative analytical tools in logistics.
  - (RE) Prerequisite(s): 310.
  - (RE) Corequisite(s): 411.
  - Registration Restriction(s): Majors in the College of Business Administration.
- **413 Logistics Operations Management (3)** Analysis of logistics operations and management techniques applied to warehousing/distribution center operations, purchasing and operation of transportation services, and logistics personnel management.
  - (RE) Prerequisite(s): 310.
  - (RE) Corequisite(s): 411.
  - Registration Restriction(s): Majors in the College of Business Administration.
- **421 Procurement and Supply Management (3)** Addresses the processes that facilitate the structure, development, and management of value added transactions and relationships between supplier and customer organizations in a global supply chain context. The course examines the management of the business purchasing function, including supplier selection and development, quality control, cost management, and performance measurement.
  - (RE) Prerequisite(s): 411.
  - Registration Restriction(s): Majors in the College of Business Administration.
- **460 Strategic Logistics in a Global Supply Chain Environment (3)** Capstone course for logistics, with emphasis on strategic logistics from a global supply chain perspective. Integrates logistics concepts, framework, processes and tools learned in previous logistics coursework.
  - (RE) Prerequisite(s): 411.
  - Registration Restriction(s): Majors in the College of Business Administration.
- **492 Logistics Off-Campus Study (1-6)** 
  - Grade: Satisfactory/No Credit grading only.
  - Repeatability: May be repeated. Maximum 6 hours.
  - Registration Restriction(s): Logistics major.
  - Registration Permission: Consent of instructor.
- **493 Independent Study (1-6)** Directed research on subject of mutual interest to student and staff member.
  - Repeatability: May be repeated. Maximum 6 hours.
  - Registration Restriction(s): Logistics major.
  - Registration Permission: Consent of instructor.

### Management (625)

- **300 Organizational Management (3)** The study of the theories of organizations and the practice of management within them.
  - (RE) Prerequisite(s): Business Administration 201.
  - Comment(s): Not for majors in the College of Business Administration.
  - Registration Restriction(s): Minimum student level – junior.
- **331 Developing Managerial Skills (3)** Focuses on developing the skills to manage the dynamics of organizational behavior including motivating others, decision-making, using power and influence, resolving conflict, building teams, and leading change.
  - (RE) Corequisite(s): Business Administration 331 or Business Administration 341.
  - Registration Restriction(s): Majors in the College of Business Administration.
- **401 Business Strategy/Policy (3)** Strategy and policy which affect the character and success of the total enterprise. Capstone course which integrates all functional areas in the formulation and implementation of strategy which will enable the organization to reach objectives. Major writing requirement.
  - (RE) Prerequisite(s): Business Administration 353 and Business Law 301.
  - Comment(s): For seniors.
  - Registration Restriction(s): Majors in the College of Business Administration.
- **402 International Business Strategy (3)** Provides an understanding of how to design and implement business and corporate strategies that will achieve sustainable competitive advantage in the international arena. Its perspective is that of the general manager who, to be successful, must balance the demands of multiple stakeholders and integrate various organizational activities and business functions into a cohesive unit. Emphasis is placed on the practical application of concepts and theories to real business situations.
  - Credit Restriction: Students may not receive credit for Management 401 and 402.
  - (RE) Prerequisite(s): Business Administration 353 and Business Law 301.
  - Comment(s): Students must be in the international business collateral or dual concentration.
  - Registration Restriction(s): Majors in the College of Business Administration.
- **431 Personnel Management (3)** Theory, methods, and issues pertaining to successful personnel management. Course content: strategic human resource planning, human resource management, recruitment, measurement/decision-making issues, assessing job candidates, human resource development, performance appraisal, compensation development, safety and health, labor relations, and organizational exit.
  - (RE) Prerequisite(s): 331.
  - Registration Restriction(s): Majors in the College of Business Administration.
- **440 Organizational Psychology (3)** (See Psychology 440.)
- **451 Business Planning (3)** Integration of various functional disciplines and their application to general management of new ventures within established companies and entrepreneurial enterprises. Focuses on the components necessary for the development of a business plan.
  - (RE) Corequisite(s): 431.
  - Registration Restriction(s): Majors in the College of Business Administration.
- **471 International Management (3)** Factors significant to the manager in international business activities.
  - (RE) Prerequisite(s): Business Administration 361.
  - Registration Restriction(s): Majors in the College of Business Administration.
472 International Human Resource Management (3) Introduction to international human resource management from the perspective of the multinational firm. Topics include: globalization and human resource strategy, understanding culture in the management of human resources, intercultural differences, selecting employees for international assignments, training and development, expatriate employees, and evaluation and compensation of employees in international assignments.

(REA) Prerequisite(s): Business Administration 201.
Comment(s): For students in language and world business concentration in the College of Arts and Sciences (not for majors in the College of Business Administration).

481 Experiential Cross-Cultural Leadership (3) Examination of the challenges and opportunities of leading people and organizations in cross-cultural settings through experiential methodologies. Topics include: multi-national organizational culture, intercultural communications, intercultural decision-making, managing political risks, and motivation and leadership in cross-cultural settings.

(REA) Prerequisite(s): Business Administration 361.
Registration Restriction(s): Majors in the College of Business Administration.

492 Management Off-Campus Study (1-6)
Grading Restriction: Satisfactory/No Credit grading only.
Repeatability: May be repeated. Maximum 6 hours.
Registration Restriction(s): Management major.
Registration Permission: Consent of instructor.

493 Independent Study (3) Readings, research, and special projects.
Repeatability: May be repeated. Maximum 6 hours.
Registration Restriction(s): Management major.
Registration Permission: Consent of instructor.

Marketing (632)
300 Marketing and Supply Chain Management (3) Practical applications-oriented overview of what every manager needs to know in order to effectively provide value to customers of the organization, and improve long-term performance through the systematic, strategic coordination of traditional business functions within a particular company and across businesses.

(REA) Prerequisite(s): Business Administration 201.
Comment(s): Not for majors in the College of Business Administration.
Registration Restriction(s): Minimum student level – junior.

340 Marketing Strategy Frameworks (3) Examines the marketing strategies that customer focused organizations use to acquire and retain customers. Students learn skills needed to create and implement their marketing strategies. Topics include market opportunity analysis, marketing strategy planning, segmentation and targeting decisions, value positioning decisions, customer focused strategies (e.g., Integrated Marketing Communication, brand equity, Customer Relationship Management), and translation of customer learning into marketing strategy.

(REA) Prerequisite(s): Business Administration 332.
Registration Restriction(s): Majors in the College of Business Administration.

345 Marketing Analytics (2) Develops students’ analytical and decision-making skills through specific exercises and examples that apply various statistical techniques to marketing-specific content. Students learn how to organize data into customer databases and how to analyze those databases through learning of statistical techniques, decision analysis techniques, and spreadsheet analysis techniques.

(REA) Prerequisite(s): Business Administration 332.
(REA) Corequisite(s): 340.
Registration Restriction(s): Majors in the College of Business Administration.

350 Customer Value Analysis (3) Examines how organizations conceptualize, gather, analyze, and interpret data needed by managers to learn about customers in markets. Topics include selected consumer/customer behavior theories, customer value determination, and selected marketing research techniques.

(REA) Prerequisite(s): 340.
(REA) Corequisite(s): 345 for marketing majors.
Registration Restriction(s): Majors in the College of Business Administration.

400 Special Topics in Marketing (3) Topics of current interest in marketing. Topic announced prior to offering.
Repeatability: May be repeated if topic differs. Maximum 6 hours.
(REA) Prerequisite(s): Business Administration 332.
Registration Restriction(s): Majors in the College of Business Administration.

452 Product/Service Management (2) Examines how organizations deliver value to customers through product and service strategies. Topics in product management include new product development, product life cycle, product mix management, and brand marketing. Topics in service management include service design, service delivery, service quality/productivity, service failure/recovery, and role of technology.

(REA) Prerequisite(s): 340.
(REA) Prerequisite or (REA) Corequisite: 350 for marketing majors and co-concentration students.
Registration Restriction(s): Majors in the College of Business Administration.

456 Integrated Marketing Communications Management (2) Examines how organizations communicate value to customers. Communication topics will be presented in the framework of an Integrated Marketing Communication strategy. Topics will include advertising management, sales promotion, public relations, sponsorship marketing, direct marketing and e-marketing.

(REA) Prerequisite(s): 340.
(REA) Prerequisite or (REA) Corequisite: 350 for marketing majors and co-concentration students.
Registration Restriction(s): Majors in the College of Business Administration.

458 Sales Force Management (2) Examines how organizations communicate value to customers through face-to-face selling. Focuses on the activities and problems of sales representatives and first line sales managers. Topics include the selling process, sales force organization, recruiting, motivating, forecasting, territory design, and evaluation.

(REA) Prerequisite(s): 340.
(REA) Prerequisite or (REA) Corequisite: 350 for marketing majors and co-concentration students.
Registration Restriction(s): Majors in the College of Business Administration.

460 Global Marketing Strategy (3) Capstone course for Marketing to integrate concepts, frameworks, processes and tools presented in all prior coursework. Students examine the application of marketing knowledge and skills in a global context, with particular emphasis on how organizations respond with global marketing strategies.

(REA) Prerequisite(s): 350.
(REA) Prerequisite(s): Any two of 452, 456, 458.
Registration Restriction(s): Majors in the College of Business Administration.

492 Marketing Off-Campus Study (1-6)
Grading Restriction: Satisfactory/No Credit grading only.
Repeatability: May be repeated. Maximum 6 hours.
Registration Restriction(s): Marketing major.
Registration Permission: Consent of instructor.

493 Independent Study (1-6) Directed research on subjects of mutual interest to student and staff member.
Repeatability: May be repeated. Maximum 6 hours.
Registration Restriction(s): Marketing major.
Registration Permission: Consent of instructor.

Materials Science and Engineering (638)
101 Advances in Materials Science and Engineering (1) Review modern advances in materials science and engineering. Exposes students to a variety of materials science and engineering case studies to demonstrate the societal impact of materials science and engineering profession.
Grading Restriction: Satisfactory/No Credit grading only.

201 Introduction to Materials Science and Engineering (3) Correlation of atomic structure, crystal structure and microstructure of solids with mechanical, physical and chemical properties of engineering significance.
(REA) Prerequisite(s): Chemistry 120.

220 Selection and Use of Soft Goods Manufacture (3) Study of textile products for apparel and interior furnishings; emphasis on the selection of fibers, yarns, fabrics, finishes and construction details to optimize properties needed for particular end uses.

250 Introduction to Materials Kinetics and Transport Phenomena (4) Mass and energy balances; reaction kinetics; steady state and transient heat transfer; viscous flow of gases and liquids; applications to synthesis and processing of engineering materials and technologies; analytical and numerical problem solving.
Contact Hour Distribution: 3 hours lecture and 1 hour lab.
(REA) Prerequisite(s): Mathematics 142.
(REA) Corequisite(s): 201 and Mathematics 231.

260 Materials Engineering Thermodynamics (3) Thermodynamic laws; entropy, internal energy, state functions; one- component and two-component phase equilibria; characteristics of small and large molecular systems; surface energy, elasticity; material defects.
(REA) Prerequisite(s): Engineering Fundamentals 152 and Chemistry 130.
(REA) Prerequisite(s): Mathematics 142.
(REA) Corequisite(s): 201.

290 Materials Seminar (0) Professionalism, ethical considerations, safety, patents, product liability, field trips, industrial speakers, materials science in global/societal context, teamwork, contemporary issues, life-long learning.
Grading Restriction: Satisfactory/No Credit grading only.
Repeatability: May be repeated. Maximum 4 times.

Grading Restriction: Satisfactory/No Credit grading only.
Repeatability: May be repeated. Maximum 4 hours.
117 Honors: Mathematical Reasoning (3) Topics will be selected from: number theory, logic, geometry, elementary topology, fractals, or probability with an emphasis on problem solving. Consumer mathematics, fair division, voting theory or other real-world applications may be included. (QR) Recommended Background: ACT composite score 31 or SAT 1380.

119 College Algebra (3) A review of algebraic functions, equations, and inequalities for students who satisfy the course prerequisites for 123 or 125 but whose placement test scores indicated additional preparation is necessary.

Grading Restriction: A, B, C. No Credit grading only.

Credit Restriction: Students who receive a grade of C or better in any course numbered 123 or higher (except for 231 or 241) may not subsequently receive credit for 119.

Comment(s): Satisfactory placement test score required. This course should not be taken to remove an entrance requirement.

123 Finite Mathematics (3) For students not planning to major in the physical sciences, engineering, mathematics, or computer science. Exponential and logarithmic functions, interest and annuities, linear systems and matrices, optimization. (QR) 

(DE) Prerequisite(s): 119 or 130 or satisfactory placement score. 

Comment(s): Satisfactory placement test score required.

125 Basic Calculus (3) For students not planning to major in the physical sciences, engineering, mathematics, or computer science. Calculus of algebraic, exponential, and logarithmic functions, with applications. (QR) 

Credit Restriction: Students who receive a grade of C or better in 141 or 152 may not subsequently receive credit for 125. 

(DE) Prerequisite(s): 119 or 130 or satisfactory placement test score. 

130 Precalculus I (4) Review of algebraic, logarithmic, exponential, and trigonometric functions.

Grading Restriction: A, B, C. No Credit grading only. 

Credit Restriction: Students who receive a grade of C or better in 141 or 151 may not subsequently receive credit for 130.

Comment(s): Satisfactory placement test score required.

Comment(s): For students who satisfy the course prerequisites for 141 or 151, but whose placement test scores indicate additional preparation is necessary. Students who did not study trigonometry in high school may take the noncredit course in trigonometry simultaneously with 130.

141 Calculus I (4) Standard first-year course in single variable calculus, especially for students of science, engineering, mathematics, and computer science. Differential and integral calculus with applications. (QR) 

(DE) Prerequisite(s): 130 or satisfactory placement test score. 

142 Calculus II (4) Standard first-year course in single variable calculus, especially for students of science, engineering, mathematics, and computer science. Differential and integral calculus with applications. (QR) 

(RE) Prerequisite(s): 141 or 147. 

147 Honors Calculus I (4) Honors version of 141 for well-prepared students. (QR) 

Credit Restriction(s): Credit will not be given for both 147 and 141 or 152. 

Comment(s): Satisfactory placement test score required. Students having 32 Mathematics ACT, 700 Quantitative SAT scores, or permission from the instructor may enroll in 147. 

148 Honors Calculus II (4) Honors version of 142 for well-prepared students. (QR) 

(DE) Prerequisite(s): 147. 

Comment(s): Students having 32 Mathematics ACT, 700 Quantitative SAT and credit for Mathematics 141, an AP Calculus score of 5, or permission of the instructor may enroll in 148. 

151 Mathematics for the Life Sciences I (3) For students majoring in the Life Sciences. Does not serve as a prerequisite for 231 or 241. Topics include: descriptive statistics, linear regression, discrete probability, matrix algebra, difference equations, calculus, and differential equations. Emphasis on applications in the life sciences. Includes computer projects. (QR) 

(RE) Prerequisite(s): 130 or satisfactory placement test score. 

152 Mathematics for the Life Sciences II (3) For students majoring in the life sciences. Topics include: descriptive statistics, linear regression, discrete probability, matrix algebra, difference equations, calculus, and differential equations. Emphasis on applications in the life sciences. Includes computer projects. (QR) 

Credit Restriction(s): Students who receive a grade of C or better in 141 cannot subsequently receive credit for 152. 

(Re) Prerequisite(s): 151. 

171 Computer Literacy for Mathematics (3) Introduction to computers, the Internet, mathematical packages and programming for prospective mathematics majors. (RE) Prerequisite(s): 141. 

200 Matrix Computations (1) Introduction to matrix calculations, including determinants, eigenvalues and eigenvectors. 

Credit Restriction: Students who have received a grade of C or better in 251 may not subsequently receive credit for 200. 

(RE) Prerequisite(s): 241 or 247. 

Comment(s): For students in the College of Engineering and statistics majors in the College of Business Administration. 

201 Structure of the Number System (3) Problem solving, sets and relations, number systems, integers, elementary number theory, rational numbers and decimals. 

Comment(s): Satisfactory placement test score required.

202 Probability, Statistics, and Euclidean Geometry (3) Probabilities in simple experiments, measures of central tendency and variation. Basic plan and three-space geometry, congruence and similarity, constructions with compass and straightedge, transformations, area and volume measurements. Turtle graphs. (QR) 

Comment(s): Satisfactory placement test score required.

203 Linear Algebra (3) Linear equations, matrix algebra, systems of linear equations, matrix inverses, determinants, similar matrices. (QR) 

Credit Restriction: Students who receive a grade of C or better in any course numbered 200 or higher may not subsequently receive credit for 203. 

Comment(s): Satisfactory placement test score required. This course should be taken to remove an entrance requirement. 

211 Calculus III (4) Calculus of functions in two or more dimensions. Includes solid analytic geometry, partial differentiation, multiple integration, and selected topics in vector calculus. (QR) 

(RE) Prerequisite(s): 142 or 148. 

212 Honors: Calculus III (4) 

(RE) Prerequisite(s): 142 or 148. 

215 Matrix Algebra I (3) First course in the algebra of simultaneous linear equations and matrices. Includes Gaussian elimination, determinants, vector spaces, linear transformations, eigenvalues, and eigenvectors. (RE) Prerequisite(s): 142 or 148. 

257 Honors: Matrix Algebra I (3) (RE) Prerequisite(s): 148. 

299 Studies in Mathematics (1-3) 

Repeatability: May be repeated. Maximum 9 hours. 

300 Introduction to Abstract Mathematics (3) Algebra of sets, functions, relations, mathematical induction, algebraic structure of the real number system, order properties, and completeness. (RE) Prerequisite(s): 142. 

323 Probability and Statistics (3) Discrete and continuous random variables; conditional probability, expectation, moment generating functions; law of large numbers, central limit theorem. Elements of statistical inference, estimation, and hypothesis testing. (RE) Prerequisite(s): 300. 

(comment(s): Knowledge of high-level programming language required. 

341 Analysis I (3) Introduction to the theory of the real number system, limits of sequences, and functions of a real variable. (RE) Prerequisite(s): 300. 

(comment(s): Knowledge of high-level programming language required. 

351 Algebra I (3) Introduction to abstract algebra emphasizing integers and polynomial rings. (RE) Prerequisite(s): 300. 

(comment(s): Knowledge of high-level programming language required. 


Credit Restriction: Students may not receive credit for both Mathematics 371 and Computer Science 370. 

(RE) Prerequisite(s): 213. 

(comment(s): Knowledge of high-level programming language required. 

399 Studies in Mathematics (1-3) 

Repeatability: May be repeated. Maximum 9 hours. 

400 History of Mathematics (3) Development of major ideas in mathematics from ancient to modern times and the influence of these ideas in science, technology, philosophy, art, and other areas. Includes at least one in-class essay examination and 3,000 words of writing outside the classroom. Writing-emphasis course. 

(RE) Prerequisite(s): 231 and 241. 

(comment(s): Knowledge of high-level programming language required. 

403 Mathematical Methods for Engineers and Scientists (3) Matrix computations, numerical methods, partial differential equations, Sturm-Liouville Theory and special functions as used in engineering and science. 

Credit Restriction: Does not satisfy requirements for the mathematics major. (RE) Prerequisite(s): 231 and 241.
404 Applied Vector Calculus (3) Topics from multivariable and vector calculus including line and surface integrals, the divergence theorem and the theorems of Gauss and Stokes.

(RE) Prerequisite(s): 241 or 247.

405 Models in Biology (3) Difference and differential equation models of biological systems.

(DE) Prerequisite(s): 142 or 148 or 152.

411 Mathematical Modeling (3) Construction and analysis of mathematical models used in science and industry. Projects emphasized. Writing emphasis course.

(Re) Prerequisite(s): 231 and 241.

421 Combinatorics (3) Introduction to problems of construction and enumeration for discrete structures such as sequences, partitions, graphs, finite fields and geometries, and experimental designs.

(Re) Prerequisite(s): 251 or 257.

423 Probability I (3) Axiomatic probability, multivariate distributions, conditional probability and expectations, methods of moment generating/characteristic functions. Laws of large numbers and the central limit theorem.

(Re) Prerequisite(s): 323.

424 Probability II (3) Elements of stochastic processes: Random walk, Markov chains and Poisson processes. Other topics as selected by the instructor.

(Re) Prerequisite(s): 423.

425 Statistics (3) Derivation of standard statistical distributions including t, F and X²; independence of sample mean and variance; basic limit theorems; point and interval estimation, Bayesian estimates; statistical hypotheses, Neyman-Pearson theorem; likelihood ratio and other parametric and nonparametric tests; sufficient statistics.

(Re) Prerequisite(s): 423.


(Re) Prerequisite(s): 300.

435 Partial Differential Equations (3) Separation of variables, Fourier series, solution of Laplace, wave, and heat equations.

(Re) Prerequisite(s): 241 or 247.

443 Complex Variables I (3) Introduction to the theory of functions of a complex variable, including residue theory and contour integrals.

(Re) Prerequisite(s): 241 or 247.

445 Advanced Calculus I (3) Introduction to the theory of sequences, series, differentiation, and Riemann integration of functions of one or more variables.

(Re) Prerequisite(s): 241 or 247.

446 Advanced Calculus II (3) Introduction to the theory of sequences, series, differentiation, and Riemann integration of functions of one or more variables.

(Re) Prerequisite(s): 445.

447 Honors: Advanced Calculus I (3) Honors version of 445.

(Re) Prerequisite(s): 341.

448 Honors: Advanced Calculus II (3) Honors version of 446.

(Re) Prerequisite(s): 447.

453 Matrix Algebra II (3) Advanced topics in matrix theory, including the Jordan canonical form.

(Re) Prerequisite(s): 251 or 257.

455 Abstract Algebra I (3) Introduction to algebraic structures such as groups, rings, fields, vector spaces and linear transformations.

(Re) Prerequisite(s): 300.

456 Abstract Algebra II (3) Introduction to algebraic structures such as groups, rings, fields, vector spaces and linear transformations.

(Re) Prerequisite(s): 455.

457 Honors: Abstract Algebra I (3) Honors version of 455.

(Re) Prerequisite(s): 351.

458 Honors: Abstract Algebra II (3) Honors version of 456.

(Re) Prerequisite(s): 457.

460 Geometry (3) Axiomatic and historical development of neutral, Euclidean, and hyperbolic geometry stressing proof technique and critical reasoning. Models of Non-Euclidean geometries.

(Re) Prerequisite(s): 300.

461 Topology (3) Includes topology of line and plane, separation properties, compactness, connectedness, continuous functions, homeomorphisms, continua, and topological invariants.

(Re) Prerequisite(s): 300.

471 Numerical Analysis (3) Introduction to computation, instabilities, interpolation and approximation by polynomials and piecewise polynomials. Quadrature and numerical solution of initial and boundary value problems of ordinary differential equations, including stiff systems. (Same as Computer Science 471.)

(Re) Prerequisite(s): 371.

472 Numerical Algebra (3) Direct and iterative methods for systems of linear equations. Solution of a single nonlinear equation and nonlinear systems. Orthogonal decomposition, least squares and the algebraic eigenvalue problem. (Same as Computer Science 472.)

(Re) Prerequisite(s): 371.

475 Industrial Mathematics (3) Modeling, analysis, and computation applied to scientific/technical/industrial problems.

(Re) Prerequisite(s): 231.

490 Readings in Mathematics (1-3) Open to superior students. Independent study with faculty guidance.

Repeatability: May be repeated. Maximum 9 hours.

Registration Permission: Consent of department head.

495 Seminar in Actuarial Mathematics I (1-3) Introduction to principles and problem solving techniques in actuarial sciences with emphasis on the mathematical topics included in the initial actuarial exams.

Repeatability: May be repeated. Maximum 6 hours.

(Re) Prerequisite(s): 300 and 251.

(De) Prerequisite(s): 241.

497 Undergraduate Honors Seminar (2) Forum for presentation of student theses and other undergraduate research projects.

Grading Restriction: Satisfactory/No Credit grading only.

Repeatability: May be repeated. Maximum 8 hours.

498 Senior Honors Thesis (1-3) Students in the mathematics honors program work individually under the direction of a faculty member to write an honors thesis. The thesis must be approved by the departmental honors committee.

Repeatability: May be repeated. Maximum 6 hours.

Registration Permission: Consent of instructor.

Mathematics Education (642)

485 Teaching of Mathematics, Grades 7-12 (3) Preparation of teaching plans, evaluation, materials for teaching mathematics; teaching simulation and directed observation in schools.

Registration Restriction(s): Qualification – admission to teacher education.

Mechanical Engineering (650)

231 Dynamics (3) Kinematics of rigid bodies; center of mass; kinetics of systems of particles; mass moments of inertia; kinetics of rigid bodies; Newton's laws, work-energy, impulse-momentum.

(Re) Prerequisite(s): Engineering Fundamentals 152 and Engineering Fundamentals 202.

(De) Prerequisite(s): Mathematics 142.

321 Mechanics of Materials I (3) Concepts of stress and strain; stress-strain relations; applications including axially loaded members, torsion of circular shafts, bending of beams and column stability.

(Re) Prerequisite(s): Engineering Fundamentals 152 and Engineering Fundamentals 202.

(De) Prerequisite(s): Mathematics 241.

331 Thermodynamics (3) Energy and laws governing energy transformations; thermodynamic properties; thermodynamic cycles; ideal gas mixtures; application to engineering problems.

(Re) Corequisite(s): Mathematics 241.

344 Heat Transfer (3) Heat transfer by conduction, thermal radiation, free and forced convection.

(Re) Prerequisite(s): 331 and 391.

(De) Prerequisite(s): Aerospace Engineering 341.
345 Mechanical Engineering Instrumentation and Measurement (3)
Fundamentals of measurement systems; standards; dynamic characteristics of instruments; statistical data treatment; transducers; signal conditioning; strain, pressure, temperature and flow measurements.
(Re) Prerequisite(s): Aerospace Engineering 341 and Electrical and Computer Engineering 301.
(Re) Corequisite(s): 363.
363 System Dynamics (3)
Free and forced vibrations of damped and undamped lumped parameter systems; transient and frequency response of lumped parameter systems; introduction to feedback control systems.
(Re) Corequisite(s): 345 or Biomedical Engineering 430.
365 Mechanisms (3)
Kinematics and dynamics of mechanical linkages, gears and cams. Balancing of multicylinder engines.
(Re) Prerequisite(s): 231.
366 Manufacturing Processes (3)
Processes related to design of machine parts. Casting, hot and cold forming, metal removal and weldments. Manufacturing tolerances and surface finishes.
(Re) Prerequisite(s): Materials Science and Engineering 201.
391 Engineering Analysis (3)
Numerical and analytical techniques are developed for problems arising in mechanical and aerospace engineering. Numerical methods address root finding, direct and indirect techniques for linear and nonlinear systems, interpolation, curve fitting, quadratures, solutions to ordinary- and partial-differential equations. Analytic methods include Fourier series, solutions to linear systems of differential equations and separation of variables. Computer projects are assigned for reinforcing classroom developments.
(Re) Prerequisite(s): Engineering Fundamentals 152 and Mathematics 231.
(De) Prerequisite(s): Mathematics 251 or 200 and Engineering Fundamentals 230.
401 Thesis (3)
Research and design problems in mechanical engineering with prior approval of instructor.
Registration Permission: Consent of instructor.
405 Microcomputer-Based Control of Electro mechanical Systems (3)
Application of microcomputers to control electromechanical devices. Application and theory; dynamics of machine control, assembly language programming, microcontroller architecture, stepping and DC motors, photoelectric devices, A/D, D/A, integrated circuits.
(Re) Prerequisite(s): Electrical and Computer Engineering 301.
406 Product Development, Evaluation, and Selection (3)
Fundamentals of product development and project management. Evaluation of multiple technological products for business potential. Technological feasibility, marketing potential, design and manufacturing requirements.
Registration Permission: Consent of instructor.
410 Professional Development (2)
Topics relating to professional responsibility, communications, and organization. Requires a formal oral presentation by each student on an engineering topic chosen by the student and approved by the instructor.
(De) Prerequisite(s): English 102.
Registration Restriction(s): Minimum student level - senior.
449 Mechanical Engineering Laboratory (3)
Designing, conducting and reporting results of experimental exercises. Test standards and specifications. Analysis of data and formation of conclusions.
Contact Hour Distribution: 3 hours lab per week.
(Re) Prerequisite(s): 344 and 345.
(De) Corequisite(s): 475.
450 Mechanical Engineering Design I (1-4)
Design process, synthesis, design studies.
Repeatability: Not repeatable for credit. May be taken once for 1-4 hours.
(Re) Corequisite(s): 344 and 345.
451 Control Systems (3)
Analysis and design of feedback control systems using transient and frequency response techniques, stability analysis in the time and frequency domain.
(Re) Prerequisite(s): 363.
452 Finite Element Analysis (3)
Conversion of fundamental conservation principles in mechanics to simulation form via finite element implementation; applications in heat transfer, solid mechanics, mechanical vibrations, fluid mechanics and heat/mass transport. Extensive computer lab experiments using Matlab-based and commercial software systems.
(Re) Prerequisite(s): 321 and 344.
(De) Prerequisite(s): 363.
457 Engineering Entrepreneurship (3)
Technology and innovation, technology transfer, patent protection, legal formation and intellectual property, knowledge management, generation, and transmission, creating a business plan and marketing plan, launching a technology based business, sources of capital, small business growth and operation.
Registration Permission: Consent of instructor.
460 Mechanical Engineering Design II (1-4)
Synthesis and design of a complete mechanical engineering system. Participation in team design effort including formal oral presentations and written design report.
Repeatability: Not repeatable for credit. May be taken once for 1-4 hours.
(Re) Prerequisite(s): 450.
463 Mechanical Vibration (3)
(Re) Prerequisite(s): 363.
466 Elements of Machine Design II (3)
Application of strength and properties of materials, design factors, theories of failure to design of machine elements. Mini-design experiences.
(Re) Prerequisite(s): 321 and Materials Science and Engineering 201.
467 Smart Structures and Materials (3)
Fundamentals of electro-mechanical properties of ferroelectric materials (piezoelectric and piezoelectrostrictive), shape memory alloys, and other electrically and magnetically activated materials, with application. Course includes a semester project.
(Re) Prerequisite(s): 231 and 321.
475 Thermal Engineering (3)
Thermal systems with emphasis on turbo-machinery, heat exchangers, gas-vapor mixtures and psychrometry, fuels and combustion; chemical equilibrium; system analysis and design.
(Re) Prerequisite(s): 344.
480 Introduction to Hybrid Electric Vehicles (3)
Steady-state HEV force and power modeling. Introduction to internal combustion engines, motors, energy storage systems and control strategies. Powerton design and analysis using various computer simulation tools.
(Re) Corequisite(s): 475.
483 Introduction to Reliability Engineering (3)
(See Nuclear Engineering 483.)
484 Introduction to Maintainability Engineering (3)
(See Nuclear Engineering 484.)
494 Selected Topics in Mechanical Engineering (1-4)
Problems and topics related to developments and practice in mechanical engineering.
Repeatability: Not repeatable for credit. May be taken once for 1-4 hours.
Registration Permission: Consent of instructor.
495 Selected Topics in Mechanical Engineering (1-4)
Problems and topics related to developments and practice in mechanical engineering.
Repeatability: Not repeatable for credit. May be taken once for 1-4 hours.
Registration Permission: Consent of instructor.

Medical Technology (669)

101 Introduction to Clinical Laboratory Science (2)
Introduction to the profession for those investigating a career in clinical laboratory science. Emphasis on the scientific aspects and clinical significance of laboratory procedures, laboratory safety, professionalism, and career opportunities.
110 Microbiology (4)
Laboratory work in bacteriology, mycology, and parasitology. Emphasis on pathogenic bacteria and fungi, their sources, methods of culture, techniques of identification, and evaluation of antibiotic sensitivity. Gross and qualitative chemical examination of feces and methods of identification of protozoa and helminth parasites of man.
Registration Restriction(s): Medical technology major.
411 Microbiology (4)
Laboratory work in bacteriology, mycology, and parasitology. Emphasis on pathogenic bacteria and fungi, their sources, methods of culture, techniques of identification, and evaluation of antibiotic sensitivity. Gross and qualitative chemical examination of feces and methods of identification of protozoa and helminth parasites of man.
Registration Restriction(s): Medical technology major.
420 Clinical Chemistry (5)
Clinical aspects of biochemistry, including overview of principles and instrumentation with emphasis on practical laboratory application of analytical procedures, specimen collection and handling, significance of results, and quality assurance. Includes blood gas analysis, including radioimmunoassay, and analysis of blood and other body fluids for enzymes, hormones, and other constituents of clinical interest, utilizing both automated and manual techniques, physical characteristics, detection, and use of short half-life radioactive materials for in vivo procedures such as radioimmunoassay which utilize radioisotopes.
Registration Restriction(s): Medical technology major.
421 Clinical Chemistry (5)
Clinical aspects of biochemistry, including overview of principles and instrumentation with emphasis on practical laboratory application of analytical procedures, specimen collection and handling, significance of results, and quality assurance. Includes blood gas analysis, including radioimmunoassay, and analysis of blood and other body fluids for enzymes, hormones, and other constituents of clinical interest, utilizing both automated and manual techniques, physical characteristics, detection, and use of short half-life radioactive materials for in vivo procedures such as radioimmunoassay which utilize radioisotopes.
Registration Restriction(s): Medical technology major.
430 Hematology and Clinical Microscopy (4) Principles, theories, and instrumentation related to qualitative and quantitative evaluation of cellular elements of blood and other body fluids; factors of hemostasis, quantitative chemical analysis of urine, and renal function studies. Emphasis on microscopic identification of cells and the significance and correlation of laboratory data.

Registration Restriction(s): Medical technology major.

431 Hematology and Clinical Microscopy (4) Principles, theories, and instrumentation related to qualitative and quantitative evaluation of cellular elements of blood and other body fluids; factors of hemostasis, quantitative chemical analysis of urine, and renal function studies. Emphasis on microscopic identification of cells and the significance and correlation of laboratory data.

Registration Restriction(s): Medical technology major.


Registration Restriction(s): Medical technology major.


Registration Restriction(s): Medical technology major.

450 Clinical Serology and Immunology (2) Performance and interpretation of broad range of clinical serological and immunological procedures with emphasis on principles and clinical correlation. Formal lecture series included.

Registration Restriction(s): Medical technology major.

470 Orientation and Basic Techniques (1) For facilitation of students from campus to hospital community and clinical laboratory. Introduction to medical terminology, ethics, and health team concept. Orientation to basic techniques including procedures for collection and handling of specimens, principles of operation of many laboratory instruments, review of laboratory math, and introduction to quality control procedures. Portions of course extend over entire clinical year.

Registration Restriction(s): Medical technology major.

480 Principles of Supervision and Education in Medicine (1) Seminars in basic principles of management, supervision, and education theories and methods. Comprehensive examination covers entire course.

Registration Restriction(s): Medical technology major.

Medieval Studies (674)

201 Medieval Civilization (3) Introduction to basic themes in the medieval experience, approached from interdisciplinary points of view and including philosophy and religion, art and architecture, language and literature, social and political history. Writing-emphasis course. (CC)

202 Medieval Civilization (3) Introduction to basic themes in the medieval experience, approached from interdisciplinary points of view and including philosophy and religion, art and architecture, language and literature, social and political history. Writing-emphasis course. (CC)

261 Medieval Culture: Readings from the Early Middle Ages, 500-1000 (3) Critical analysis and interpretation of selected works from the early medieval period. Focuses on major types of literature produced during the period 500-1000 AD, e.g., cultural, religious, rhetorical, lyric, epic, biographical. Includes Augustine’s Confessions, Boethius’ Consolation, St. Gregory’s Life of St. Benedict, The Life of Charlemagne, etc. Writing-emphasis course.

262 Medieval Culture: Readings from the Later Middle Ages, 1000-1500 (3) Critical analysis and interpretation of selected works from the later medieval period. Focuses on romantic, allegorical and mystical writings from the high and later Middle Ages, e.g., the Song of the Nibelungen, the Romance of the Rose, St. Bernard’s Commentary on the Song of Songs, Peter Abelard’s History of My Calamities. Writing-emphasis course.

(TE) Prerequisite(s): 261.

312 Medieval History (3) (See History 312.)

313 Medieval History (3) (See History 313.)

322 Medieval Philosophy (3) (See Philosophy 322.) (WC)

401 Dante and Medieval Culture (3) (See Italian 401.)

402 Petrarch and Boccaccio (3) (See Italian 402.)

403 Seminar in Medieval Studies (3) Interdisciplinary treatment of selected topics. Content varies. Writing-emphasis course.

Repeatability: May be repeated. Maximum 6 hours.

405 Medieval Literature (3) (See English 401.)

406 Chaucer (3) (See English 402.)

410 Medieval French Literature (3) (See French 410.)

415 Medieval Architecture (3) (See Architecture 415.)

431 Medieval Art of the West, 800-1400 (3) (See Art History 431.)

441 Northern European Painting, 1350-1600 (3) (See Art History 441.)

451 The Art of Italy, 1250-1450 (3) (See Art History 451.)

475 Ancient and Medieval Political Thought (3) (See Political Science 475.)

491 Foreign Study (1-15)

Repeatability: May be repeated. Maximum 15 hours.

492 Off-Campus Study (1-15)

Repeatability: May be repeated. Maximum 15 hours.

493 Independent Study (1-15)

Repeatability: May be repeated. Maximum 15 hours.

Microbiology (684)

210 General Microbiology (3) General properties of bacteria and viruses including physiology, metabolism, genetics, applied bacteriology, pathogenesis, and immunity. (NS)

Contact Hour Distribution: 2 hours and 2 labs.

Credit Restriction: May not be applied toward the microbiology concentration.

310 Introduction to Microbiology (3) Introduction to bacteria and viruses including physiology, metabolism, and genetics of bacteria and replication and expression of viruses; bacterial and viral pathogenicity; mechanisms of resistance to disease.

(TE) Prerequisite(s): Biology 140.

(TE) Corequisite(s): Biology 240.

319 Introductory Microbiology Laboratory (2) Basic techniques for the examination, cultivation, and identification of microorganisms.

(TE) Corequisite(s): 310.

320 Advanced Microbiology (3) Cell and molecular biology of microorganisms, principles and applications in modern technological society. Intended for students in the microbiology concentration.

(TE) Prerequisite(s): 310.

329 Advanced Microbiology Laboratory (2) Laboratory exercises designed to accompany 320.

(TE) Prerequisite(s): 319.

400 Laboratory Problems in Microbiology (2-4) Research projects under the direction of a faculty member.

Grading Restriction: Satisfactory/No Credit grading only.

Repeatability: May be repeated. Maximum 9 hours.

Credit Restriction: May not be applied toward the major.

Registration Restriction: Consent of instructor and department head.

401 Undergraduate Research in Microbiology (3) Research experience in laboratory of faculty member with faculty committee guidance.

(TE) Prerequisite(s): 310, 319, 320, and 329.

Registration Restriction(s): Minimum student level – junior.

Registration Permission: Consent of instructor and department head.

402 Advanced Undergraduate Research in Microbiology (4) Supervised research. May be taken to satisfy honors thesis.

(TE) Prerequisite(s): 401.

Registration Restriction(s): Minimum student level – junior.

Registration Permission: Consent of instructor and department head.

410 Bacterial Physiology (3) Modern concepts of the structure and function of the bacterial cell.

(TE) Prerequisite(s): 310.

411 Bacterial Genetics (3) Transmission and expression of genetic information by bacteria.

(TE) Prerequisite(s): 310.

420 Medical Microbiology (3) Disease-producing microorganisms including bacteria, rickettsia, chlamydia, and fungi.

(TE) Prerequisite(s): 310.

429 Medical Microbiology Laboratory (2) Laboratory exercises in medically important areas of microbiology including microorganisms, pathogenesis, and immunology.

(TE) Prerequisite(s): 319 and 430.

(TE) Corequisite(s): 420.

430 Immunology (3) Principles of inflammation and immunity; immunoglobulin structure and theories of formation and diversity; complement, hypersensitivities, cell cooperation and recognitions in immune mechanisms; soluble factors.

(TE) Prerequisite(s): Biology 240.
440 Virology (3) Pathogenesis and molecular biology of viruses. (RE) Prerequisite(s): 310.

470 Microbial Ecology (3) Physiological diversity and taxonomy of microorganisms from natural environments. Emphasis on the functional role of microorganisms in natural and simulated ecosystems. (RE) Prerequisite(s): 310.

480 Genomics and Bioinformatics (3) Fundamentals of a new scientific discipline based on sequencing genomes (entire DNA) of individual organisms. Genes, principles and types of genome analysis are covered in a traditional lecture course. Computational tools for genome analysis (bioinformatics) are presented in both lecture and hands-on (computer laboratory) settings. Credit Restriction: Students may not receive credit for both 480 and 540. (RE) Prerequisite(s): Biology 240.

491 Foreign Study (1-9) Repeatability: May be repeated. Maximum 9 hours.

492 Off-Campus Study (1-9) Repeatability: May be repeated. Maximum 9 hours.

493 Independent Study (1-9) Repeatability: May be repeated. Maximum 9 hours.

495 Senior Seminar (3) In-depth consideration of microbiological problems of current interest requiring an integration of two or more disciplines. Emphasis on original literature and the experimental basis of current knowledge. Historical background and types of research procedures of the future, and the basis of moral and ethical judgments. Written reports are required. A capstone course. Repeatability: May be repeated. Maximum 6 hours. Credit Restriction(s): Maximum of 3 hours may be applied toward the major. (RE) Prerequisite(s): 320. Registration Restriction(s): Minimum student level – senior.

Military Science and Leadership (689)

101 Foundations of Officerhood (2) Discusses organization and role of the Army. Emphasizes basic life skills pertaining to fitness and communication. Analyzes Army values and expected ethical behavior. Adventure training skills lab introduces land navigation, rifle marksmanship, mountaineering, and optional field-training exercises. Grading Restriction: Letter grade only.

102 Basic Leadership (2) Develops basic skills that underline effective problem solving. Examines factors that influence leader and group effectiveness. Emphasizes communication skills to include active-listening and feedback techniques. Adventure training skills lab introduces land navigation, rifle marksmanship, mountaineering, and optional field-training exercises. Grading Restriction: Letter grade only.

103 Army ROTC Fitness Program (1) Develops individual muscular strength, muscular endurance, and cardio-respiratory endurance. Classes are divided into groups based on ability and exercises are geared toward personal improvement. Primary evaluation is the Army Physical Fitness Test which consists of push-ups, sit-ups and a two-mile run. Repeatability: May be repeated. Maximum 8 hours.

200 Leader’s Training Course (4) A 28-day leadership practicum at Fort Knox, Kentucky. Familiarizes students with Army physical fitness, land navigation, rifle marksmanship, and military problem-solving/decision-making.

201 Individual Leadership Studies (3) Develops knowledge of self, self-confidence, and individual leadership skills. Concentrates on problem-solving and critical thinking skills. Emphasizes communication skills such as feedback and conflict resolution. Adventure training skills lab introduces land navigation, rifle marksmanship, mountaineering, and optional field training exercises. Grading Restriction: Letter grade only.

202 Leadership and Teamwork (3) Focuses on self-development through understanding of self and group processes. Examines leadership through group project and historical case studies. Adventure training skills lab introduces land navigation, rifle marksmanship, mountaineering, and optional field training exercises. Grading Restriction: Letter grade only.

301 Leadership and Problem Solving (4) Examines the basic skills that underline effective problem solving. Analyzes the role of Army officers played in the transition of the Army from Vietnam to the 21st century. Instruction on analyzing and planning military operations. Emphasis on small unit tactics with a concentration on squad battle drills. Lab practicum concentrates on competency in land navigation, rifle marksmanship, and small unit operations. Requires 3 or more years of JROTC participation or completion of basic training. Contact Hour Distribution: 3 hours and 1 lab. Grading Restriction: Letter grade only. (RE) Prerequisite(s): 101 and 102. (DE) Prerequisite(s): 201, 202, or 200. Registration Restriction(s): 2.0 GPA.

302 Leadership and Ethics (4) Examines leadership responsibilities that foster an ethical command climate. Applies principles of effective writing and oral communication. Builds on previous instruction to further develop leadership competencies. Lab practicum concentrates on preparation for Military Science and Leadership 400 National Advanced Leaders Camp. Emphasis on land navigation, rifle marksmanship, and small unit operations. Grading Restriction: Letter grade only. (RE) Prerequisite(s): 301.

303 Military History (3) Primary emphasis on 21st-century warfare. Examines critical thinking in the study of military history and the relevance of military history to the modern day professional soldier. Provides framework for lifetime study of military history. Grading Restriction: Letter grade only.

400 National Advanced Leaders Camp (4) A 31-day leadership practicum held at Fort Lewis, Washington. Students are evaluated in varied leadership positions, rifle marksmanship, land navigation, field leadership reaction course, and tacit leadership.

401 Leadership and Management (4) Discusses Army staff organization, functions, and processes. Analyzes counseling responsibilities and methods. Examines principles of subordinate motivation and organizational change. Applies leadership and problem-solving principles to complex case studies and simulations.

402 Officership (4) A capstone course designed to explore topics relevant to second lieutenants entering the Army. Examines common platoon leader actions. Discusses leader responsibilities and actions that foster an ethical command climate. Familiarizes students with Army administrative and logistics management functions. Examines legal aspects of decision-making and leadership.

430 U.S. Military History, 1754 to the present (3) (See History 451.)

493 Military Leadership Topics (1) Topics on principles and styles of military leadership. Students conduct in-depth profile of a contemporary or historic military leader. Grading Restriction: Letter grade only. Repeatability: May be repeated. Maximum 4 hours. Registration Permission: Consent of instructor.

Modern Foreign Languages and Literatures (686)

199 Language and World Business (2) Examines the importance of foreign trade at the local, state, and national levels. Interdisciplinary faculty provides a global perspective on the future impact on international business administration and Arts and Sciences provide an overview of the value of language study and international cultural awareness in the program in world business. See Director for further information.

482 Special Topics in Global Cinema (3) Content varies. Focus from global perspectives on directors, stars, film genres, national and regional cinema movements or other topics. Taught in English. Writing-emphasis course. (Same as Cinema Studies 482; Global Studies 492.) Repeatability: May be repeated. Maximum 6 hours.

Music Education (707)

200 Conducting Laboratory (1) A laboratory course designed to afford conducting opportunities for student conductors and to acquaint students with a variety of music literature. Grading Restriction: Letter grade only. Repeatability: May be repeated. Maximum 3 hours. Credit Restriction: May be taken as elective credit by any student except those registered for 310, 320.

201 Field Experience in General Music (1) Observing and assisting in an approved elementary or middle school classroom. Grading Restriction: Satisfactory/No Credit grading only. Repeatability: May be repeated. Maximum 3 hours.

210 Class Woodwind Methods I (1) Structure, use, techniques of playing, care and repair of the clarinet in school instrumental organizations. Emphasis on techniques necessary for basic understanding and effective teaching of the instruments. Practical use of current instructional materials. Grading Restriction: Letter grade only.
211 Class Woodwind Methods II (1) Structure, use, techniques of playing, care and repair of the flute and saxophone in school instrumental organizations. Emphasis on techniques necessary for basic understanding and effective teaching of the instruments. Practical use of current instructional materials.
Grading Restriction: Letter grade only.

212 Class Woodwind Methods III (1) Structure, use, techniques of playing, care and repair of the oboe and bassoon in school instrumental organizations. Emphasis on techniques necessary for basic understanding and effective teaching of the instruments. Practical use of current instructional materials.
Grading Restriction: Letter grade only.

220 Class Brass Methods I (1) Structure, use, techniques of playing, care and repair of the upper brass instruments in school instrumental organizations. Emphasis on techniques necessary for basic understanding and effective teaching of the instruments. Practical use of current instructional materials.
Grading Restriction: Letter grade only.

221 Class Brass Methods II (1) Structure, use, techniques of playing, care and repair of the lower brass instruments in school instrumental organizations. Emphasis on techniques necessary for basic understanding and effective teaching of the instruments. Practical use of current instructional materials.
Grading Restriction: Letter grade only.

230 Class Percussion Methods I (1) Structure, use, techniques of playing, care and repair of principal instruments in school instrumental organizations. Emphasis on techniques necessary for basic understanding and effective teaching of the instruments. Practical use of current instructional materials.
Grading Restriction: Letter grade only.

231 Class Percussion Methods II (1) Ethnic instruments, marching percussion trends and concepts, percussion literature and training concepts, traditional and non-traditional percussion accessories, steel drums.
Grading Restriction: Letter grade only.

240 Class String Methods I (1) Structure, use, techniques of playing, care and repair of upper string instruments in school instrumental organizations. Emphasis on techniques necessary for basic understanding and effective teaching of the instruments. Practical use of current instructional materials.
Grading Restriction: Letter grade only.

241 Class String Methods II (1) Structure, use, techniques of playing, care and repair of lower string instruments in school instrumental organizations. Emphasis on techniques necessary for basic understanding and effective teaching of the instruments. Practical use of current instructional materials.
Grading Restriction: Letter grade only.

250 Functional Piano for Teachers (1) Practical piano skills for the general/vocal teacher who does not have a keyboard instrument as the applied principal. Transposition, improvisation, reading open vocal scores, simple accompaniments.
Repeatability: May be repeated. Maximum 2 hours.

251 Functional Piano for Teachers II (1) Application of skills and techniques acquired in Music Education 250 to playing and transposing familiar school songs, choral accompaniments and open scores. Creation of accompaniments for singing and movement exercises, listening activities, and playing instruments in various styles.
(RE) Prerequisite(s): 250.

260 Eurhythmics (1) Principles and practice of eurhythmics, as developed by Emile Jaques-Dalcroze.
Grading Restriction: Letter grade only.
Repeatability: May be repeated. Maximum 2 hours.

300 Music for Elementary Teachers (2) Singing, rhythmic activities, instrumental activities, listening, music reading, and creative activities appropriate for the elementary grades.
Grading Restriction: Letter grade only.
Registration Restriction(s): Qualification – admission to teacher education.

310 Conducting I (3) Basic skills of conducting; baton, time beating of traditional patterns, preparatory beat, cutoffs, cueing. Development of the left hand, fermata, subdividing. Mechanics of full score. Conducting live groups.
Grading Restriction: Letter grade only.
(Re) Prerequisite(s): Music Theory 220.  

Grading Restriction: Letter grade only.
(Re) Prerequisite(s): 310.
309 Tuba Ensemble (1)  
Repeatability: May be repeated. Maximum 14 hours.  
Comment(s): Audition or consent of instructor required.

310 Percussion Ensemble (1)  
Repeatability: May be repeated. Maximum 14 hours.  
Comment(s): Audition or consent of instructor required.

311 Marimba Choir (1)  
Repeatability: May be repeated. Maximum 14 hours.  
Comment(s): Audition or consent of instructor required.

315 Chamber Music Ensemble (1)  
Repeatability: May be repeated. Maximum 14 hours.  
Comment(s): Audition or consent of instructor required.

320 UT Singers (1)  
Repeatability: May be repeated. Maximum 14 hours.  
Comment(s): Audition or consent of instructor required.

330 Chamber Singers (1)  
Repeatability: May be repeated. Maximum 14 hours.  
Comment(s): Audition or consent of instructor required.

334 Saxophone Choir (1)  
Repeatability: May be repeated. Maximum 14 hours.  
Comment(s): Audition or consent of instructor required.

340 Opera Theatre (1)  
Repeatability: May be repeated. Maximum 14 hours.  
Comment(s): Audition or consent of instructor required.

350 Concert Band (1)  
Repeatability: May be repeated. Maximum 14 hours.  
Comment(s): Audition or consent of instructor required.

352 Symphonic Band (1)  
Repeatability: May be repeated. Maximum 14 hours.  
Comment(s): Audition or consent of instructor required.

353 Wind Ensemble (1)  
Repeatability: May be repeated. Maximum 14 hours.  
Comment(s): Audition or consent of instructor required.

354 Pep Band (1)  
Repeatability: May be repeated. Maximum 14 hours.  
Comment(s): Audition or consent of instructor required.

359 Marching Band (1)  
Repeatability: May be repeated. Maximum 14 hours.  
Comment(s): Audition or consent of instructor required.

370 Symphony Orchestra (1)  
Repeatability: May be repeated. Maximum 14 hours.  
Comment(s): Audition or consent of instructor required.

380 Concert Choir (1)  
Repeatability: May be repeated. Maximum 14 hours.  
Comment(s): Audition or consent of instructor required.

383 Men’s Chorale (1)  
Repeatability: May be repeated. Maximum 14 hours.  
Comment(s): Audition or consent of instructor required.

389 Women’s Chorale (1)  
Repeatability: May be repeated. Maximum 14 hours.  
Comment(s): Audition or consent of instructor required.

399 Accompanying (1)  
Repeatability: May be repeated. Maximum 14 hours.  
Comment(s): Audition or consent of instructor required.

Music General (698)  

101 Fundamentals of Performance (1-2) Private instrumental or vocal study, one or two half lessons per week. This course is designed to prepare students for enrollment in Music Performance 103-195. Requires payment of applied music fees.  
Grading Restriction: A, B, C. No Credit grading.  
Credit Restriction: Cannot be used to satisfy applied music requirements at the principal level for the music major (Bachelor of Music or the Bachelor of Arts).  
Comment(s): Audition required.

200 Solo Class (0)  
Grading Restriction: Satisfactory/No Credit grading only.

301 Junior Recital (0)  
(RE) Prerequisite(s): Music Theory 120 and Musicology 200.  
(RE) Corequisite(s): Music Theory 140.  
Recommended Background: 300-level (or above) music performance course.

310 Practical Experience in Arts Management (3) Arts management practicum with approved arts organization. Individualized work with music instructor in conjunction with supervised experience in arts organization management.  
Repeatability: Maximum 6 hours.  
Comment(s): For music majors only.

401 Senior Recital (0)  
(RE) Prerequisite(s): Music Theory 220 and Musicology 220.  
(RE) Corequisite(s): Music Theory 240.  
Recommended Background: 400-level music performance course.

411 Lecture Recital (0)  
(RE) Prerequisite(s): Music Theory 120 and Musicology 200.  
Recommended Background: 200-level (or above) music performance course.

421 Special Topics in Performance (1-3)  
Repeatability: May be repeated. Maximum 4 hours.  
Registration Permission: Consent of department head.

431 Special Topics in Pedagogy (1-3)  
Repeatability: May be repeated. Maximum 4 hours.  
Registration Permission: Consent of department head.

495 Sacred Music Internship (3) Observation, participation, and supervised leadership experience in the music program of an approved local church.  
Grading Restriction: Satisfactory/No Credit grading only.  
Registration Restriction(s): Bachelor of Music – music major/sacred music concentration; minimum student level – senior.

Music Instrumental (710)  

310 Brass Literature and Pedagogy (3) Survey of brass solo and ensemble literature, including instructional materials and methods. Application of pedagogical procedures to individual instruction and performance; demonstration lessons by applied brass faculty and class members.  
Registration Permission: Consent of instructor.

320 Woodwind Literature and Pedagogy (3) Survey of woodwind solo and ensemble literature, including instructional materials and methods. Application of pedagogical procedures to individual instruction and performance; demonstration lessons by applied woodwind faculty and class members.  
Registration Permission: Consent of instructor.

330 Percussion Literature and Pedagogy (3) Survey of percussion solo and ensemble literature, including instructional materials and methods. Application of pedagogical procedures to individual instruction and performance; demonstration lessons by applied woodwind faculty and class members.  
Registration Permission: Consent of instructor.

340 String Literature and Pedagogy I (3) Study of string techniques, issues, research and pedagogies; topical presentations by the applied string faculty and guests.

350 String Literature and Pedagogy II (3) Development of the violin family of instruments and bows; survey of string literature, performances, and performance styles; application of historical, analytical, and pedagogical procedures to performance.  
(RE) Prerequisite(s): 340.  
Comment(s): 300-level (or above) music performance course required.

480 Instrumental Conducting (3) Knowledge and skills in instrumental conducting; various periods and composers and relationship of different styles to the conductor’s art; musical analysis and practice in conducting.  
(RE) Prerequisite(s): Music Education 320.

Music Jazz (711)  

110 Jazz Theory (2) Fundamentals of the jazz language, including terminology, chord symbols, chord/scales, and chord progressions, plus ear-training lab.  
(RE) Prerequisite(s): Music Theory 110.

120 Analysis of Jazz Styles (2) Individual improvisatory styles through analysis of their transcribed solos. Training and function of the ear in music. Transcription of solos from recordings and preparation of analysis.  
(RE) Prerequisite(s): 110.

130 Jazz Piano I (1) Harmonic language of jazz. Interpretation of chord symbols, formulae for voicing chords, chord progressions, and fundamental melody-playing and improvisation for right hand.

140 Jazz Piano II (1) Harmonic language of jazz. Interpretation of chord symbols, formulae for voicing chords, chord progressions, and construction of bass lines.  
(RE) Prerequisite(s): 130.

160 Introduction to Styles in Jazz Drumming (2) Examination of major composers and performers who have contributed significantly to creation of principal styles of jazz drumming.

210 Jazz Improvisation I (2) Study of application and principles of improvisation, including nomenclature, chord progressions, chord scales, patterns, melodic development, and tone styles.  
(RE) Prerequisite(s): 110.
220 Jazz Improvisation II (2) Study of application and principles of improvisation, including nomenclature, chord progressions, chord scales, patterns, melodic development, and solo transcription.  
(RE) Prerequisite(s): 210.

310 Jazz Composition and Arranging (2) Composing and arranging in the jazz idiom.  
Registration Permission: Consent of instructor.

320 Jazz Band Arranging (2) Arranging and scoring for the Big Jazz Band.  
(RE) Prerequisite(s): Music Technology 340.

410 Advanced Improvisation (3) Development of individual skills and solving individual problems in jazz improvisation.  
(RE) Prerequisite(s): 220.  
Registration Restriction(s): Bachelor of Music – music major/ studio music and jazz concentration.

420 Jazz Pedagogy (1) Methods and materials relating to teaching of jazz, designing and administering jazz programs, and rehearsal techniques for jazz ensembles.  
Registration Restriction: Bachelor of Music – music major/ studio music and jazz concentration.

Music Keyboard (712)

110 Class Piano I (1) Development of keyboard skills in keyboard reading, improvisation, harmonization, transposition, technique, and repertoire.  
Registration Restriction: Bachelor of Music – music major or Bachelor of Arts – music major.

120 Class Piano II (1) Keyboard skills in reading two keyboard textures, improvisation, harmonization, transposition, technique, accompaniments for major instrument.  
(RE) Prerequisite(s): 110.

210 Class Piano III (1) Keyboard skills in reading hymn text, improvisation, harmonizing with secondary dominants, transposition, accompaniments for major instrument.  
(RE) Prerequisite(s): 220.

220 Class Piano IV (1) Completes the piano competency requirement. Open score reading, 203 accompaniments for the major instrument.  
(RE) Prerequisite(s): 210.

230 Keyboard Harmony (1) Melody harmonization, figured bass realization, and improvisation.  
(RE) Prerequisite(s): Music Theory 120.

(DE) Prerequisite(s): Music Performance 180 or Music Performance 185 or Music Performance 190.

340 Piano Pedagogy I (3) Survey of elementary pedagogical methods and materials with emphasis on teaching styles for motivation and reading both lead sheet and notation systems; collateral teaching experience.  
350 Piano Pedagogy II (3) Survey of intermediate pedagogical materials and methods with emphasis on how to empower the student to play musically, to improvise, and to read in several keyboard textures; collateral teaching experience.  
(RE) Prerequisite(s): 340.

360 Piano Pedagogy III (3) Intermediate to advanced methods and materials related to the development of principals of learning.  
(RE) Prerequisite(s): 350.

370 Piano Pedagogy IV (3) Discussion of problems and experiences in teaching practical, observation of teaching of all ages. Overview of the business aspects of private teaching.  
(RE) Prerequisite(s): 360.

410 Organ Practicum (1) Improvisation, hymn playing, and accompanying on the organ.  
Repeatability: May be repeated. Maximum 3 hours.  
Recommended Background: Organ proficiency at the 200 level.

420 Piano Literature I (3) From 1750 to the middle 19th century.  
430 Piano Literature II (3) Middle 19th century to the present.

460 The Organ and Its Literature I (3) Development of the organ and organ literature from the Middle Ages to approximately 1750; problems of style and interpretation; pedagogical literature and methods.  
(RE) Corequisite(s): Musicology 110.  
Registration Permission: Consent of instructor.

470 The Organ and Its Literature II (3) Development of the organ and organ literature from 1750 to the present; problems of style and interpretation; pedagogical literature and methods.  
(RE) Corequisite(s): Musicology 110.

480 Teaching Class Piano (3) Historical survey and evaluation of teaching materials and methodology for college and/or adult beginning piano classes, with collateral teaching experience.  
Registration Permission: Consent of instructor.

485 Suzuki Piano Method I (2) Study of the philosophy, procedures, and literature of the Suzuki Piano Method Books 1 and 2.  
Registration Permission: Consent of instructor.

490 Internship (2) Opportunity for pedagogy students to gain experience in teaching beginning students under the supervision of experienced instructors.  
Contact Hour Distribution: Includes weekly discussion seminars.

491 Internship (2) Opportunity for pedagogy students to gain experience in teaching beginning students under the supervision of experienced instructors.  
Contact Hour Distribution: Includes weekly discussion seminars.

495 Suzuki Piano Method II (2) Study of procedures, and literature of the Suzuki Piano Method Books 3 and above.  
(RE) Prerequisite(s): 485.

Music Performance (713)

103 Flute (1-3)  
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.  
(DE) Prerequisite(s): Music General 101.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition and registration for ensemble appropriate to degree program.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

104 Flute (1-3)  
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.  
(RE) Prerequisite(s): 103.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 103.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

105 Oboe (1-3)  
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.  
(DE) Prerequisite(s): Music General 101.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition and registration for ensemble appropriate to degree program.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

106 Oboe (1-3)  
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.  
(RE) Prerequisite(s): 105.  
(RE) Corequisite(s): Music General 200.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

110 Bassoon (1-3)  
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.  
(DE) Prerequisite(s): Music General 101.  
(RE) Corequisite(s): Music General 200.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

111 Bassoon (1-3)  
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.  
(RE) Prerequisite(s): 110.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 110.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

115 Clarinet (1-3)  
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.  
(DE) Prerequisite(s): Music General 101.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition and registration for ensemble appropriate to degree program.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.
116 Clarinet (1-3)
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.
(RE) Prerequisite(s): 115.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 115.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

120 Saxophone (1-3)
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.
(DE) Prerequisite(s): Music General 101.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition and registration for ensemble appropriate to degree program.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

121 Saxophone (1-3)
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.
(RE) Prerequisite(s): 120.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 120.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

125 Horn (1-3)
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.
(DE) Prerequisite(s): Music General 101.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition and registration for ensemble appropriate to degree program.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

126 Horn (1-3)
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.
(RE) Prerequisite(s): 125.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 125.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

130 Trumpet (1-3)
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.
(DE) Prerequisite(s): Music General 101.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition and registration for ensemble appropriate to degree program.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

131 Trumpet (1-3)
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.
(RE) Prerequisite(s): 130.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 130.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

135 Trombone (1-3)
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.
(DE) Prerequisite(s): Music General 101.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

136 Trombone (1-3)
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.
(RE) Prerequisite(s): 135.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 135.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

140 Baritone (1-3)
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.
(DE) Prerequisite(s): Music General 101.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition and registration for ensemble appropriate to degree program.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

141 Baritone (1-3)
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.
(RE) Prerequisite(s): 140.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 140.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

145 Tuba (1-3)
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.
(DE) Prerequisite(s): Music General 101.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition and registration for ensemble appropriate to degree program.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

146 Tuba (1-3)
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.
(RE) Prerequisite(s): 145.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 145.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

150 Percussion (1-3)
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.
(DE) Prerequisite(s): Music General 101.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition and registration for ensemble appropriate to degree program.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

151 Percussion (1-3)
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.
(RE) Prerequisite(s): 150.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 150.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

155 Voice (1-3)
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.
(DE) Prerequisite(s): Music General 101.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition and registration for ensemble appropriate to degree program.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

156 Voice (1-3)
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.
(RE) Prerequisite(s): 155.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 155.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

160 Violin (1-3)
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.
(DE) Prerequisite(s): Music General 101.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition and registration for ensemble appropriate to degree program.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

161 Violin (1-3)
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.
(RE) Prerequisite(s): 160.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition and registration for ensemble appropriate to degree program.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

165 Viola (1-3)
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.
(DE) Prerequisite(s): Music General 101.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition and registration for ensemble appropriate to degree program.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Description</th>
<th>Prerequisites</th>
<th>Corequisites</th>
<th>Repeatability</th>
<th>Registration Restrictions</th>
</tr>
</thead>
<tbody>
<tr>
<td>170 Cello (1-3)</td>
<td>Repeatability: Not repeatable for credit. May be taken once for 1-3 hours. (DE) Prerequisite(s): Music General 101. (RE) Corequisite(s): Music General 200. Comment(s): Requires audition and registration for ensemble appropriate to degree program. Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>171 Cello (1-3)</td>
<td>Repeatability: Not repeatable for credit. May be taken once for 1-3 hours. (RE) Prerequisite(s): 170. (RE) Corequisite(s): Music General 200. Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 170. Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>172 Electric Bass (1-3)</td>
<td>Repeatability: Not repeatable for credit. May be taken once for 1-3 hours. (DE) Prerequisite(s): Music General 101. (RE) Corequisite(s): Music General 200. Comment(s): Requires audition and registration for ensemble appropriate to degree program. Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>173 Electric Bass (1-3)</td>
<td>Repeatability: Not repeatable for credit. May be taken once for 1-3 hours. (RE) Prerequisite(s): 172. (RE) Corequisite(s): Music General 200. Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 172. Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>174 String Bass (1-3)</td>
<td>Repeatability: Not repeatable for credit. May be taken once for 1-3 hours. (DE) Prerequisite(s): Music General 101. (RE) Corequisite(s): Music General 200. Comment(s): Requires audition and registration for ensemble appropriate to degree program. Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>175 String Bass (1-3)</td>
<td>Repeatability: Not repeatable for credit. May be taken once for 1-3 hours. (RE) Prerequisite(s): 174. (RE) Corequisite(s): Music General 200. Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 174. Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>180 Piano (1-3)</td>
<td>Repeatability: Not repeatable for credit. May be taken once for 1-3 hours. (RE) Prerequisite(s): Music General 101. (RE) Corequisite(s): Music General 200. Comment(s): Requires audition and registration for ensemble appropriate to degree program.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>181 Piano (1-3)</td>
<td>Repeatability: Not repeatable for credit. May be taken once for 1-3 hours. (RE) Prerequisite(s): 180. (RE) Corequisite(s): Music General 200. Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 180.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>183 Guitar (1-3)</td>
<td>Repeatability: Not repeatable for credit. May be taken once for 1-3 hours. (DE) Prerequisite(s): Music General 101. (RE) Corequisite(s): Music General 200. Comment(s): Requires audition and registration for ensemble appropriate to degree program. Registration Restriction(s): Bachelor of Music – music major/studio music and jazz concentration.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>184 Guitar (1-3)</td>
<td>Repeatability: Not repeatable for credit. May be taken once for 1-3 hours. (RE) Prerequisite(s): 183. (RE) Corequisite(s): Music General 200. Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 183. Registration Restriction(s): Bachelor of Music – music major/studio music and jazz concentration.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>185 Harpsichord (1-3)</td>
<td>Repeatability: Not repeatable for credit. May be taken once for 1-3 hours. (DE) Prerequisite(s): Music General 101. (RE) Corequisite(s): Music General 200. Comment(s): Requires audition and registration for ensemble appropriate to degree program. Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>186 Harpsichord (1-3)</td>
<td>Repeatability: Not repeatable for credit. May be taken once for 1-3 hours. (RE) Prerequisite(s): 185. (RE) Corequisite(s): Music General 200. Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 185. Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>189 Organ (1-3)</td>
<td>Repeatability: Not repeatable for credit. May be taken once for 1-3 hours. (DE) Prerequisite(s): Music General 101. (RE) Corequisite(s): Music General 200. Comment(s): Requires audition and registration for ensemble appropriate to degree program. Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>190 Organ (1-3)</td>
<td>Repeatability: Not repeatable for credit. May be taken once for 1-3 hours. (RE) Prerequisite(s): 189. (RE) Corequisite(s): Music General 200. Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 189. Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>203 Flute (1-3)</td>
<td>Repeatability: May be repeated by non-BM students. Maximum 8 hours. (RE) Prerequisite(s): 104. (RE) Corequisite(s): Music General 200. Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 104. Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>204 Flute (1-3)</td>
<td>Repeatability: May be repeated by non-BM students. Maximum 8 hours. (RE) Prerequisite(s): 203. (RE) Corequisite(s): Music General 200. Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 203. Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>205 Oboe (1-3)</td>
<td>Repeatability: May be repeated by non-BM students. Maximum 8 hours. (RE) Prerequisite(s): 205. (RE) Corequisite(s): Music General 200. Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 205. Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>206 Oboe (1-3)</td>
<td>Repeatability: May be repeated by non-BM students. Maximum 8 hours. (RE) Prerequisite(s): 206. (RE) Corequisite(s): Music General 200. Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 206. Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>210 Bassoon (1-3)</td>
<td>Repeatability: May be repeated by non-BM students. Maximum 8 hours. (RE) Prerequisite(s): 111. (RE) Corequisite(s): Music General 200. Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 111. Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
211 Bassoon (1-3)
Repeatability: May be repeated by non-BM students. Maximum 8 hours.
(Re) Prerequisite(s): 210.
(Re) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 210.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

215 Clarinet (1-3)
Repeatability: May be repeated by non-BM students. Maximum 8 hours.
(Re) Prerequisite(s): 116.
(Re) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 116.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

216 Clarinet (1-3)
Repeatability: May be repeated by non-BM students. Maximum 8 hours.
(Re) Prerequisite(s): 215.
(Re) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 215.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

220 Saxophone (1-3)
Repeatability: May be repeated by non-BM students. Maximum 8 hours.
(Re) Prerequisite(s): 121.
(Re) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 121.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

225 Horn (1-3)
Repeatability: May be repeated by non-BM students. Maximum 8 hours.
(Re) Prerequisite(s): 225.
(Re) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 225.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

226 Horn (1-3)
Repeatability: May be repeated by non-BM students. Maximum 8 hours.
(Re) Prerequisite(s): 226.
(Re) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 226.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

230 Trumpet (1-3)
Repeatability: May be repeated by non-BM students. Maximum 8 hours.
(Re) Prerequisite(s): 230.
(Re) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 230.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

231 Trumpet (1-3)
Repeatability: May be repeated by non-BM students. Maximum 8 hours.
(Re) Prerequisite(s): 231.
(Re) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 231.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

235 Trombone (1-3)
Repeatability: May be repeated by non-BM students. Maximum 8 hours.
(Re) Prerequisite(s): 136.
(Re) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 136.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

236 Trombone (1-3)
Repeatability: May be repeated by non-BM students. Maximum 8 hours.
(Re) Prerequisite(s): 235.
(Re) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 235.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

240 Baritone (1-3)
Repeatability: May be repeated by non-BM students. Maximum 8 hours.
(Re) Prerequisite(s): 141.
(Re) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 141.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

241 Baritone (1-3)
Repeatability: May be repeated by non-BM students. Maximum 8 hours.
(Re) Prerequisite(s): 240.
(Re) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 240.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

245 Tuba (1-3)
Repeatability: May be repeated by non-BM students. Maximum 8 hours.
(Re) Prerequisite(s): 156.
(Re) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 156.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

246 Tuba (1-3)
Repeatability: May be repeated by non-BM students. Maximum 8 hours.
(Re) Prerequisite(s): 245.
(Re) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 245.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

250 Percussion (1-3)
Repeatability: May be repeated by non-BM students. Maximum 8 hours.
(Re) Prerequisite(s): 151.
(Re) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 151.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

251 Percussion (1-3)
Repeatability: May be repeated by non-BM students. Maximum 8 hours.
(Re) Prerequisite(s): 250.
(Re) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 250.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

255 Voice (1-3)
Repeatability: May be repeated by non-BM students. Maximum 8 hours.
(Re) Prerequisite(s): 156.
(Re) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 156.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

256 Voice (1-3)
Repeatability: May be repeated by non-BM students. Maximum 8 hours.
(Re) Prerequisite(s): 255.
(Re) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 255.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

260 Violin (1-3)
Repeatability: May be repeated by non-BM students. Maximum 8 hours.
(Re) Prerequisite(s): 161.
(Re) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 161.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.
261 Violin (1-3)  
Repeatability: May be repeated by non-BM students. Maximum 8 hours.  
(RE) Prerequisite(s): 260.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition. Registration for ensemble appropriate to degree program, and C or higher in 260.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

265 Viola (1-3)  
Repeatability: May be repeated by non-BM students. Maximum 8 hours.  
(RE) Prerequisite(s): 166.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 166.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

266 Viola (1-3)  
Repeatability: May be repeated by non-BM students. Maximum 8 hours.  
(RE) Prerequisite(s): 265.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 265.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

270 Cello (1-3)  
Repeatability: May be repeated by non-BM students. Maximum 8 hours.  
(RE) Prerequisite(s): 171.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 171.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

271 Cello (1-3)  
Repeatability: May be repeated by non-BM students. Maximum 8 hours.  
(RE) Prerequisite(s): 173.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 173.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

272 Electric Bass (1-3)  
Repeatability: May be repeated by non-BM students. Maximum 8 hours.  
(RE) Prerequisite(s): 170.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 170.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

273 Electric Bass (1-3)  
Repeatability: May be repeated by non-BM students. Maximum 8 hours.  
(RE) Prerequisite(s): 172.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 172.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

274 String Bass (1-3)  
Repeatability: May be repeated by non-BM students. Maximum 8 hours.  
(RE) Prerequisite(s): 270.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 270.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

275 String Bass (1-3)  
Repeatability: May be repeated by non-BM students. Maximum 8 hours.  
(RE) Prerequisite(s): 274.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 274.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

280 Piano (1-3)  
Repeatability: May be repeated by non-BM students. Maximum 8 hours.  
(RE) Prerequisite(s): 181.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 181.

281 Piano (1-3)  
Repeatability: May be repeated by non-BM students. Maximum 8 hours.  
(RE) Prerequisite(s): 280.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 280.

283 Guitar (1-3)  
Repeatability: May be repeated by non-BM students. Maximum 8 hours.  
(RE) Prerequisite(s): 184.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 184.  
Registration Restriction(s): Bachelor of Music – music major/studio music and jazz concentration.

284 Guitar (1-3)  
Repeatability: May be repeated by non-BM students. Maximum 8 hours.  
(RE) Prerequisite(s): 283.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 283.  
Registration Restriction(s): Bachelor of Music – music major/studio music and jazz concentration.

285 Harpsichord (1-3)  
Repeatability: May be repeated by non-BM students. Maximum 8 hours.  
(RE) Prerequisite(s): 186.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 186.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

286 Harpsichord (1-3)  
Repeatability: May be repeated by non-BM students. Maximum 8 hours.  
(RE) Prerequisite(s): 285.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 285.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

289 Organ (1-3)  
Repeatability: May be repeated by non-BM students. Maximum 8 hours.  
(RE) Prerequisite(s): 190.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 190.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

290 Organ (1-3)  
Repeatability: May be repeated by non-BM students. Maximum 8 hours.  
(RE) Prerequisite(s): 289.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 289.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

294 Composition (1-3)  
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.  
(RE) Prerequisite(s): Music Theory 210 and Music Theory 230.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in Music Theory 210 and Music Theory 230.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

295 Composition (1-3)  
Repeatability: Not repeatable for credit. May be taken once for 1-3 hours.  
(RE) Prerequisite(s): 294.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 294.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

303 Flute (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 204.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 204.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.
304 Flute (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 303.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 303.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.  

305 Oboe (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 305.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 305.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.  

306 Oboe (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 306.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 306.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.  

310 Bassoon (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 211.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 211.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.  

311 Bassoon (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 311.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 311.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.  

315 Clarinet (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 216.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 216.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.  

316 Clarinet (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 316.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 316.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.  

320 Saxophone (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 221.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 221.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.  

321 Saxophone (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 321.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 321.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.  

325 Horn (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 226.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 226.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.  

326 Horn (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 326.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 326.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.  

330 Trumpet (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 330.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 330.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.  

331 Trumpet (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 331.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 331.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.  

335 Trombone (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 335.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 335.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.  

340 Baritone (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 241.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 241.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.  

341 Baritone (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 341.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 341.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.  

345 Tuba (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 345.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 345.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.  

346 Tuba (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 346.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 346.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.  

350 Percussion (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 251.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 251.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.
351 Percussion (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 350.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 350.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

355 Voice (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 256.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 256.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

356 Voice (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 355.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 355.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

360 Violin (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 261.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 261.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

361 Violin (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 360.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 360.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

365 Viola (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 266.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 266.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

366 Viola (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 365.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 365.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

370 Cello (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 271.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 271.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

371 Cello (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 370.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 370.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

372 Electric Bass (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 273.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 273.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

373 Electric Bass (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 372.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 372.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

374 String Bass (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 375.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 375.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

375 String Bass (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 274.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 274.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

380 Piano (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 281.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 281.

381 Piano (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 380.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 380.

383 Guitar (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 284.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 284.
Registration Restriction(s): Bachelor of Music – music major/studio music and jazz concentration.

384 Guitar (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 383.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 383.
Registration Restriction(s): Bachelor of Music – music major/studio music and jazz concentration.

385 Harpsichord (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 286.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 286.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

386 Harpsichord (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 385.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 385.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

389 Organ (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 290.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 290.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.
390 Organ (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 389.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 389.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

394 Composition (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 295.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 295.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

395 Composition (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 394.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 394.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

396 Composition with Electronic Media
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): Music Theory 210 and Music Theory 230.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 210 and Music Theory 230.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

403 Flute (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 306.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 306.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

404 Flute (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 403.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 403.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

405 Oboe (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 316.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 316.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

406 Oboe (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 316.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 316.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

410 Bassoon (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 311.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 311.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

411 Bassoon (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 410.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 410.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

415 Clarinet (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 316.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 316.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

416 Clarinet (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 415.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 415.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

420 Saxophone (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 321.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 321.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

421 Saxophone (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 420.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 420.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

425 Horn (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 326.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 326.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

426 Horn (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 425.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 425.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

430 Trumpet (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 331.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 331.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

431 Trumpet (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 430.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 430.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

435 Trombone (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 336.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 336.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

436 Trombone (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 435.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 435.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.
441 Baritone (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 440.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 440.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

451 Percussion (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 375.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 375.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

456 Voice (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 356.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 356.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

460 Violin (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 361.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 361.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

461 Violin (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 460.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 460.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

465 Viola (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 366.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 366.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

466 Viola (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 465.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 465.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

470 Cello (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 371.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 371.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

471 Cello (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 470.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 470.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

472 Electric Bass (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 373.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 373.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

473 Electric Bass (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 472.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 472.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

474 String Bass (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 375.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 375.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

475 String Bass (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 474.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 474.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

480 Piano (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 381.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 381.  
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

481 Piano (1-3)  
Repeatability: May be repeated. Maximum 8 hours.  
(RE) Prerequisite(s): 480.  
(RE) Corequisite(s): Music General 200.  
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 480.
483 Guitar (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 384.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 384.
Registration Restriction(s): Bachelor of Music – music major/studio music and jazz concentration.

484 Guitar (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 483.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 483.
Registration Restriction(s): Bachelor of Music – music major/studio music and jazz concentration.

485 Harpsichord (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 386.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 386.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

486 Harpsichord (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 485.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 485.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

489 Organ (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 390.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 390.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

490 Organ (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 489.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 489.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

494 Composition (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 394.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 394.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

495 Composition (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 395.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 395.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

496 Composition with Electronic Media (1-3)
Repeatability: May be repeated. Maximum 8 hours.
(RE) Prerequisite(s): 396.
(RE) Corequisite(s): Music General 200.
Comment(s): Requires audition, registration for ensemble appropriate to degree program, and C or higher in 396.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

499 Improvisation (1-2)
Repeatability: May be repeated. Maximum 4 times.
Credit Restriction(s): May not be used to satisfy applied music requirement.
Registration Permission: Consent of instructor.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

Music Technology (717)
290 Sound Recording Techniques (3) Theory and applications of tape recording’s sound reproduction and reinforcement systems. Topics include room acoustics, audio measurements, microphones, studio and real-time processing, noise reduction, mixing, editing, monitors, system wiring, and maintenance. (QR)

340 Introduction to Computer Music Transcription (3) Exercise in notation, playback and publishing incorporating elements of word processing, graphic design, sequencing and page layout. Study of Music Instrument Digital Interface protocol as it applies to computer music work station design.
Registration Permission: Consent of instructor.

390 Sound Synthesis Techniques (3) Studio and real-time applications of synthesizers. Historical background, theoretical concepts, equipment interface and usage, analysis of sounds and compositions.
(DE) Prerequisite(s): 290.

Music Theory (714)
100 Fundamentals of Music (3) Theory and practice of basic elements of music.
Comment(s): For non-music majors.

105 Introduction to Music Theory (3) Materials of music including scales and modes, key signatures, intervals, triads, diatonic analysis, and an introduction to part-writing.
Registration Restriction(s): Bachelor of Music – music major or Bachelor of Arts – music major.

110 Theory I (3) Materials of music including basic elements through non-chord tones and 6/4 chords. Exercises in analysis, composition, and improvisation of music with emphasis on common practice.
Recommended Background: Successful completion of music theory placement test.

120 Theory II (3) Materials of music through secondary dominants and modulation. Exercises in analysis, composition, and improvisation of music with emphasis on common practice.
(RE) Prerequisite(s): 110.
Comment(s): Grade of C or higher in 110 is required.

130 Ear Training I (1) Development of proficiency in sight singing short melodies and identifying melodic intervals, scales, triads and the dictation of short diatonic melodic models.
Contact Hour Distribution: Includes lab hours.
Grading Restriction: A, B, C, No Credit grading.
(RE) Prerequisite(s): 100 or 105.
Comment(s): Grade of C or higher in 100 or 105 is required.

140 Ear Training II (1) Development of proficiency in sight singing longer melodies and identifying harmonic intervals, triads, cadence types and the dictation of longer diatonic melodic models.
Contact Hour Distribution: Includes lab hours.
(RE) Prerequisite(s): 130.
Comment(s): Grade of C or higher in 130 is required.

210 Theory III (3) Materials of music through chromatic harmony and modulation. Exercises in analysis, composition, and improvisation of music with emphasis on common practice.
(RE) Prerequisite(s): 120.
Comment(s): Grade of C or higher in 120 is required.

220 Theory IV (3) Materials of music from the dissolution of functional harmony to contemporary compositional techniques. Exercises in analysis, composition, and improvisation of music.
(RE) Prerequisite(s): 210.
Comment(s): Grade of C or higher in 210 is required.

230 Advanced Ear Training III (1) Development of proficiency in sight singing melodies, identifying seventh chords, dictation of diatonic harmonic progressions and diatonic melodic models.
Contact Hour Distribution: Includes lab hours.
(RE) Prerequisite(s): 220.
Comment(s): Grade of C or higher in 210 is required.

240 Advanced Ear Training IV (1) Development of proficiency in sight singing melodies, dictation of diatonic harmonic progressions and melodico- melodic models.
Contact Hour Distribution: Includes lab hours.
(RE) Prerequisite(s): 230.
Comment(s): Grade of C or higher in 230 is required.

310 Form and Analysis (3) Study and practice in analysis of forms of music from smallest structural units to large compound forms.
(RE) Prerequisite(s): 210 and 240.
320 Instrumentation (2) Basic techniques in scoring for voice, brass, woodwind and string choirs and percussion.
(RE) Prerequisite(s): 210 and 230.
Comment(s): For students in the studio music and jazz and music education concentrations.

Comment(s): Recommended as a review course for graduate students.
Registration Permission: Consent of instructor.

410 Ear Training Review (1) Review and application of harmonic and melodic dictation skills.
Grading Restriction: Satisfactory/No Credit grading only.
Recommended Background: 240.
Comment(s): For graduate and advanced undergraduate students.
Registration Permission: Consent of instructor.

420 Orchestration (3) Advanced techniques in instrumental writing with emphasis on scoring for the concert orchestra.
(RE) Prerequisite(s): 210 and 230.
Comment(s): For students in the theory/composition concentration.

430 Counterpoint I (3) Study of species counterpoint in modal and tonal styles with emphasis on works of Palestrina and J.S. Bach.
(RE) Prerequisite(s): 210 and 230.

440 Counterpoint II (3) Writing of contrapuntal forms of the 18th century and fugue analysis of works from the 18th through the 20th centuries.
(RE) Prerequisite(s): 430.

450 Choral Arranging (2) Analysis of scores and writing of arrangements for choruses.
(RE) Prerequisite(s): 210 and 240.

493 Independent Study in Music Theory (1-15)
Repeatability: May be repeated. Maximum 15 hours.
Registration Permission: Consent of department head.

Music Voice (715)

110 Class Voice I (1) Development of basic vocal skills.
Repeatability: May be repeated. Maximum 2 hours.
Registration Permission: Consent of instructor.

230 Acting for Singers (1) Advanced work on song presentation and interpretation; scene study and characterization.
Repeatability: May be repeated. Maximum 4 hours.
Registration Permission: Consent of instructor.

240 Diction I (2) Sounds by phonetic symbols. Opera and art songs used for examples. Emphasis placed on Italian, English, and Spanish diction.
Performance practice.

250 Diction II (2) Sounds by phonetic symbols. Opera and art songs used for examples. Emphasis placed on German, French, and Latin diction.
Performance practice.

330 Opera Production (1-3) Supervised work on opera productions.
Repeatability: May be repeated. Maximum 12 hours.
Registration Permission: Consent of instructor.

410 Song Literature I (2) German songs.

420 Song Literature II (2) French, Italian, Russian, Scandinavian, Czechoslovakian, British, and American art songs.

425 Functional Diction for Singers (3) Comprehensive survey of singing diction in six languages: English, French, German, Italian, Latin and Spanish. Basic instruction in the International Phonetic Alphabet; development of basic diction skills; overview of diction styles and traditions in each language; survey of diction resources and reference materials.
Comment(s): For students in sacred music (voice) and music education/vocal concentrations.

450 Pedagogy I (2) Concepts and approaches to teaching singing past and present for all ages of voices.
Registration Permission: Consent of instructor.

460 Pedagogy II (1) Vocal teaching materials: includes collateral teaching experiences.
(RE) Prerequisite(s): 450.

Musicology (706)

110 Introduction to Music in Western Culture (3) The study of style periods of Western European art music and related issues of cultural and social history. Develops listening skills and ability to respond to music articulately. Writing-emphasis course. (AH)
Credit Restriction: Students who receive a grade of C or better in 200 may not receive credit for 110.

115 Music in the United States (3) Explores musical traditions of the United States. Writing-emphasis course. (AH)

120 History of Rock (3) Study and appreciation of rock music, its origins in blues and rock and roll, its development and cultural dimensions to the present. Writing-emphasis course. (AH)

125 Jazz in American Culture (3) The historical study of jazz as part of American culture, including its styles, key performers, and musical practices. Writing-emphasis course. (AH)

200 Introduction to Music Literature (3) Basic forms of music and accepted masterworks through chronological approach.
Comment(s): For music majors and minors only.

210 History of Western Music, Ancient to the Baroque (3) Historical study of musical styles, practices, theories and context of European art music to 1750. Develops skills in independent research, critical thinking and expository writing. Writing-emphasis course. (AH) (WC)
(Re) Prerequisite(s): 110.
Registration Permission: Consent of instructor.

220 History of Western Music, Classical to the Present (3) Historical study of musical styles, practices, theories, and context of European art music from 1750 to present. Develops skills in independent research, critical thinking and expository writing. Writing-emphasis course. (AH)
(Re) Prerequisite(s): 110.
Registration Permission: Consent of instructor.

290 Soundscapes: Exploring Music in a Changing World (3) An introduction to music within expressive culture and as a part of peoples’ daily lives around the world. Focuses on music as sound, its role in conceptions of identity, migration and global social processes, personal and community memory, politics and power. (AH)

310 Introduction to African-American Music (3) History of African music, blues, gospel music, and jazz with emphasis on black artists and their contributions. (Same as Africana Studies 310.)

330 Women in Music (3) Interdisciplinary survey of music as a gendered construct in varying cultural contexts, including music in European art music, American popular music, and others. Explores gendered roles in composition, performance, and social and musical institutions from the point of view of historical, cultural, feminist, and queer interpretations. (Same as Women’s Studies 330.) (WC)

340 Contemporary Trends in American Church Music I (2) The history and analysis of popular, contemporary sacred music, with an emphasis on composition and arranging.
(Re) Prerequisite(s): Music Theory 220.

341 Contemporary Trends in American Church Music II (2) Continuation of the history and analysis of popular, contemporary sacred music, with an emphasis on composition and arranging.
(Re) Prerequisite(s): 340.

350 History of Jazz (3) Origin, development, and styles of jazz music and its exponents. Cultivation of special listening techniques. Writing emphasis course.

380 Music in World Cultures (3) Examines music from an ethnomusicological perspective focusing on musical performance and the interrelationships of music, culture, and daily life. The course surveys music from a variety of cultures through a series of case studies. (WC)
(Re) Prerequisite(s): 220.

400 Music History Survey (3) Condensed survey of the history of western classical music traditions from the medieval era to the present, including socio-political events that shape musical practice. Explores musical genres and styles, as well as key themes in musicological research.
Recommended Background: 100-level musicology course.
Comment(s): Recommended as a review course for graduate students. Does not count for graduate credit.

410 Studies in Genre (3) Historical, cultural, analytical, and musicological issues related to a single musical genre, style, or repertory. Topics vary.
Repeatability: May be repeated. Maximum 6 hours.
Recommended Background: 100-level musicology course.
Registration Permission: Consent of instructor.

420 History of Opera (3) The development of opera from its inception to the present. Readings and discussion focus on an understanding of the historical trajectory of opera, both as a musica-theatrical work and as a cultural practice.
Recommended Background: 100-level musicology course.
Registration Permission: Consent of instructor.

430 History of the Symphony (3) Overview of orchestral repertories from 1600 to the present.
Recommended Background: 100-level musicology course.
Registration Permission: Consent of instructor.

450 Composer Seminar (3) Biographical, historical, and cultural study of a composer, or a group of related composers. Topics vary.
Repeatability: May be repeated. Maximum 6 hours.
Recommended Background: 100-level musicology course.
460 Music Aesthetics (3) Nature of music and musical experience, sense perception and emotions, music, and role of artist in society. Aesthetic viewpoint of individuals and historical eras through selected writings. Writing-emphasis course.

Recommended Background: 100-level musicology course.

480 Music in Christian Worship (3) Hymnody, liturgies, and liturgical music. Recommended Background: 100-level musicology course.

472 Nuclear System Design (4) First order design and analysis of a nuclear system, interface with nonnuclear aspects of system design including system reliability and economics, class project.

(Re) Prerequisite(s): 470.

483 Introduction to Reliability Engineering (3) Probabilistic failure models, parameter estimation (maximum likelihood, Bayes techniques), Model identification and comparison, accelerated life tests, failure prediction, system reliability, preventive maintenance and warranties. (Same as Chemical Engineering 483; Industrial Engineering 483; Mechanical Engineering 483.)

Registration Restriction(s): Minimum student level – senior.

484 Introduction to Maintainability Engineering (3) Principles of maintainance and reliability engineering, and maintenance management. Topics include information extraction from machinery measurements, rotational machinery diagnosis, nondestructive testing, life prediction, failure models, lubrication oil analysis, establishing a predictive maintenance program, and computerized maintenance management systems. (Same as Chemical Engineering 484; Industrial Engineering 484; Materials Science and Engineering 484; Mechanical Engineering 484.)

Registration Restriction(s): Minimum student level – senior.

494 Special Topics in Nuclear Engineering (3) Problems related to recent developments and practice.

Repeatability: May be repeated.

Registration Restriction(s): Minimum student level – senior.

Registration Permission: Consent of instructor.

495 Special Topics in Radiological Engineering (3) Problems related to recent developments and practice.

Repeatability: May be repeated.

Registration Restriction(s): Minimum student level – senior.

498 Research (1-3) Research related to recent developments in nuclear and radiological engineering.

Grading Restriction: Satisfactory/No Credit grading only.

Nuclear Engineering (716)

200 Introduction to Nuclear and Radiological Engineering (1) Topics related to nuclear and radiological engineering.

Grading Restriction: Satisfactory/No Credit grading only.

203 Thermodynamics I (3) First law analysis of open and closed systems. Properties of ideal gases and real fluids. Introduction to second law and concept of entropy, Rankine cycle.

(Re) Prerequisite(s): Mathematics 142.

301 Fundamentals of Nuclear and Radiological Engineering (3) Nuclear systems, radiation interactions and decay, health physics, cross sections, basic nuclear reactor theory concepts, introduction to FORTRAN programming.

(Re) Prerequisite(s): Physics 232 and Mathematics 231.

304 Nuclear and Radiological Engineering Laboratory I (3) Radiation detection and counting instrumentation, counting statistics, half-life and decay schemes, gamma spectrometry, heat transfer experiments. (WC)

(De) Prerequisite(s): 342.

(Re) Corequisite(s): 470.

342 Thermal Science (3) Fluid statics; conservation equations of mass, momentum, and energy; applications to fluid machinery; heat transfer processes, heat conduction, thermal radiation, free and forced convection.

(De) Prerequisite(s): 203 or Mechanical Engineering 331.

351 Nuclear System Dynamics and Control (3) System modeling and time-domain response, transfer functions, frequency-domain response, stability, control methods, and control design. Nuclear reactor kinetics, nodal modeling of core heat transfer, reactor control systems, and nuclear plant transient response are discussed. System simulation and control using PC-based software and toolboxes.

(Re) Prerequisite(s): 301.

360 Reactor Systems and Safety (3) Safety and operating limits of nuclear steam supply system components; NRC regulations, accident analysis and mitigation.

(Re) Prerequisite(s): 342.

400 Senior Seminar (1) Current topics related to nuclear and radiological engineering including ethics, contemporary issues, and commitment to life-long learning. (OC)

Grading Restriction: Satisfactory/No Credit grading only.

Registration Restriction(s): Minimum student level – senior.

403 Nuclear and Radiological Engineering Laboratory II (3) Cross section measurements, diffusion properties of neutrons, shielding, dynamics and controls, alpha and beta spectroscopy, radiation fields and dosimetry. (WC)

(Re) Prerequisite(s): 304.

404 Nuclear Fuel Cycle (3) Topics relative to nuclear fuel cycle including, mining, milling, fabrication, in-core management, reprocessing, waste disposal, regulatory and radiation health issues and requirements.

(Re) Prerequisite(s): 470.

406 Radiation Shielding (3) Types of radiation sources, fundamentals of gamma ray and neutron attenuation, biological effects, approximate methods of shield design, discrete ordinates, and Monte Carlo.

(Re) Prerequisite(s): Physics 232.

421 Introduction to Nuclear Criticality Safety (3) Fundamentals of nuclear criticality safety; criticality accidents; safety standards; overview of experiments, computational methods, and applications.

(Re) Prerequisite(s): 301.

431 Radiation Protection (3) External and internal dosimetry, biological effects of radiation, radiation detection, radiation risk assessment.

(Re) Prerequisite(s): 301.

470 Nuclear Reactor Theory I (3) Fundamentals of reactor physics relative to cross sections, kinematics of elastic scattering, reactor kinetics, reactor systems and nuclear data. Analytical and numerical methods applicable to general criticality problems, eigenvalue searches, perturbation theory, and the multigroup diffusion equations.

(Re) Prerequisite(s): 301.
420 Clinical Nuclear Medicine I (4) Theories and applications of nuclear medicine methodologies. Patient care, central nervous system, endocrine system, respiratory system and digestive system.
Registration Restriction(s): Pre-professional programs major/nuclear medicine technology concentration.

425 Computer Applications in Nuclear Medicine (3) Computer systems, applications, and components in quantitation in nuclear medicine. Topics include acquisition modes and limitations, image processing modes and limitations, and image quantitation with some attention to machine and language architecture and numbering systems.
Registration Restriction(s): Pre-professional programs major/nuclear medicine technology concentration.

430 Clinical Nuclear Medicine II (4) Theories and applications of nuclear medicine methodologies. Hepatic and hepatobiliary system, genitourinary system, musculoskeletal system, non organ/inflammatory imaging, cardiovascular imaging, non-imaging nuclear medicine.
Registration Restriction(s): Pre-professional programs major/nuclear medicine technology concentration.

440 Clinical Nuclear Medicine III (4) Theories and applications of nuclear medicine methodologies. Single photon emission tomography, positron emission tomography, clinical quality assurance, pediatric nuclear medicine, radionucleide therapy, and management and administration of nuclear medicine programs.
Registration Restriction(s): Pre-professional programs major/nuclear medicine technology concentration.

450 Clinical Practicum I (4) Clinical instruction in routine nuclear medicine procedures conducted at UTMCK and other clinical sites. Clinical instruction activities in imaging, instrumentation, radiotherapy, dose administration, radiation safety and protection, non-imaging procedures, patient care and preparation, computer applications, radionucleide therapy, and basic administrative and management procedures.
Registration Restriction(s): Pre-professional programs major/nuclear medicine technology concentration.

460 Clinical Practicum II (6) Clinical instruction in routine nuclear medicine procedures conducted at UTMCK and other clinical sites. Clinical instruction activities in imaging, instrumentation, radiotherapy, dose administration, radiation safety and protection, non-imaging procedures, patient care and preparation, computer applications, radionucleide therapy, and basic administrative and management procedures.
Registration Restriction(s): Pre-professional programs major/nuclear medicine technology concentration.

470 Clinical Practicum III (6) Clinical instruction in routine nuclear medicine procedures conducted at UTMCK and other clinical sites. Clinical instruction activities in imaging, instrumentation, radiotherapy, dose administration, radiation safety and protection, non-imaging procedures, patient care and preparation, computer applications, radionucleide therapy, and basic administrative and management procedures.
Registration Restriction(s): Pre-professional programs major/nuclear medicine technology concentration.

475 Nuclear Medicine Registry Review (2) Preparation for National Registry Examination with special emphasis on film interpretation and reporting in technical critique sessions.
Registration Restriction(s): Pre-professional programs major/nuclear medicine technology concentration.

Nursing (720)

201 Introduction to Nursing (2) History, philosophy, and scope of nursing practice with emphasis on the holism of persons, standards for professional practice, and an overview of the nursing process and nursing theories.
Contact Hour Distribution: 2 lecture and 1 lab.
(OC) Prerequisite(s): Consent of instructor.
Comment(s): Open to undergraduate students.

202 Health and Culture (3) An exploration of the beliefs and practices of various cultural groups within the United States in relation to health, illness and the health care delivery system. Implications for the helping professions are examined.
Comment(s): This course has no prerequisites and is open to all undergraduate students.

305 Transitions to Professional Nursing (4) Builds on the knowledge base and experience of RNs in transition to professional nursing. Focuses on the conceptual foundations of nursing practice and issues in health care delivery.
Contact Hour Distribution: 3 lecture and 1 lab.
Comment(s): For RNs only.

311 Foundations of Professional Nursing Practice (5) Emphasis on patient centered communication, therapeutic interventions, and critical thinking as key elements in the use of the nursing process. Clinical laboratory experiences provide opportunity for the application of these processes in the care of adults in selected health care settings.
Contact Hour Distribution: 2 lecture and 3 lab.
(RE) Prerequisite(s): 201.
(OC) Corequisite(s): 319 and 333.
(OC) Prerequisite(s): 341.
Registration Restriction(s): Bachelor of Science in Nursing – nursing major or Master of Science in Nursing – nursing major; minimum student level – junior.

314 Wellness and Lifestyle (3) Models of wellness and holistic health within the framework of modern medicine, eastern philosophy, and recent discoveries about the interaction of mind and body. Biopsychosocial interactions of lifestyle and genetic risk factors for cardiovascular and malignant diseases, wellness potential, and potential longevity. Process of lifestyle changes will be facilitated by faculty.
Comment(s): Open to all undergraduate students.

319 Pathophysiology of Health Deviations (4) Application of physiologic concepts to health promotion, maintenance, deviations, and restoration. Introduction to psychoneuroimmunology. Emphasis on interactions of body systems, and impact of disease processes on the human body.
Registration Restriction(s): Bachelor of Science in Nursing – nursing major or Master of Science in Nursing – nursing major; minimum student level – junior.

333 Health Assessment (3) Theory and laboratory practice in the systematic assessment of health status including history taking and performance of physical assessment skills.
Contact Hour Distribution: 2 lecture and 1 lab.
Comment(s): For RNs, this course is prerequisite to any clinical course beyond 305.
Registration Restriction(s): Bachelor of Science in Nursing – nursing major or Master of Science in Nursing – nursing major; minimum student level – junior.

341 Transcultural Nursing (2) Focus on cultural perspectives in health and illness. Discussion of diversity in and influence of culture on health promotion, maintenance, and restoration across the lifespan and in selected nursing specialties, ethnic populations, and religious denominations.
Registration Restriction(s): Bachelor of Science in Nursing – nursing major or Master of Science in Nursing – nursing major; minimum student level – junior.

(OC) Prerequisite(s): Chemistry 100 and Chemistry 110.
Comment(s): 6 hours of anatomy and physiology are required.

361 Health Maintenance and Restoration: Adult (5) Focus on health maintenance and restoration of adults experiencing commonly occurring acute or chronic illness. Presentation of illnesses and critical indicators of underlying conditions will be identified for the younger adult as compared to the older adult.
Contact Hour Distribution: 3 lecture and 2 lab.
(OC) Prerequisite(s): 311 and 319.
(OC) Prerequisite(s): 333.
(OC) Corequisite(s): 351.
Comment(s): RNs are exempt from 311.

381 Professional Development in Nursing (2) Emphasis on development of personal attributes necessary for professional practice such as: emotional intelligence, caring, critical thinking, decision making, problem solving, motivation and management of time, stress, and anger. The course content also includes theories and principles of interpersonal capacities and strategies used in any health care setting such as communication, delegation, and management of teams, conflicts, and changes.

382 Health Promotion and Maintenance in the Community (5) Focus on nursing care of at-risk populations in the community and national health promotion objectives. Analysis of community health needs. Design and implementation of nursing interventions to promote and maintain health.
Contact Hour Distribution: 3 lecture and 2 lab.
(OC) Prerequisite(s): 311 and 319.
(OC) Prerequisite(s): 333.
(OC) Corequisite(s): 351 and 361.

400 Aging and Society (3) An examination of the health and social effects of longevity and the aging process including societal and personal attitudes about old age. Resources, trends, issues, and potentials of aging are explored. Volunteer community service, a service learning component, is required.
Comment(s): Open to undergraduate students in all colleges.

402 Gerontology Practicum (3) Off-campus supervised experience in gerontology. Offered as part of the gerontology minor.
Comment(s): Open to students in all colleges.
Registration Permission: Consent of instructor.
403 Health Promotion and Maintenance in Childbearing Families (5) Nursing practice for promotion, maintenance, and restoration of reproductive health. Emphasis on therapeutic relationships with childbearing families for long-term positive impact on health care and lifestyle. (WC)
Contact Hour Distribution: 3 lecture and 2 lab.
(RE) Prerequisite(s): 361 and 382.
404 Health Promotion, Maintenance, and Restoration in Children, Adolescents, and their Families (5) A family-centered approach to the nursing care of children and adolescents. The nursing process is used as the basis for promoting, maintaining, and restoring health and facilitating adaptation in the child-rearing family. Clinical experiences in selected agencies provide experience with children and adolescents in both community and acute care facilities.
Contact Hour Distribution: 3 lecture and 2 lab.
(RE) Prerequisite(s): 361 and 382.
406 Pharmacology II (2) Continuation of 351 with emphasis on nursing responsibilities in the safe and effective use of therapeutic drugs, recognition and reporting of side effects, and critical aspects of patient education.
(RE) Prerequisite(s): 351.
409 Genetic Disorders, Vulnerable Families, and Health Advocacy (3) Examination of health and social implications of Human Genome Project, with emphasis on genetic disorders that result in chronic illness or disability. Strategies for building collaborative partnerships to effect health advocacy for vulnerable populations.
Registration Restriction(s): Bachelor of Science in Nursing – nursing major or Master of Science in Nursing – nursing major; minimum student level – junior.
415 Nursing the Childbearing Family (4) Application of the nursing process to individuals, families, groups in the childbearing/rearing stages of development. Clinical experiences are provided in a variety of hospital and community settings.
Contact Hour Distribution: 2 lecture and 2 lab.
Comment(s): For non-nurse MSN students.
Registration Restriction(s): Master of Science in Nursing – nursing major.
421 Mental Health Maintenance and Restoration (5) Nursing to support and care for persons with mental health needs. Emphasis on use of self as therapeutic agent with individuals, groups and families and developing nursing strategies for mental health maintenance and restoration.
Contact Hour Distribution: 3 lecture and 2 lab.
(RE) Prerequisite(s): 361 and 382.
432 Health Promotion, Maintenance, and Restoration in the Community (3) Focus on nursing care of at risk individuals, communities, and populations. Assessment of sociocultural values, environmental factors, health education, and community resources. Design of interventions to promote, maintain, and restore health through the use of the epidemiological process. Clinical practice in a community health setting.
Contact Hour Distribution: 2 lecture and 1 lab.
Comment(s): For non-nurse MSN students only or permission of instructor.
Registration Restriction(s): Master of Science in Nursing – nursing major.
444 Care of Children, Adolescents, and their Families (3) A family-centered approach to the nursing care of children and adolescents. The nursing process is used as the basis for promoting, maintaining, and restoring health and facilitating adaptation in the child-rearing family.
Contact Hour Distribution: 2 lecture and 1 lab.
(RE) Prerequisite(s): 361.
Comment(s): For non-nurse MSN students only.
Registration Restriction(s): Master of Science in Nursing – nursing major.
451 Interpersonal Management Skills in Nursing (2) Focus on concepts and strategies for leadership as a professional nurse. Application of common workplace issues that affect nursing practice.
(RE) Prerequisite(s): 381.
Registration Restriction(s): Bachelor of Science in Nursing – nursing major; minimum student level – senior.
452 Professional and Workplace Issues (1) Focus on nursing ethics and moral development, using scenarios from everyday practice.
(RE) Prerequisite(s): 451.
Registration Restriction(s): Bachelor of Science in Nursing – nursing major; minimum student level – senior.
454 Professional Leadership Issues (2) Survey of issues and trends that influence the practice of professional nursing. Focus on concepts and strategies for leadership as a professional nurse. Emphasis on personal development and interpersonal skills. (OC)
Recommended Background: RN status or MSN.
Contact Hour Distribution: 2 lecture and 2 lab.
(RE) Prerequisite(s): 361 and 382.
470 Special Topics (1-3) In-depth study of selected nursing topics, problems, or issues not covered in other courses. Topics determined by faculty and student interest.
Registration Permission: Consent of instructor.
471 Nursing Research (3) Introduction to research, design, and methodologies. Critique of selected research studies for application to evidenced-based nursing practice.
Comment(s): Also open to RNs.
Registration Restriction(s): Bachelor of Science in Nursing – nursing major; minimum student level – senior.
480 Nursing Informatics I (3) Provides opportunity for nursing students and/or registered nurses to develop beginning knowledge and skills in computer applications and the field of nursing informatics. Existing and future health information systems will be examined. Emphasis is placed on hands-on acquisition of basic computer competencies. Use of electronic communication, word processing, spreadsheet, database, presentation and computer-assisted-instruction programs. Students will also be exposed to nursing documentation, flowcharting, and authoring software.
Contact Hour Distribution: 2 lecture and 1 lab.
Registration Restriction(s): Bachelor of Science in Nursing – nursing major.
490 Specialty Preceptorship (4) In-depth practice to develop knowledge and skill in a selected specialty area under direct guidance of clinical preceptor. Knowledge development in specialty area under guidance of faculty.
Contact Hour Distribution: 1 lecture and 3 lab.
(RE) Prerequisite(s): 406 and 451.
(DE) Prerequisite(s) or (DE) Corequisite(s): 403, 404, 421, and 461.
491 International Studies (1-3) Participation in selected health and nursing care in foreign countries.
Registration Permission: Consent of instructor.
493 Independent Study (1-3) Nursing or health-related topic not covered in other nursing courses.
Registration Permission: Consent of instructor.
Registration Restriction(s): Minimum student level – senior.

Nutrition (726)

100 Introductory Nutrition (3) Nutritional concepts; current consumer issues in nutrition; nutritional needs through life cycle; international nutrition concerns and/or issues. (NS)
104 Sports Nutrition for Athletes (1) Nutritional concepts focusing on the optimal training diet; balancing energy with activity; positive fueling before, during, and after sports events; sorting out nutritional supplements.
201 Careers in Nutrition (1) Overview of nutrition-related careers. Routes to meeting academic, registration, and experience requirements.
302 Life Span Nutrition (3) Physiological development and psychosocial factors that influence nutrient needs and nutrition behaviors of individuals across the life span. Nutrition education strategies for various age groups.
(RE) Prerequisite(s): 100.
303 Foodservice Systems Management (3) Assessment of managerial, organizational and operational structures in foodservice systems with focus on markets related to dietary practice; human resource policies and strategies applied to foodservice systems management.
310 Physiological Chemistry (4) (See Biochemistry and Cellular and Molecular Biology 310.)
313 Vitamins and Minerals (3) Functional properties and interrelationships among vitamins and minerals as they apply to human nutrition.
(RE) Prerequisite(s): Chemistry 350 and Biochemistry and Cellular and Molecular Biology 310.
314 Energy Metabolism and Metabolic Integration (3) Integration of carbohydrate, fat and protein metabolism as applied to nutrient utilization and requirements in humans.
(RE) Prerequisite(s): Biochemistry and Cellular and Molecular Biology 310 and Chemistry 350.
410 Professional Issues in Dietetics (1) Dietetic registration, licensure; third party payments; dietetic practice; marketing dietetics; internship application preparation; public policy in dietetic practice.
Registration Restriction(s): Minimum student level – senior.
412 Food and Nutrition in the Community (3) Influence of health characteristics, geographic, social, economic, educational and cultural factors on food and nutrition programming; relationship of community food and nutrition problems to programs and services for families and communities with particular attention to disease prevention; public policy. (WC)
(RE) Prerequisite(s): 302 and 415.
415 Clinical Nutrition I (3) Pathophysiological basis and nutritional assessment and intervention in chronic diseases in humans.
(RE) Prerequisite(s): 313 and 314.
416 Clinical Nutrition II (3) Pathophysiological basis and nutritional assessment and intervention in acute disease and other critical care conditions.

(Re) Prerequisite(s): 415.

420 Food and Nutritional Analysis (4) Principles, procedures, and instrumentation for analysis of food and body fluids. Interpretation of chemical, dietary, and anthropometric data analysis in nutrition research.

(Re) Prerequisite(s): 100 and Biochemistry and Cellular and Molecular Biology 310.

450 Special Topics: Nutrition (1-3) Developments, issues and problems in Nutrition; topic variable.

Repeatability: May be repeated. Maximum 3 hours.

Registration Restriction(s): Nutrition major; minimum student level – junior.

Registration Permission: Consent of instructor.

490 Introduction to the Dietetic Internship (3) Applications of clinical, food service, and management theories to dietetic practice.

Comment(s): Restricted to dietetic intern students.

492 Field Experience: Nutrition (1-3)

Grading Restriction: Satisfactory/No Credit grading only.

Registration Permission: Consent of instructor.

493 Directed Study: Nutrition (1-3) Individual student: faculty experience.

Grading Restriction: Letter grade only.

Registration Permission: Consent of instructor.

Operations and Management Science (738)

341 Operations Management I (3) Design of operations systems. Process and methods analysis and measurement, location and layout, project management, operational forecasting.

(Re) Prerequisite(s): Business Administration 341.

Registration Restriction(s): Majors in the College of Business Administration.

410 Management Science (3) Introduction to quantitative decision models and their integration into microcomputer-based decision support systems. Topics include linear, dynamic and network programming, as well as decision analysis, Markov, inventory and queuing models.

(Re) Prerequisite(s): Mathematics 123 and Statistics 201.

421 Total Quality Management (3) Successful quality improvements characterized by four main principles: customer focus, continuous improvement, leadership, and teamwork. This course focuses on the managerial perspective that is necessary to successfully implement and integrate quality improvements initiatives. The quality improvement tools are also presented.

(Re) Prerequisite(s): Business Administration 341.

Registration Restriction(s): Majors in the College of Business Administration.

441 Operations Management II (3) Planning and control of operations systems. Aggregate planning, scheduling systems, materials management.

(Re) Prerequisite(s): 341.

Registration Restriction(s): Majors in the College of Business Administration.

Persian (744)

161 Elementary Persian I (4) (See Asian Studies 161.)

162 Elementary Persian II (4) (See Asian Studies 162.)

261 Intermediate Persian I (4) (See Asian Studies 261.) (CC)

262 Intermediate Persian II (4) (See Asian Studies 262.) (CC)

Philosophy (745)

110 The Human Condition: Values and Reality (3) The meaning of life, the existence of God, freedom of the will, human nature and values.

Writing-emphasis course. (AH)

111 The Human Condition: Knowledge and Reality (3) The place of mind in a material universe and the nature and possibilities of human knowledge.

Writing-emphasis course. (AH)

Comment(s): May be taken before 110.

117 Honors: Introduction to Philosophy I (3) Honors version of 110. (AH)

118 Honors: Introduction to Philosophy II (3) Honors version of 111. (AH)

Comment(s): May be taken before 117.

130 Critical Thinking (3) An introduction to practical reasoning in natural language, designed to enhance skills in recognizing, analyzing, evaluating and constructing arguments.

135 Formal Logic (3) Introduction to formal deductive systems: propositional and predicate logic.

200 Special Topics (3)

Repeatability: May be repeated if topic differs. Maximum 6 hours.

241 Engineering Ethics (3) Ethical issues in engineering at the intersection of science, business, and society. Such topics as international concerns; risk, safety, and the environment; employee loyalties and professional responsibility; professional organizations and codes of conduct.

Writing-emphasis course. (AH) (WC)

242 Contemporary Moral Issues (3) Issues such as euthanasia, capital punishment, reproductive technologies, sexual ethics, diversity, war, world poverty, employment practices, and the environment, in light of philosophical analysis and ethical theory.

Writing-emphasis course. (AH) (OC)

243 Business Ethics (3) The proper roles of ethics in business in general and such specific issues as the meaning and value of work; employee rights and responsibilities; marketing; finance; the environment; information technology; diversity and discrimination; international business; environmental globalization; ethical business cultures. Readings will include philosophical essays and contemporary case studies.

Writing-emphasis course. (AH) (WC)

244 Professional Responsibility (3) Critical analysis of selected classic texts from philosophy, religious studies, and social sciences dealing with responsibility and the nature of professionalism. Theoretical principles and analytical skills applied to selected case studies and other detailed descriptions of professional practice from engineering/architecture; business/accounting; and at least one of: law/politics; helping professions (social work, human services, ministry); teaching.

Writing-emphasis course. (Same as Legal Studies 244; Religious Studies 244.) (AH) (OC)

245 Environmental Ethics (3) Issues concerning the nature of the environment and the place of humanity within it. Writing-emphasis course. (AH)

246 Bioethics (3) Ethical issues in health care such as abortion, euthanasia, human experimentation, fairness in health care delivery, and the doctor-patient relationship.

Writing-emphasis course. (Same as Religious Studies 246.) (AH) (WC)

290 Social and Political Philosophy (3) Issues such as the obligation to obey the law, liberty, oppression, equality, rights, democracy, and the just society.

Writing-emphasis course. (AH) (WC)

300 Special Topics (3)

Repeatability: May be repeated. Maximum 6 hours.

320 Ancient Western Philosophy (3) Writing-emphasis course. (WC)

322 Medieval Philosophy (3) Development of medieval thought from St. Augustine to William of Occam. Secondary and primary sources.

Writing-emphasis course. (Same as Judaic Studies 322; Medieval Studies 322.) (WC)

324 17th- and 18th-Century Philosophy (3) Writing-emphasis course. (WC)

326 19th- and 20th-Century Philosophy (3) Writing-emphasis course. (WC)

340 Ethics (3) Theories of ethical values.

Writing-emphasis course. (WC)

350 Aesthetics (3) Philosophical discussion of art.

Writing-emphasis course.

353 Philosophy and Literature (3) Nature of literature; philosophical assumptions in literary works.

Writing-emphasis course.

360 Philosophy of Science (3) An introduction to major problems in the philosophy of science. Specific issues vary, but may include: the nature of causality; the relationship between experiments, theories, and scientific practice; how theories change and how scientific disputes get settled; the role played by social organization in science (e.g., gender and race issues); and others.

Writing-emphasis course.

370 Philosophy of Religion (3) Analysis of basic issues in the philosophy of religion. (Same as Religious Studies 370.)

374 Philosophy and Religion of India (3) (See Religious Studies 374.)

376 Buddhist Philosophy and Religion (3) (See Religious Studies 376.)

379 Religion and Philosophy in China (3) (See Religious Studies 379.)

382 Philosophy of Feminism (3) Various feminist theories and their application to social issues of concern to women today.

Writing-emphasis course. (Same as Women’s Studies 382.) (WC)

390 Philosophical Foundations of Democracy (3) Philosophical problems relating to the nature and justification of the central values, principles, and concepts of democratic society.

Writing-emphasis course. (WC)

392 Philosophy of Law (3) A course in analytic and normative jurisprudence. Such topics as the nature of legal systems as normative social practices, the relationships between law and morality, theories of adjudication and legal reasoning, the justification of punishment, theories of legal responsibility, law and economics, and feminist and neo Marxist critiques of law. Writing-emphasis course. (Same as Legal Studies 392.)

393 Global Justice and Human Rights (3) Such issues as justice between distinct and diverse political communities; universal human rights; moral issues in environment, trade, and development.

Writing-emphasis course. (Same as Global Studies 393; Legal Studies 393.)
395 Existentialism (3) Themes related to freedom and finitude in the tradition that begins with Kierkegaard and Nietzsche, and extends to Heidegger and Jaspers, Sartre and Merleau-Ponty.

400 Special Topics (3)  
Repeatability: May be repeated if topic differs. Maximum 6 hours.

411 Modern Religious Philosophies (3) (See Religious Studies 411.)

419 Science as Method (3) (See Ecology and Evolutionary Biology 419.)

420 Topics in History of Philosophy (3) One or more figures or movements from antiquity through mid-20th century.  
Repeatability: May be repeated if topic differs. Maximum 9 hours.  
Recommended Background: 6 hours of philosophy courses.

435 Intermediate Formal Logic (3) Metatheory of formal logic and philosophy of logic.  
(RE) Prerequisite(s): 135.

440 Contemporary Ethical Theory (3) Topics in meta-ethics or ethics.  
Recommended Background: 6 hours of philosophy courses.

443 Advanced Business Ethics (3) Advanced topics in business ethics.  
Repeatability: May be repeated if topic differs. Maximum 6 hours.  
(DE) Prerequisite(s): One of the following – 241, 242, 243, 244, 245, 246, 340.

445 Advanced Environmental Ethics (3) Advanced topics in environmental ethics.  
Repeatability: May be repeated if topic differs. Maximum 6 hours.  
(DE) Prerequisite(s): One of the following – 241, 242, 243, 244, 245, 246, 340.

446 Advanced Bioethics (3) Advanced topics in bioethics.  
Repeatability: May be repeated if topic differs. Maximum 6 hours.  
(DE) Prerequisite(s): One of the following – 241, 242, 243, 244, 245, 246, 340.

462 Philosophy of Biology (3) An introduction to current issues in the philosophy of biology. Specific problems vary, but will likely include: the nature of natural selection, adaptation, and fitness; the level of selection debate; the nature of species; the interaction of environment and organism, and others.  
Recommended Background: Upper-division coursework in philosophy or biology.

472 Philosophy of Language (3) Problems of meaning, reference and truth. What is the relation between words and the world? How do sentences manage to be about the world? What is it for something to be true? 
Recommended Background: Three 200-level or above philosophy courses.

473 Philosophy of Mind (3) Problems of mind and body in relation to consciousness and personal identity.  
Recommended Background: 6 hours of philosophy courses.

491 Foreign Study (1-15)  
Repeatability: May be repeated. Maximum 15 hours.

492 Off-Campus Study (1-15)  
Repeatability: May be repeated. Maximum 15 hours.

493 Independent Study (1-15)  
Repeatability: May be repeated. Maximum 15 hours.

Physical Education (764)

200 Special Topics (1-2) Selected topics in various activities not covered in the regular program.  
Repeatability: May be repeated if topic differs. Maximum 6 hours.

202 Badminton (1) Fundamental badminton technique, game strategy, and rules for singles and doubles play.

206 Bowling (1) Introduction to ball selection, approach, spot bowling, rules, scoring, etiquette, and basic terminology necessary for enjoyable recreational bowling.

211 Golf (1) Introduction to chipping, putting, full swing, rules, etiquette, and scoring necessary for enjoyable recreational play.

213 Ice Skating (1) Beginning skills and etiquette in ice skating.  
Grading Restriction: Satisfactory/No Credit grading only.

216 Martial Arts (Special Topics) (2) Selected topics in various forms of martial arts, including but not limited to jujitsu, judo, karate, and tai chi.  
Repeatability: May be repeated if topic differs. Maximum 6 hours.

224 Physical Fitness: Conditioning (1) Program of flexibility, strength, and cardiovascular endurance through exposure to various exercise forms.

225 Physical Fitness: Exercise to Music (1) Total body workout to music with lecture emphasis on basic fitness components of flexibility, strength, and cardiovascular fitness.

226 Exercise and Weight Control (1) Fitness activities and basic fundamentals of nutrition for students interested in losing weight. Includes body composition assessment and instruction on achieving a goal weight.

229 Physical Fitness: Jogging (1) General factors on physical fitness with emphasis on the improvement of cardiovascular fitness through jogging.

230 Physical Fitness: Swimming (1) Introductory course outlining basic principles of fitness, evaluation, and workout design in the aquatic environment.

231 Physical Fitness: Walking (1) Course for those wishing to begin a fitness program. Includes measurement and interpretation of fitness components, including body composition, cardiorespiratory fitness, low back function and nutrition.

232 Racquetball I (1) Pass, kill, ceiling shots, and basic serves. Singles and doubles strategy, necessary for recreational play.

234 Soccer (1) Introduction to individual and team fundamentals, rules, and strategy.

235 Social Dance (2) Popular ballroom dance forms such as the swing (shag), foxtrot, cha-cha, tango and rumba.

236 Softball (1) Introduction to individual and team fundamentals, rules and strategy.

237 Stress Management (2) Class will deal with the stress process and its relationship to health and disease, lifestyle, and the socio-cultural environment. The psychological, sociological, and spiritual aspects of stress will also be discussed, as well as the concept of the integrative (i.e., mind-body-spirit) person. Finally, a portion of each class period will be devoted to the learning, practice, and implementation of a personal, broad-based coping strategy for stress management.

239 Beginning Swimming (1) Includes skills in the American Red Cross basic swimming course for the non-swimmer.

240 Intermediate Swimming (1) Crawl stroke, elementary back stroke, side stroke, back crawl, breast stroke, entries and turns.

244 Tennis I (2) Introduction to forehand, backhand, serve, volley, rules, scoring and simple strategy.

245 Tennis II (1) Development of accuracy and improved technique of ground strokes and serve; introduction to smash, spin serve, and advanced strategy.

251 Volleyball (1) Introduction to individual and team fundamentals, rules, and strategy.

252 Weight Training (1) Introduction to the principles of strength development for large muscle groups through the use of free weights and machines.

254 Yoga and Relaxation (1) Introduction to yoga and various forms of relaxation, with the majority of class time spent learning and refining the postures.  
Grading Restriction: Satisfactory/No Credit grading only.

255 Water Safety Instructor (2) Prepares individuals to teach American Red Cross basic swimming and personal safety courses. ARC certification.

256 Lifeguarding Training (2) American Red Cross lifeguarding and aquatic management techniques. ARC certification.

259 Snow Skiing (1) Development of skills necessary to balance, walk and slide while on skis. Learn ski etiquette and skier’s responsibility code.  
Grading Restriction: Satisfactory/No Credit grading only.

261 Scuba Diving (2) Introduction and developmental scuba diving skills as well as the theory, safety skills and practical application of skills to open water scuba diving.

262 Snowboarding (1) Develop skills necessary for proper balance and control in snowboarding. Learn and demonstrate rules and regulations of snow etiquette through group participation. Learn the snowboarding responsibility code.  
Grading Restriction: Satisfactory/No Credit grading only.

271 Courses of Instruction

101 How Things Work I (3) Examines familiar objects of everyday experience and leads to an understanding of the physical principles that make them work. Laws of motion, mechanical objects, fluids, and heat. (NS)  
Comment(s): For students with majors outside science.

102 How Things Work II (3) Examines familiar objects of everyday experience and leads to an understanding of the physical principles that make them work. Electric and magnetic forces, electronics, lights and optics, and an introduction to modern physics. (NS)  
Comment(s): For students with majors outside science. Physics 101 is not a prerequisite for Physics 102.

135 Introduction to Physics for Physical Science and Mathematics Majors I (4) Calculus-based physics of mechanics and waves. (NS)  
Contact Hour Distribution: 3 hours lecture and 2 hours lab.  
(RE) Corequisite(s): Mathematics 141.  
Comment(s): Alternative to 137 for physics majors.
136 Introduction to Physics for Physical Science and Mathematics Majors II (4) Calculus-based physics of thermodynamics, electricity, magnetism, and optics. (NS) Contact Hour Distribution: 3 hours lecture and 2 hours lab. (RE) Prerequisite(s): Mathematics 142. Registration Permission: Consent of department.

137 Honors: Fundamentals of Physics for Physics Majors I (5) Calculus-based physics of mechanics, sound, waves and thermodynamics. (NS) (RE) Prerequisite(s): Mathematics 141. Recommended Background: High school calculus and physics. (DE) Prerequisite(s): For physics and engineering physics majors and qualified students from other majors. Registration Permission: Consent of department.

138 Honors: Fundamentals of Physics for Physics Majors II (5) Calculus-based physics of electricity, magnetism, and optics. (NS) (RE) Prerequisite(s): Mathematics 142. Recommended Background: High school calculus and physics. (DE) Prerequisite(s): For physics and engineering physics majors and qualified students from other majors. Registration Permission: Consent of department.

161 Elements of Physics for Architects and Interior Design Students (3) Chosen topics in physics for architecture and interior design students. Course emphasizes material development by logic and lecture demonstrations. (NS) Recommended Background: High school intermediate algebra and geometry.

221 Elements of Physics (4) Basic physical principles and applications required in premed, pre-dental, pre-pharmacy and pre-veterinary programs. Mechanics, heat, wave motion, and optics. (NS) Contact Hour Distribution: 3 hours lecture and 3 hours lab. (RE) Prerequisite(s): Mathematics 130 or Mathematics 141. Comments: Any calculus course is also an appropriate prerequisite.

222 Elements of Physics (4) Basic physical principles and applications required in premed, pre-dental, pre-pharmacy and pre-veterinary programs. Electricity and magnetism, modern physics. (NS) Contact Hour Distribution: 3 hours lecture and 3 hours lab. (RE) Prerequisite(s): 221.

231 Fundamentals of Physics: Electricity and Magnetism (3) For engineers and Arts and Sciences majors in mathematics and the physical sciences. Required of all engineering students. (NS) Contact Hour Distribution: 2 hours lecture and 3 hours lab/recitation. (RE) Corequisite(s): Mathematics 241.

232 Fundamentals of Physics: Wave Motion, Optics, and Modern Physics (4) Continuation of 231. Required of all engineering students. (NS) Contact Hour Distribution: 3 hours lecture and 3 hours lab/recitation. (RE) Prerequisite(s): 231. (RE) Corequisite(s): Mathematics 241.

240 Fundamentals of Physics: Modern Physics (3) Special relativity, fundamental concepts of modern physics and their applications to atomic, nuclear, particle and condensed matter physics. (RE) Prerequisite(s): 138 or 136. (DE) Prerequisite(s): 138 or 136 or 231.

311 Mechanics (3) Kinematics and dynamics of single particle systems, rotating referencing systems. (RE) Prerequisite(s): Computer Science 102. (DE) Prerequisite(s): 138 or 136 or 231.

312 Mechanics (3) Many body systems, rigid bodies, Lagrangian and Hamiltonian mechanics. Strong emphasis on programming and numerical methods. (RE) Prerequisite(s): 311. (RE) Corequisite(s): Mathematics 241.

321 Thermal Physics (3) Concepts of temperature and heat; laws of thermodynamics; elementary statistical mechanics; applications to physical and chemical problems. (DE) Prerequisite(s): 138 or 136 or 231 or 311.

341 Introduction to Nuclear Physics (3) Introductory theoretical nuclear physics with emphasis on applied aspects. Primarily for nuclear engineering majors. (RE) Prerequisite(s): 232 or 240.

342 Structure of Matter (3) Physics of molecules and condensed matter. (RE) Prerequisite(s): 240 or 232.

361 Electronics Laboratory (3) Electronic devices and instrumentation techniques in the physics laboratory. Basic analog and digital electronics, including elementary building blocks of relevance to data acquisition systems, operation amplifiers, digital-to-analog and analog-to-digital conversion, use of standard laboratory instruments, and applications of microcomputers. Contact Hour Distribution: 6 hours lab per week. (DE) Prerequisite(s): 138 or 136 or 232.

362 Electronics Laboratory (3) Electronic devices and instrumentation techniques in the physics laboratory. Advanced instrumentation techniques applied to the study of electronic circuits as dynamic physical systems, feedback and stability, noise, discrete sampling, Fourier analysis and synthesis, nonlinear circuit dynamics. Contact Hour Distribution: 6 hours lab per week. (DE) Prerequisite(s): 138 or 136 or 232.

401 A Survey of Physics (3) A survey of physics from earliest times to the present, emphasizing the unifying philosophical and mathematical principles. Classical theories of gravitation, electromagnetism, and relativity; various forms of quantum mechanics, quantum electrodynamics, and research theories of particles, fields, and their interactions. Consideration of the effects of physics on modern society and the practice of physics from a value-oriented perspective. Written reports on important original papers, thought-provoking problems combining different fields of classical physics, and a final oral and written report on some independent study. Registration Restriction(s): Physics major; minimum student level – senior. Registration Permission: Consent of instructor.

411 Introduction to Quantum Mechanics (3) Fundamental principles of quantum mechanics and methods of calculation. Solution of the Schrodinger equation for simple systems. Application to atomic, molecular, nuclear, and condensed matter physics. (RE) Prerequisite(s): 240 and Mathematics 435.

412 Introduction to Quantum Mechanics (3) Fundamental principles of quantum mechanics and methods of calculation. Solution of the Schrodinger equation for simple systems. Application to atomic, molecular, nuclear, and condensed matter physics. (RE) Prerequisite(s): 411.

421 Modern Optics (4) Transmission of light in uniform, isotropic media, reflection and transmission at interfaces; mathematics of wave motion and interference effects. Rudiments of Fourier optics and holography. Contact Hour Distribution: 3 hours lecture and 3 hours lab. (DE) Prerequisite(s): 138 or 136 or 431 or 232. Registration Permission: Consent of instructor.

431 Electricity and Magnetism (3) Electrostatics, magnetostatics, coupled electric and magnetic fields, Maxwell’s Equations, electromagnetic waves and radiation. (DE) Prerequisite(s): 138 or 136 or 232.

432 Electricity and Magnetism (3) Electrostatics, magnetostatics, coupled electric and magnetic fields, Maxwell’s Equations, electromagnetic waves and radiation. (RE) Prerequisite(s): 240 and 312. (DE) Prerequisite(s): 321.

441 Contemporary Physics I (3) An introduction to the major fields of contemporary physics – quantum mechanics, atomic and molecular physics, electromagnetic radiation, lasers, quantum fluids. (RE) Prerequisite(s): 240 and 312.

442 Contemporary Physics II (3) An introduction to the major fields of contemporary physics – solid state physics, magnetism, nuclear physics, medical imaging, particle physics, cosmology. (RE) Prerequisite(s): 441.

453 Team Research Project I (3) Student teams will choose the topic in consultation with the instructor and develop a plan for the project. Each team will carry out the project with regular oral and written progress reports, culminating in a final report. (RE) Prerequisite(s): 361 and 461.

454 Team Research Project II (3) Student teams will carry out major experimental or computational projects planned and begun in 453, producing regular oral and written progress reports, culminating in a final report. (RE) Prerequisite(s): 453.

461 Modern Physics Laboratory (3) Introduction to fundamental and modern techniques in experimental physics, and to the theory and practice of measurement and data analysis. Selected experiments in nuclear, atomic, molecular and solid state physics, and modern optics. Contact Hour Distribution: 6 hours lab per week. (RE) Prerequisite(s): 461. (DE) Prerequisite(s): 240 or 411.

462 Modern Physics Laboratory (3) Advanced experiments and experimental techniques in modern physics; experimental team work. Through quantum mechanical interpretation of the results and preparation of scientific reports. Contact Hour Distribution: 6 hours lab per week. (RE) Prerequisite(s): 461.

490 Senior Seminar (1-3) Topics of current interest. Repeatability: May be repeated with consent of department. Maximum 6 hours.
491 Foreign Study (3-15)
Repeatability: May be repeated. Maximum 15 hours.

492 Off-Campus Study (3-15)
Repeatability: May be repeated. Maximum 15 hours.

493 Research and Independent Study (1-3)
Research and study in field of particular interest with faculty guidance.
Repeatability: May be repeated. Maximum 6 hours.
Registration Permission: Consent of department.

Plant Sciences (791)
120 Introduction to Plant Sciences (2)
Survey of the disciplines and professions addressed by the department's four academic undergraduate concentrations: landscape design and construction; turfgrass science and management; public horticulture; plant science, biotechnology and horticulture.
Registration Restriction(s): Not open to junior and senior plant sciences majors.

210 Horticulture: Principles and Practices (2)
An introduction to the biology and underlying the use and production of horticultural crops and landscape plants. Structure, growth and development of horticultural plants from a practical and scientific approach, environmental effects, basic principles of propagation, greenhouse and outdoor production, nutrition, pruning and chemical control of growth, pest control and branches of horticulture.
(RE) Prerequisite(s): Biology 111 and Biology 112.

220 Basic Landscape Plants (3)
Identification, classification, adaptation, culture and landscape design uses of basic ornamental trees, shrubs, and vines.
Contact Hour Distribution: 2 hours and 1 lab.

226 Public Horticulture (2)
Study of the public horticulture profession. Attention given to the diversity of public horticulture institutions, career opportunities, and research. Discussion of current topics and issues.

230 Interior Plantscaping (3)
History and introduction of the interior plantscaping industry. Identification, culture, propagation, and use of plants for the commercial interior plantscape. Management of the interior environment including light, humidity, growing media, insects, and diseases.
Commercial use of containers, planters, water features, and artificial plants.

240 Turfgrass Management (2)
Practical turfgrass management; cultivation, selection, identification, and establishment; basic fertility programs, mowing, irrigation practices, and thatch removal and compaction control; pest identification and basic controls.
Contact Hour Distribution: 2 hours lecture.
Comment(s): Students in turfgrass science and management concentration must also register for 241.

241 Turfgrass Management Lab (1)
Laboratory addressing topics presented in 240.
Contact Hour Distribution: 2-hour lab.
(RE) Corequisite(s): 240.

280 Fundamentals of Landscape Design (3)
History of landscape design as it relates to contemporary applications. Awareness and sensitivity to the landscape; basic graphic skills and design theory with an emphasis on residential landscape planning. Introduction to landscape materials, and planting design.
Contact Hour Distribution: 1 hour and 2 labs.

290 Fall Herbaceous Ornamental Plants (3)
Identification, culture, and landscape use of late summer and fall herbaceous ornamental plants including annuals, perennials, herbs, and ornamental grasses. Basic gardening practices and design elements using such herbaceous ornamental plants.
(RE) Corequisite(s): 210.

291 Spring Herbaceous Ornamental Plants (3)
Identification, culture, and landscape use of spring and early summer herbaceous ornamental plants including annuals, perennials, herbs, bulbs, and wildflowers. Basic gardening practices and design elements using such herbaceous ornamental plants.
(RE) Corequisite(s): 210.

328 Conservatories: Management, Operations, and Display (1)
Study of the history, value and role of public garden conservatories. Management, operations and display of plants in controlled environments for research, conservation, and public education and entertainment.
(RE) Prerequisite(s): 226.

329 Horticultural Interpretation: Educational Programming for Adults and Children (1)
Strategic planning, programming and budgeting for adult and youth education within a public garden.
(RE) Prerequisite(s): 226.

330 Plant Propagation (2)
Physiology, methodology, and environmental requirements for propagation.
Contact Hour Distribution: 2 hours and 1 lab.
(RE) Prerequisite(s): 210 and Biology 112.
(DE) Prerequisite(s): Biology 111.

331 Interpreting Research Findings (1)
Basic statistical concepts required for understanding and evaluating research findings.
Recommended Background: 2 mathematics courses.
Registration Restriction(s): Minimum student level – junior.

335 World Food and Fiber Plant Production (3)
Introduction to important world crops and production systems. Emphasis on plant terminology, origin and development, world agro-ecosystems, environmental and economic sustainability, current technology in crop production.
(RE) Prerequisite(s): Biology 112 or Biology 102.
(DE) Prerequisite(s): Biology 111 or Biology 101.

341 Integrated Turfgrass Management and Environmental Benefits (2)
Utilization of resources available to the turfgrass manager (e.g., extension, research, professional associations). Benefits of turfgrass in the environment, including bioremediation, urban greening, carbon sequestration.
(RE) Prerequisite(s): 240 and Biology 112.
(DE) Prerequisite(s): Biology 111.

343 Turfgrass Entomology (1)
Biological study and collection of arthropods that challenge maintenance of healthy grasses, turf, and sod. Review and discussion of sampling/monitoring strategies and decision-making guidelines to help manage turfgrass pests.
(RE) Prerequisite(s): 240 and Biology 112.
(DE) Prerequisite(s): Biology 111.

348 Landscape Plant Physiology (2)
Physiological principles as they relate to landscape design and construction, turfgrass management, and horticulture: photosynthesis and transpiration, respiration, water and hormonal relations, mineral nutrition, plant development, and response to the environment.
(RE) Prerequisite(s): 240 and Biology 112.
(DE) Prerequisite(s): Biology 111.

350 Basic Landscape Construction (3)
Basic materials and detailing. Introduction to the landscape construction and contracting industry; application of landscape materials, wood, concrete and masonry construction; site drainage, and landscape grading.
Contact Hour Distribution: 2 hours and 1 lab.
(RE) Prerequisite(s): 280.

353 Plant Genetics, Breeding, and Biotechnology (3)
Genetic principles and techniques used in plant modification. Principles of molecular, transmission, and quantitative genetics as applied to plant breeding.
(RE) Prerequisite(s): Biology 111 and Biology 112.

360 Practicum in Landscape Construction (3)
Practical experience in implementation of landscape design development projects. Directed lab and field instruction in planting operations and basic landscape construction including interpreting and implementing landscape design drawings and specifications.
Contact Hour Distribution: Two 3-hour labs.
(RE) Corequisite(s): 350.

370 Grounds Maintenance (3)
Identification and understanding of maintenance tasks; transplanting, soil amendments, growth control, irrigation, climate protection, and pest control. Maintenance and use of equipment; management practices.
Contact Hour Distribution: 2 hours and 1 lab.
(RE) Prerequisite(s): 210.

380 Supplemental Landscape Design Graphics (3)
Refinement of graphic skills. Sketches, elevations, sections, isometric projections, and perspectives. Lettering, plan graphics, color rendering, and other visual presentation media.
Contact Hour Distribution: Two 2-hour labs.
(RE) Prerequisite(s): 280.

410 Nursery Management and Production (3)
Management methods as applied to retail and wholesale nurseries and landscape contracting firms. Methods of producing liners, container and field-grown woody ornamental plants.
(RE) Prerequisite(s): 330 and Environmental and Soil Sciences 210.
(DE) Prerequisite(s): 220.

421 Native Plants in the Landscape (3)
Native plants and plant communities as a basis for landscaping and environmental restoration. Weekly lecture coupled with either an outlying or service practicum of invasive exotic plant removals or planting of natives. Study and work sites will primarily be demonstration projects of the University of Tennessee Environmental Landscape Design Lab. They include local schoolyard habitats, greenways, wetlands, streambanks, and shorelines.
(RE) Prerequisite(s): 220 or Ecology and Evolutionary Biology 330.
(DE) Prerequisite(s): 210.
427 Management and Administration of Public Horticulture Institutions (2) Management of resources in non-profit institutions, support organizations and communities. Theoretical framework and institutional mission; strategic planning and programming; financial accounting and budgeting; development and fund raising; personnel policies; volunteer development; marketing and publicity; legal issues; relationships between staff and governing boards; the use of information technology in management and governance systems; and conservation/preservation roles in community development.

(Re) Prerequisite(s): 226 and 210.

429 Field Study of Public Horticulture Institutions (2) Extended 10-12 day field study of various public horticulture institutions such as botanical gardens, arboretum, historical grounds, zoos, conservatories, cemeteries, and nature reserves. Application and travel fee required.

(Re) Prerequisite(s): 226 and 210.


Contact Hour Distribution: 2 hours lecture and one 2-hour lab.

(Re) Prerequisite(s): Agriculture and Natural Resources 290 or Computer Science 100.

434 Fruit and Vegetable Crops (3) Botanical description, geographical distribution, general cultural practices of warm and cool season vegetables, small fruits, and deciduous tree fruits. A Saturday field trip is required.

Contact Hour Distribution: 2 hours lecture and one 2-hour lab.

(Re) Prerequisite(s): 210 and Biology 112.

435 Field and Forage Crops (2) Agronomic principles of crop production and management. Crop improvement, cropping systems, tillage, fertilization, pest management, harvest and utilization of major field and forage crops.

Contact Hour Distribution: 2 hours and 1 lab.

436 Plant and Garden Photography (2) Principles and techniques of photography as they relate to plants and gardens. Study of equipment options and field shooting under various weather conditions and in different seasons.

Registration Restriction(s): Minimum student level – senior.

437 Public Garden Operations and Management (2) An analysis of year-round operations and management of public gardens. Case studies involving time and labor management, budget development and management, implementation of volunteer programs, information dissemination methods for public outreach, management of grounds and facilities using the University of Tennessee Institute of Agriculture Gardens as a model.

(Re) Prerequisite(s): 226 and 210.

441 Advanced Turfgrass Management (2) Principles and scientific basis of turfgrass culture; adaptation, ecology, physiology, climatic influences on grass culture; clipping and water management; design.

Contact Hour Distribution: 1-hour lecture and one 1-hour lab.

(Re) Prerequisite(s): 240 and Biology 112.

(De) Prerequisite(s): Biology 111.

442 Turf Root-zone Construction (2) Construction and management of root-zones for home lawns, golf courses and athletic fields.

(Re) Prerequisite(s): 240 and Biology 112.

(De) Prerequisite(s): Biology 111.

446 Horticultural Therapy (2) Introduction to the application of horticulture as therapy for treatment, rehabilitation and/or training of individuals with disabilities.

(Re) Prerequisite(s): 210 and 226.

Registration Restriction(s): Minimum student level – senior.

448 Horticultural Internet Technology (3) Creation and management of information resources for the internet, with a focus on development of visual and oral communications skills through a series of individual and team exercises in writing, graphics, and public speaking. (WC)

(De) Prerequisite(s): Communication Studies 210 or 240.

Registration Restriction(s): Minimum student level – senior.

450 Specialty Landscape Construction (3) Methods of design, materials, and construction techniques for specialized components of the landscape industry. Irrigation systems, outdoor lighting, garden ponds and water features.

451 Plant Tissue Culture (3) (See Entomology and Plant Pathology 451.)

454 Plant Biotechniques (3) Lectures will discuss recombinant DNA technology, molecular assisted breeding of economically important crops, gene cloning and transformation technologies. Examples will be given of food and ornamental crops, pharmaceuticals, and renewable energy sources produced using biotechnology as well as potential risks of the technology. Labs will include electrophoresis, tissue culture, plasmid preps, genomic DNA preps, PCR, plant transformation, genentic techniques.

Contact Hour Distribution: 1 hour and one 3-hour lab.

(Re) Prerequisite(s): 353 or Biology 240.

457 Weed Management (2) Principles of weed interference, integrated management, herbicide selectivity and behavior, specific recommendations for various crop and non-crop situations.

(Re) Prerequisite(s): Environmental and Soil Sciences 210.

458 Turf Weed Management Lab (1) Laboratory addressing practices and principles presented in 457, from the standpoint of turf.

(Re) Prerequisite(s): Environmental and Soil Sciences 210.

(Re) Corequisite(s): 457.

459 Agronomy Weed Management Lab (1) Laboratory addressing practices and principles presented in 457, from the standpoint of agronomy.

(Re) Prerequisite(s): Environmental and Soil Sciences 210.

(Re) Corequisite(s): 457.

460 Professional Practices in Landscape Construction and Management (2) Professionalism, salesmanship, proposals, bidding, estimating, specifications, and contract management in landscape services industry. Computer technology applicable to landscape construction and contracting industry. Includes presentations by industry representatives.

(Re) Prerequisite(s): 350.

461 Statistics for Biological Research (3) Application of statistics to interpretation of biological research. Notation, descriptive statistics, probability, distributions, confidence intervals, t- and chi-square tests, analysis of variance, mean separation procedures, linear regression and correlation.

Credit Restriction: Students may not receive credit for both 461 and 561.

(Re) Prerequisite(s): Mathematics 125 or Mathematics 152.


(Re) Prerequisite(s): 210.

(De) Prerequisite(s): 226 or 230 or 240.

Registration Restriction(s): Minimum student level – senior.

480 Advanced Landscape Design (3) Comprehensive application of landscape design skills to a variety of project experiences with an emphasis on landscape planning and analysis, planting design, and materials estimating.

Contact Hour Distribution: Two 3-hour labs.

(Re) Prerequisite(s): 280 and 380.

485 Computer Aided Landscape Design (3) Overview of Computer Aided Design (CAD) as it relates to landscape design and construction. Emphasis on development of landscape design drawings through utilization of LANDCAD software.

(Re) Prerequisite(s): 380 and Computer Science 100.

492 Internship in Horticultural and Plant Sciences (1-3) Supervised work experience with a departmentally-approved employer within the ornamental horticulture, turfgrass, production horticulture, or field crop science industry.

Grading Restriction: Satisfactory/No Credit grading only.

Repeatability: May be repeated. Maximum 6 hours.

Registration Restriction(s): 2.25 GPA.

Registration Permission: Consent of instructor.

493 Problems in Horticultural and Plant Sciences (1-3) Supervised individual problems relating to the plant sciences or landscape design.

Repeatability: May be repeated. Maximum 6 hours.

Registration Permission: Consent of instructor.

494 Professional Horticultural Communications (3) Communication for public horticulturists through written, oral, and visual media. Emphasis on communication skills using proper writing techniques and grammar for print media, brochure design using desktop publishing, slide show development, oral presentations, and video use for educational and informational presentations in ornamental horticulture.

Registration Restriction(s): Minimum student level – senior.

497 Undergraduate Research Participation (1-3) Experiences in active research projects under supervision of staff members. Student should make arrangements for research project with instructor prior to enrollment.

Repeatability: May be repeated. Maximum 6 hours.

(Re) Restriction(s): Restriction(s): 3.00 GPA.

Registration Permission: Consent of instructor.
Political Science (801)

101 United States Government and Politics (3) Introduction to fundamental institutions and processes of American National Politics including the Constitution, voting, the Presidency, the Congress and the courts.

102 Introduction to Political Science (3) Introduction to politics and political systems emphasizing government in a cross-national and global perspective. Focus on the knowledge and principal concerns of political science as a social science. (SS)

107 Honors: United States Government and Politics (3) Analysis and exploration of the American political system for students with superior ability. Comment(s): 3.25 GPA required for current students; 29 ACT composite or 1250 SAT composite required for incoming students.

300 Introduction to Political Philosophy (3) An introduction to the concepts, enduring questions and significant thinkers associated with political philosophy with specific attention to differing conceptions of human nature, politics, the state, civic obligation and rights, freedom justice and democracy.

311 Contemporary Issues in American Public Policy (3) Selected public policy issues confronting the nation, including the background, nature, and effects of present policies, and options for the future. Writing-emphasis course.

312 Popular Culture and American Politics (3) Popular culture related to American politics and government focusing on the role of film, television, fiction, music, drama, art and sports. Writing-emphasis course. (Same as American Studies 312; Cinema Studies 312.)

315 Tennessee Government and Politics (3) Major elements in Tennessee government and politics.

320 State Government and Politics (3) Setting, institutions, and processes of government in the fifty states; generalizations and comparisons, with emphasis on federalism and intergovernmental relations.


330 Law in American Society (3) Law as a process through which social problems are addressed in the United States. Examples from case law, legislation, and administrative regulation. Writing-emphasis course. (Same as Legal Studies 330.)

340 Introduction to Public Administration and Public Policy (3) Public agencies, their organization, personnel, and financial management and administrative responsibility; the policy-making process, political environment.

341 Judicial Process (3) Courts as components of political systems, and public policy making through judicial decision making. (Same as Legal Studies 341.)

350 Political Change in Developing Areas (3) Characteristics and problems of political changes with primary focus on developing areas. Writing-emphasis course.

361 Politics in Western Democracies (3) Political culture patterns, and institutions of Western democratic systems. Writing-emphasis course.

365 Introduction to International Relations (3) Resource availability, international economics, international security and peace (imperialism, war, diplomacy, the balance of power, international law and international organization.) Writing-emphasis course.

366 United States Foreign Policy Process (3) Processes whereby United States foreign policies are made and implemented, focusing on interaction within federal bureaucracy and roles of the President, Congress, the press, and public opinion.

370 Contemporary International Problems (3) Analysis of current international events.

374 American Political Thought (3) Major themes and ideas in American political thought related to the development of American political institutions, values, and practices. Writing-emphasis course.

387 Junior Honors Seminar (3) Required of students in honors concentration. Registration Permission: Consent of department.

388 Junior Honors Seminar (3) Required of students in honors concentration. Registration Permission: Consent of department.

401 Political Analysis (3) Nature, character, and functions of research design, data collection, and statistical techniques used in the study of politics. (Same as Legal Studies 401.)


410 Special Topics in Political Science (3) Repeatability: May be repeated. Maximum 6 hours.


420 Political Attitudes and Behavior (3) Systematic examination of political attitudes, public opinion and political behavior. (Same as American Studies 420.)

421 Political Parties and Interest Groups (3) Analysis of political parties, interest groups, campaigns and elections.

425 Media and Politics (3) Examines the interrelationship between the political system and the media from a political science perspective.

430 United States Constitutional Law: Sources of Power and Restraint (3) Judicial review, constitutional powers of the President and Congress, federalism, sources of regulatory authority, and constitutional protection of political and economic rights. (Same as Legal Studies 430.)

431 United States Constitutional Law: Civil Rights and Liberties (3) Current issues in civil rights and liberties including: first amendment freedoms, equal protection, privacy and the rights of the accused. (Same as Legal Studies 431.)

435 Criminal Law and Procedure (3) An overview of substantive and procedural law in the criminal justice field with emphasis on constitutional questions and public policy issues. (Same as Legal Studies 435.)

440 Public Management and Human Resources (3) Semester long simulation of a public organization in which student groups plan, organize, direct, teach and evaluate within a tightly-structured framework.

441 Public Budgeting (3) The process, participants, and politics of government budgeting, with emphasis on federal government budgeting. Includes an overview of budget reform measures and their effectiveness.

442 Administrative Law (3) Legal dimensions of administrative power and procedures, and constitutional controls over administrators. (Same as Legal Studies 442.)

445 Administration of Justice (3) Administration and processes of justice system, including judicial administration and decision making in trial and appellate courts. (Same as Legal Studies 445.)

446 Housing (3) Nature and demand for housing in the U.S. and abroad. U.S. experience. Private market processes and public influences. Problems of change in housing supply, impact of new technology, and governmental programs to increase supply and quality of housing.

451 Ethnic Conflict in Foreign Countries (3) Examines political and violent conflict among ethnic and national groups and the challenges these conflicts pose for democratic and democratizing states.

452 Black African Politics (3) Recent evolution and current political environment of black African nations. Writing-emphasis course. (Same as Africana Studies 452.)

454 Government and Politics of China and Japan (3) Political setting, structure and political processes in China and Japan. Writing-emphasis course.

456 Latin American Government and Politics (3) Introduction to the political development of Latin America with an emphasis on contemporary politics. Writing-emphasis course. (Same as Latin American Studies 456.)

459 Government and Politics of Russia and Eastern Europe (3) System transformation, political processes and governmental structure in Russia and Eastern European countries. Writing-emphasis course.

461 Policy Making in Democracies (3) Comparative approach to theory and process of making public policies.

463 Contemporary Middle East Politics (3) Governments and movements in the Middle East, their characteristics, bases, and interrelationships.

470 International Law (3) Nature and development of international law and compliance with it. Particular attention to function of international law in the context of international conflict. (Same as Legal Studies 470.)

471 International Political Economy (3) The politics of international economics. Topics include globalization, development, trade, crime, the IMF, the WTO, the environment and challenges to the status quo.

473 Negotiation, Bargaining, and Diplomacy (3) Diplomacy, negotiation, and foreign policy decision-making. Theories of diplomacy and negotiation are applied in a simulation focusing on issues from international crime and global economic stability to world health and the environment.
474 International Organization (3) Constitutional framework and key functions of the United Nations. Topics include collective security, peacekeeping, human rights, development, regional organizations, and the role of the Secretary-General.

475 Ancient and Medieval Political Thought (3) Major western political thinkers from Socrates to Marsilio of Padua. (Same as Medieval Studies 475.)

476 Modern Political Thought (3) Major western political thinkers from Machiavelli to Marx.

487 Senior Honors: Thesis and Seminar (3) Required of students in honors concentration.

488 Senior Honors: Thesis and Seminar (3) Required of students in honors concentration.

491 Foreign Study (1-15) Repeatability: May be repeated. Maximum 15 hours.

492 Off-Campus Study (1-15) Repeatability: May be repeated. Maximum 15 hours.

493 Independent Study (1-15) Repeatability: May be repeated. Maximum 15 hours.

494 Internship (1-6) Grading Restriction: Satisfactory/No Credit grading only. Repeatability: May be repeated. Maximum 6 hours. Credit Restriction: May not be applied toward the political science major.

Portuguese (811)

111 Elementary Portuguese (3) Introduction to Portuguese. Language laboratory required.

112 Elementary Portuguese (3) Introduction to Portuguese. Language laboratory required.

(RE) Prerequisite(s): 111.

211 Intermediate Portuguese (3) Stresses reading, writing, listening, and speaking of Portuguese to prepare for upper-division courses in the language. Language laboratory required. (CC) (RE) Prerequisite(s): 112.

212 Intermediate Portuguese (3) Stresses reading, writing, listening, and speaking of Portuguese to prepare for upper-division courses in the language. Language laboratory required. (CC) (RE) Prerequisite(s): 211.

301 Literature, Culture, and Civilization of the Portuguese-Speaking World (3) A course for students who have completed the intermediate sequence of Portuguese and wish to enhance their knowledge of language and culture through the medium of literature. Taught in Portuguese. (RE) Prerequisite(s): 212 or 400.

302 Literature, Culture, and Civilization of the Portuguese-Speaking World (3) A course for students who have completed the intermediate sequence of Portuguese and wish to enhance their knowledge of language and culture through the medium of literature. Taught in Portuguese. (RE) Prerequisite(s): 212 or 400.

309 Intermediate Conversation and Composition (3) Designed to improve proficiency in oral and written communication in Portuguese. (RE) Prerequisite(s): 212 or 400.

310 Learning and Thinking (3) The normal child from conception through normal development. Individual and environmental factors in child development. (Same as Psychology 310) (SS) (RE) Prerequisite(s): 210.

315 Aspects of Luso-Brazilian Literature (3) Selected writers, trends, and artistic movements set against a broad background of cultural, socio-political and historical developments. Writing-emphasis course. (Same as Latin American Studies 315.) (RE) Prerequisite(s): 212.

316 Luso-Brazilian Cinema and Literature (3) A study of original feature films as well as literary works translated into English and adapted into film. The objectives of the course are to achieve a better understanding of contemporary Luso-Brazilian culture and issues through the medium of literature and cinema. Films will be shown in Portuguese with English subtitles. Writing-emphasis course. (Same as Cinema Studies 316; Latin American Studies 316.) Comment(s): Open to non-majors.

400 Portuguese for Speakers of Another Romance Language (3) Accelerated class for beginning students of Portuguese with a strong background in another Romance language. Introduction to grammar, reading, and culture of Portugal and Brazil. Recommended Background: 3 hours at the 300 level in another Romance language.

409 Advanced Conversation and Composition (3) Informal and structured conversation on contemporary topics (business, politics, economics, religion, an culture) and formal writing practice at an advanced level. Recommended Background: 3 hours at the 300 level in Portuguese. (Same as Latin American Studies 431.) Repeatability: May be repeated. Maximum 12 hours.

431 Topics in the Literature and Language of the Portuguese-speaking World (3) Outstanding works of literature and culture from the countries where Portuguese is spoken. Topics may vary. (Same as Latin American Studies 432.) Repeatability: May be repeated. Maximum 12 hours.

432 Topics in the Literature and Language of the Portuguese-speaking World (3) Outstanding works of literature and culture from the countries where Portuguese is spoken. Topics may vary. (Same as Latin American Studies 432.) Repeatability: May be repeated. Maximum 12 hours.

490 Internship (1-15) Career-related experiences in the United States or abroad.

Grading Restriction: Satisfactory/No Credit grading only. Repeatability: May be repeated. Maximum 15 hours. Registration Restriction(s): Language and world business (Portuguese) concentration.

491 Foreign Study (1-15) Repeatability: May be repeated. Maximum 15 hours.

493 Independent Study (1-15) Repeatability: May be repeated. Maximum 15 hours.

592 Off-Campus Study (1-15) Repeatability: May be repeated. Maximum 15 hours.

Psychology (830)

110 General Psychology (3) Introduction to primary approaches to the study of human behavior and experience. (SS)

117 Honors: General Psychology (3) (SS) Recommended Background: Chancellor’s Honors Program participant. Registration Permission: Consent of instructor.

210 Biological Basis of Behavior (3) Survey of theories and research concerning the role of genetic factors, nervous and endocrine systems, and other biological influences on behavior. (RE) Prerequisite(s): 110 or 117.

220 Behavior and Experience: Humanistic Psychology (3) Behavioral and phenomenological analysis of individuals and their development in natural environments. (RE) Prerequisite(s): 110 or 117.

295 Research Analysis in Psychology (3) An introduction to the research methods and data analyses used in psychological research. This course should be taken as soon as possible after declaring a major in psychology. (RE) Prerequisite(s): 110 or 117.

300 Child Psychology (3) The normal child from conception through infancy, childhood, and adolescence. Physical, cognitive, social, and emotional development. (RE) Prerequisite(s): 110 or 117.

310 Learning and Thinking (3) Survey of theory and findings of research concerning both humans and nonhumans. (RE) Prerequisite(s): 110 or 117.

320 Motivation (3) Survey of theories and related research; discussion of applications. (RE) Prerequisite(s): 110 or 117.

330 Abnormal Psychology (3) Individual and environmental factors in deviant and maladaptive behavior; neurotic and psychotic reactions. Contemporary methods of treatment. (RE) Prerequisite(s): 110 or 117.

347 Honors Seminar (1) Classic works in psychology; professional and ethical issues in psychology; presentations of faculty scholarship and honors students’ projects. Meets weekly. Repeatability: May be repeated. Maximum 8 hours. (RE) Prerequisite(s): 110 or 117.

360 Social Psychology (3) Theories, methods, and findings of research concerning individual behavior in a social context. (RE) Prerequisite(s): 110 or 117.

367 Psychology Honors Project (3) Independent studies course which leads to the honors thesis. Student must have plan of study approved by mentor prior to enrollment. Grading Restriction: Satisfactory/No Credit grading only. Repeatability: May be repeated. Maximum 15 hours. (RE) Prerequisite(s): 110 or 117.

370 Ethology and Sociobiology (3) (See Ecology and Evolutionary Biology 370.)
382 Contemporary Topics in Psychology (3) Current issue or problem, such as architectural psychology, impact of technology, artificial intelligence, or stereotypes. Different topic each semester.

Repeatability: May be repeated. Maximum 9 hours.
Credit Restriction: Maximum of 6 hours may be applied toward major.

(Re) Prerequisite(s): 110 or 117.

385 Statistics in Psychology (3) Descriptive statistics; logic of hypothesis-testing and statistical inference. Basic parametric and nonparametric tests.

(Re) Prerequisite(s): 110 or 117.

395 Methods of Research in Psychology (3) Fundamentals in the design, conduct, and interpretation of research, including systematic observation, experimentation, quasi-experiments, and program evaluations. Focus on both laboratory and natural settings.

(Re) Prerequisite(s): 385 or Mathematics 115.

Registration Restriction(s): Minimum student level – junior.

399 Supervised Research and Field Work (1-3) Field experience in community-based research and service settings.

Repeatability: May be repeated. Maximum 6 hours.
Credit Restriction: Any combination of 6 hours of 399, 489, 491, 492, 493 may be used in major. An additional 6 hours may be used as electives.

(Re) Prerequisite(s): 110 or 117.


(Re) Prerequisite(s): 110 or 117.
Registration Restriction(s): Minimum student level – junior.

409 Group Facilitation (3) Study of theory and technique through supervised experience in small groups.

Repeatability: May be repeated. Maximum 6 hours.
(Re) Prerequisite(s): 110 or 117.
Registration Restriction(s): Minimum student level – junior.

410 Sensory Processes and Perception (3) Physiological and psychological theories of perception. Emphasis on audition and vision.

(Re) Prerequisite(s): 110 or 117.
Registration Restriction(s): Minimum student level – junior.

415 Psychology of Religion (3) History of the psychology of religion with an examination of various philosophical and empirical orientations. Exploration of the psychological function of religion for individuals and society. (Same as Religious Studies 415.)

(Re) Prerequisite(s): 110 or 117.
Registration Restriction(s): Minimum student level – junior.

420 History and Systems of Psychology (3) History of psychological thought. Classical approaches and recent developments.

(Re) Prerequisite(s): 110 or 117.
Registration Restriction(s): Minimum student level – junior.

424 Psychology and the Law (3) Psychological aspects of legal systems.

(Re) Prerequisite(s): 110 or 117.
Registration Restriction(s): Minimum student level – junior.

430 Health Psychology (3) Psychological factors related to health and illness, including stress, personality, and environment. Applications of psychological treatments to physical illness.

(Re) Prerequisite(s): 110 or 117.
Registration Restriction(s): Minimum student level – junior.


434 Psychology of Gender (3) Biological, psychological, and social factors in gender. Importance of gender roles and stereotypes for behavior and experience. (Same as Women’s Studies 434.)

(Re) Prerequisite(s): 110 or 117.
Registration Restriction(s): Minimum student level – junior.

440 Organizational Psychology (3) Social-psychological analysis of organizations, emphasizing role-theory and systems theory. (Same as Management 440.)

(Re) Prerequisite(s): 110 or 117.
Registration Restriction(s): Minimum student level – junior.


(Re) Prerequisite(s): 385 or Mathematics 115.
Registration Restriction(s): Minimum student level – junior.

446 Advanced Measurement and Testing (3) Emphasis on mental test theories including classical test and item response theories.

(Re) Prerequisite(s): 445.
Registration Restriction(s): Minimum student level – junior.

450 Comparative Animal Behavior (3) (See Ecology and Evolutionary Biology 450.)

459 Comparative Animal Behavior Laboratory (3) (See Ecology and Evolutionary Biology 459.)

461 Physiological Psychology (3) Nervous system and physiological correlates of behavior. Biological basis of emotion, learning, memory and stress.

(Re) Prerequisite(s): 110.

467 Psychology Honors Thesis (3) Independent study for writing and oral defense of honors thesis.

Grading Restriction: Satisfactory/No Credit grading only.

470 Theories of Personality (3) Major theories of human personality and their development.

(Re) Prerequisite(s): 110 or 117.
Registration Restriction(s): Minimum student level – junior.

475 Adolescent Development (3) Theoretical perspectives and empirical research findings pertinent to adolescent development.

(Re) Prerequisite(s): 110 or 117.
Registration Restriction(s): Minimum student level – junior.

480 Theories of Learning (3) Classical and current approaches to learning and cognition.

(Re) Prerequisite(s): 110 or 117.
Registration Restriction(s): Minimum student level – junior.

482 Topics in Psychology (3) Intensive analysis of special topics, such as African-American psychology or evaluation of programs in the community.

Repeatability: May be repeated. Maximum 6 hours.
Credit Restriction: No more than 6 hours of 382, 482 may be applied toward the major. An additional 6 hours of 382, 482 may count as electives.

(Re) Prerequisite(s): 110 or 117.
Registration Restriction(s): Minimum student level – junior.

489 Supervised Research (1-9)

Repeatability: May be repeated. Maximum 12 hours.
Credit Restriction: Any combination of 6 hours of 399, 489, 491, 492, 493 may be used in the major. An additional 6 hours may be used as electives.

(Re) Prerequisite(s): 110 or 117.
Registration Restriction(s): Minimum student level – junior.

491 Foreign Study (1-15)

Registration Restriction(s): Minimum student level – junior.

492 Off-Campus Study (1-15)

Registration Restriction(s): Minimum student level – junior.

493 Independent Study (1-15)

Registration Restriction(s): Minimum student level – junior.

496 Senior Seminar: Great Ideas in Psychology (3) Key ideas that have shaped conceptions of humankind. Exploration of historical development, scientific evolution, and larger social context. Writing-emphasis course.

(Re) Prerequisite(s): 110 or 117.
Registration Restriction(s): Minimum student level – senior.

Public Health (839)

300 Introduction to Public Health (3) Aspects of public health including discussion of contemporary and controversial health issues.

305 Disease Epidemiology, Prevention, and Control (3) Foundations of epidemiology applied to infectious, acute, and chronic diseases. Emphasis on the applications of public health prevention and control initiatives throughout the disease cycle.

(Re) Prerequisite(s): Biochemistry and Cellular and Molecular Biology 230.

310 Environmental Management and Control (3) Contemporary principles of control of disease-producing agents in our environment. Emphasizes concepts for effective application of control principles to vocational endeavors and/or daily living activities. Includes: Drinking water quality (chemical, physical and biological), waste management (liquid, solid and hazardous), vector control, safe food management, recreational sanitation and safety to include pool management, shelter hygiene (homes, child care, schools, hospitals, etc.), occupational health and safety.

400 Consumer Health (3) (See Health 400.)
493 Directed Independent Study (1-3) Individual study of selected issues. Registration Permission: Consent of instructor.

Public Relations (841)

270 Public Relations Principles (3) Theories and principles of public relations. Overview of public relations in management of business, government, institutions and organizations. Brief case studies and public relations projects.

320 Public Relations Communication (3) Mechanics of effective writing for various media to achieve organizational goals. Overview of governing communication and persuasion theories. Focus on implementation of research-based, planned and managed techniques in a lab setting.

370 Public Relations Cases (3) Oral and written analysis of current and classic case studies in public relations. Ethics, professional organizations, publications, research and forms of public relations. Methods of communication and persuasion.


470 Public Relations Campaigns (3) Research, planning and communication and evaluation of major public relations campaigns. Oral and written presentation of a public relations project from inception to completion. Requires extensive out-of-class work.

490 Special Topics (3) Topics vary. Repeatability: May be repeated. Maximum 6 hours.

491 Foreign Study (1-15) Approval of hours and topic by advisor required prior to registration. Repeatability: May be repeated. Maximum 15 hours.

492 Field Experience (1-2) Approved internships and other supervised practice in public relations. Grading Restriction: Satisfactory/No Credit grading only. Repeatability: May be repeated. Maximum 4 hours.

493 Independent Study (3) Repeatability: May be repeated. Maximum 6 hours.

Reading Education (847)

329 Teaching Developmental Reading in the Elementary and Middle Schools (3) Methods and background on how to teach word recognition skills, comprehension, study skills, and how to use materials. Includes units on phonics, evaluation, and basal readers.

430 Elementary and Middle School Developmental Reading Instruction (2) Word recognition (including phonics), comprehension, evaluation, and materials. Registration Restriction(s): Qualification – admission to teacher education.

431 Developing Reading Skills in Content Fields (3) Teaching reading and study skills in content areas of the school program. Extensive assessment of textbooks. Emphasis on middle school and high school.

Recreation and Leisure Studies (853)

201 Foundations of Recreation and Leisure and Principles of Leadership (4) Introduction to the recreation and leisure profession focusing on understanding concepts, philosophy, career opportunities and professional practices in leisure service industries. The required lab focuses on the application and practice of theories of leadership.

290 Practicum in Recreation and Leisure Studies (2) Supervised practice in approved agencies offering programs in recreation and leisure services. Each hour of credit requires 50 clock-hours of work.

310 Development and Evaluation of Recreation and Leisure Programs (3) Essential elements and principles in the organization, administration, marketing, and evaluation of various types of recreation programs. Emphasis on development of program objectives. Practical and comprehensive program designs and evaluation for population and facility within student's area of interest.

320 Therapeutic Recreation and Special Populations (3) Principles, concepts, historical development of recreation, therapeutic recreation, and leisure services to special populations. Explanation of legislation, attitudes, barriers to participants, mainstreaming, advocacy, as related to leisure fulfillment.

325 Therapeutic Recreation and Lifestyle Planning (3) Emphasis on how recreational therapists can use the application of healthy lifestyle principles as a treatment modality. Importance and role of recreation/leisure participation (honor, stress-management, self-responsibility, fitness) in the planning and delivery of therapeutic recreation service for individuals with disabilities.

390 Practicum in Recreation and Leisure Studies (2) Supervised practice in approved agencies offering programs in recreation and leisure services. Each hour of credit requires 50 clock-hours of work.

390 Practicum in Recreation and Leisure Studies (2) Supervised practice in agencies offering programs in recreation and leisure services. Each hour of credit requires 50 clock-hours of work.

410 Management Concepts of Recreation, Leisure, and Sport Programs (3) Principles for operationalizing recreation, leisure and sport related programs. Units address utilizing research as a management tool, assessing program cost, facility utilization and evaluation and contemporary management concepts.

415 Development of Recreation, Leisure, and Athletic Facilities (3) Principles of designing, planning, equipping, and operating various facilities. Elements of risk management and safety are incorporated into the design process.

420 Principles of Therapeutic Recreation (3) Principles and practices in therapeutic recreation, including activity analysis, activity and program selection, individual and program assessment, treatment plans, documentation, and professional issues.

425 Therapeutic Recreation Programming (3) Principles and practices of therapeutic recreation programming for individuals with various, and multiple disabilities. Focus is on the development of interpersonal, and behavioral aspects of working with individuals in inclusive therapeutic recreation environments.

430 Organization and Administration of Leisure Services (3) Principles of administration applied to provision of leisure services offered by public, private, non-profit, and/or commercial enterprises. Organizational structures, human resource management, diversity, evaluation, legal authority, introduction to budgeting and fiscal procedures, professional responsibility and career management.

440 Dimensions of Commercial Recreation and Leisure Enterprises (3) Organizational structures, delivery systems, financing private enterprises and operating selected profit centers in a variety of settings. Special attention is given to market performance and economic impact.

450 Special Topics in Recreation and Leisure Studies (1-6) Development of special topics in recreation/therapeutic recreation and leisure.

470 Tourism and Leisure Industries (3) An examination of the symbiotic relationship between tourism and various sectors of the leisure industry. Use of resources, both natural and developed, and the economic impacts of these ventures. Sociocultural impacts upon the venue and how the venue impacts the local population.
490 Internship in Recreation and Leisure Studies (12) Required of all majors. Application of previous theoretical and applied knowledge and skills in an appropriate recreation/leisure setting. The internship is intended to simulate a full time (40 hours/week) professional level work experience during the entire semester. Therapeutic Recreation Internship must meet NCTRC national guidelines. 
Grading Restriction: Satisfactory/No Credit grading only. (RE) Prerequisite(s): 290 and 390. Registration Restriction(s): Recreation and leisure studies major; 2.5 GPA; minimum student level—senior.

493 Directed Independent Studies in Recreation and Leisure Studies (1-3) Repeatability: May be repeated. Registration Restriction(s): 2.3 GPA.

Religious Studies (863)

101 World Religions in History (3) Introduction to religion in culture and society, including examination of religious traditions from China, India, and the Mediterranean world. Writing-emphasis course. (CC)

102 The Comparison of World Religions (3) Introduction to religion in culture and society, focusing on cross-cultural interpretation and the treatment of common problems and themes within religious traditions. Writing-emphasis course. (CC)

232 Varieties of Religious Community (3) How different forms of religious communities (cults, tribes, sects, monastic orders, denominations, familial, etc.) have sought to reject, reinforce, transform, ignore, or dominate their cultural and social society. (Same as Sociology 232.)

244 Professional Responsibility (3) (See Philosophy 244.) (AH) (OC)

246 Bioethics (3) (See Philosophy 246.) (AH) (WC)

300 Ways of Understanding Religion (3) Sources and methods used in the study of religion and religions; analysis of approaches to the study of religion. Writing-emphasis course. (DE) Prerequisite(s): 190 or 232.

301 Religious Myth, Symbol, and Ritual (3) Distinctive modes of religious expression and analysis of theoretical approaches appropriate to their particular social and cultural functions in religions.

302 Anthropology of Religion (3) Religions of selected non-literate peoples. Role of religion in their social and cultural systems. (Same as Anthropology 302.)

305 Modern Religious Thought (3) Major themes, issues, and thinkers of 19th- and/or 20th-century religion. Repeatability: May be repeated. Maximum 6 hours.

309 Elementary Classical Hebrew (3) Basic elements of Hebrew phonology, script, morphology and syntax. Introduction to basic elements of text, form, and literary criticism.

310 Elementary Classical Hebrew (3) Basic elements of Hebrew phonology, script, morphology and syntax. Introduction to basic elements of text, form, and literary criticism.

311 Ancient Hebrew Religious Traditions (3) Development of ancient Israelite and early Jewish traditions with emphasis on those concerning the Exodus, Davidic kingship, and Zion in historical, prophetic and apocalyptic material. Writing-emphasis course. (Same as Judaic Studies 311.)

312 Religious Aspects of Biblical and Classical Literature (3) Ways in which contemporary modes of literary study enhance appreciation of biblical and classical material. Ways in which the western literary tradition has appropriated and recast the biblical and classical heritage. Writing-emphasis course. (Same as Judaic Studies 312.)

313 Religious Aspects of Modern Literature (3) Issues raised for religious inquiry in contemporary literature. Relation of religious and moral considerations to major problems of literary analysis; relation between religious language and forms of human expression (symbol, metaphor, myth, image) identified in study of literature. Writing-emphasis course.

315 Reformation Europe, 1500-1650 (3) (See History 315.)

320 Women and Religion (3) Concepts of gender in religious traditions, religious, social and psychological dimensions of gender-related symbols (e.g., the Goddess, God the Father) that shape women’s and men’s experiences; contemporary feminist discussions of ways in which religious traditions liberate and oppress women. (Same as Judaic Studies 320; Women’s Studies 320.)


322 Christian Thought in Late Antiquity (3) Major themes, events, texts, and figures of Christianity in the Roman and Byzantine Empires (after the New Testament period). Includes the study of early Christian controversies over topics such as gender and sexuality, Christianity and politics, interpreting scripture, and defining Christian orthodoxy. Writing-emphasis course. (Same as History 322.)

326 Images of Jesus (3) Major portrayals of Jesus Christ from the first century to the twentieth century in the context of the cultural milieu which gave birth to each. Extensive use of slides, video material, recordings, and literature.

329 Intermediate Classical Hebrew (3) Readings in narrative material from the Hebrew Bible.

330 Intermediate Classical Hebrew (3) Readings in poetic and prophetic material from the Hebrew Bible. (DE) Prerequisite(s): 329.

332 Classical Islam (3) Content limited to events prior to 1773 CE, focusing on religions of the Qur’an, the Prophetic Tradition, Islamic law, Sunnism, Shi’ism, and Sufism. Writing-emphasis course. (Same as Asian Studies 332.)

333 Islam in the Modern World (3) Beginning with the Wahhabi revolution (c. 1773 CE), this course examines movements of revival and reform in modern Islam, as well as worldwide missionary activity and the growth of the Islamic community in the U.S. Writing-emphasis course. (Same as Asian Studies 333.) (DE) Prerequisite(s): 332.

342 Religious Ethics (3) Selected ethical theories and moral teachings of religious communities and thinkers, their action-guides for individuals and institutions, their application to persons and social problems.

351 Introduction to Religion in the United States (3) A representative profile of religion in the United States, organized around selected focal themes or problems. Writing-emphasis course.

352 African-American Religion in United States (3) Historical and critical examination of formation and development of African-American religious thought and institutions in America. Writing-emphasis course. (Same as Africana Studies 352.)

353 Topics in African-American Religion (3) Selected figures, themes, movements, or problems in the African-American religious tradition. Variable content. (Same as Africana Studies 353.) Repeatability: May be repeated. Maximum 6 hours.

355 Religion and Culture in the United States (3) Selected figures, movements, and problems in American religious life, thought, and culture from pre-colonial period to present. Writing-emphasis course. (Same as American Studies 355.) Repeatability: May be repeated. Maximum 6 hours.

370 Philosophy of Religion (3) (See Philosophy 370.)

373 African Religions (3) Religions of the indigenous peoples of Africa, including how myth, rites, and symbols and certain cultural and political movements in Africa have been and are being informed by religious sensibilities. Writing-emphasis course. (Same as Africana Studies 373; Anthropology 373.)

374 Philosophy and Religion in India (3) Survey of the development of the major non-Buddhist themes of philosophical and religious thought in India. Writing-emphasis course. (Same as Philosophy 374.)

376 Buddhist Philosophy and Religion (3) Survey of the origins of Buddhism in India and further development of Buddhist philosophy and religion in India, China, Korea, Japan, the countries of Southeast Asia, and beyond. Writing-emphasis course. (Same as Philosophy 376.)

378 Theravada Buddhism (3) Historical study of the Theravada Buddhist tradition in South and Southeast Asia. Focus will be on the cult of the Buddha in Theravada Buddhism, the Theravada interpretation of key Buddhist concepts as found in the Pali canon, and the reciprocal relationship between laypersons and lay persons in the tradition.

379 Religion and Philosophy in China (3) Traditional thought and religion of China in its cultural setting as basis for understanding modern China. Writing-emphasis course. (Same as Philosophy 379.)

380 East Asian Buddhism in Asia and North America (3) An overview of the distinctive forms of Buddhism that arose in China, Japan, and Korea, as well as an introduction to their offshoots in North America.

381 Introduction to Judaism (3) History, traditions, philosophy and religion of the Jewish people grounded in the ancient period, but includes diaspora, emancipation and haskalah. Writing-emphasis course. (Same as Judaic Studies 381.)

382 Religion and Culture in Southeast Asia (3) Historical study of the major religions in Southeast Asia, including indigenous traditions, Hinduism, Buddhism, Islam and Christianity. Focus will be on the historical interplay between religion, culture, and society and the expression of these traditions.
383 Religion in Japan (3) Traditional religious heritage and contemporary expressions of religion in Japan with attention to relationships of persons to nature, self-mastery and spontaneity, individual and community and secular to sacred. Writing-emphasis course.

384 Zen Buddhism (3) Historical, philosophical, and meditational aspects of Zen. Special emphasis on motifs of emptiness, no-mind, and enlightenment and on practices of meditation and the use of the koan. Recommended: 376 or 379 or 383.

385 Contemporary Jewish Thinkers (3) Renewal trends in 19th and 20th-century Judaism. Writing-emphasis course. (Same as Judaic Studies 385.) Repeatability: May be repeated. Maximum 6 hours.

386 Voices of the Holocaust (3) Historical underpinnings of Nazi genocides such as that of the Jewish people, Gypsies, and homosexuals. The economic, religious, social, and philosophical trends supporting massive genocide. (Same as Judaic Studies 386.)

389 Literature of the English Bible (3) (See English 389.)

401 Texts and the Study of Texts (3) Systematic introduction to the nature and function of (primarily but not exclusively, oral and written) texts and textual traditions in the study of religion. How texts are made and used historically, how they are recovered and created by scholars, how they are interpreted by religious communities and scholars.

405 Modern Jewish Thought (3) History, culture, and geography of the now Israeli portion of the Levant from 1850 to present. The founding of the modern state of Israel in 1948 and the political complexities of the Middle East. Israeli culture and literature. Writing-emphasis course. (Same as Judaic Studies 405.)

411 Modern Religious Philosophies (3) Religious implications of major Western thinkers and movements from Nicolas of Cusa to the 19th-century German idealists. (Same as Philosophy 411.)

415 Psychology of Religion (3) (See Psychology 415.)

425 Seminar in Western Religions (3) Selected figures, themes, movements, and problems. Repeatability: May be repeated. Maximum 6 hours. Registration Permission: Consent of instructor.

430 Seminar in American Religion (3) Selected figures, themes, movements, and problems. Repeatability: May be repeated. Maximum 6 hours. Registration Permission: Consent of instructor.

440 Seminar in Comparative Religion (3) Selected figures, themes, movements, and problems. Repeatability: May be repeated. Maximum 6 hours. Registration Permission: Consent of instructor.

474 Modern and Contemporary South Asian Religion (3) Religion in India during the Islamic and European colonial periods and in independent India. May include such topics as the development of vernacular forms of Hinduism; Hindu interactions with other religions; the Indian Freedom Movement and Gandhi; women and tradition; religion, secularism, and politics in independent India; and religion and caste in the new India. Writing-emphasis course. (RE) Corequisite(s): 374.

490 Readings and Research in Religious Studies (3) Repeatability: May be repeated. Maximum 6 hours. Registration Permission: Consent of instructor.

491 Foreign Study (1-15) Repeatability: May be repeated. Maximum 15 hours.

492 Off-Campus Study (1-15) Repeatability: May be repeated. Maximum 15 hours.

493 Independent Study (1-15) Repeatability: May be repeated. Maximum 15 hours.

499 Proseminar in Religious Studies (3) For advanced students in religious studies, required for majors. Selected topics, e.g., nature and function of myth in religion, problem of evil, transcendence, theories of religion, hermeneutics, integrating various disciplines involved in study of religion. Repeatability: May be repeated. Maximum 6 hours. Registration Permission: Consent of instructor or 376 or 379 or 383.

Retail and Consumer Sciences (865)

210 Introduction to Retail Management (3) Development and overview of retailing, related businesses and industries, and the activities involved in the delivery of goods and services to the consumer.

310 Retail Buying and Planning (4) Analysis of the merchandise buying function within different types of retail organizations and structures. Application of principles associated with retail buying, planning, and allocation. Computer simulations with emphasis on Excel. Contact Hour Distribution: 3 hours and 1 hour discussion lab. (RE) Prerequisite(s): 210 and Mathematics 125. (DE) Prerequisite(s): Accounting 200.

311 Human Resources Management in Hospitality and Retailing (3) (See Hotel, Restaurant, and Tourism 311.)

320 Apparel Product Development (3) Concepts of apparel product development from the retailer’s perspective. Understanding of basic textile and design principles, specification writing, line building, and brand management to develop apparel products for target markets.

341 Consumers in the Marketplace (3) Understanding of behavior of individuals and family, demographics, family life cycle, family dynamics, and roles, cultural and ethnic influences, and individual and family decision making.

346 Retail Operations Management (3) Analysis of retail operations in terms of organizational structure, logistics and distribution, growth opportunities and productivity. (RE) Prerequisite(s): 210 and Accounting 200.

360 Issues and Trends in Consumer Service (3) Building competencies in providing outstanding customer service in retail organizations. This course will create a unified approach to customer service, recognizing the importance of store environment planning, organizational policies and internal marketing that will lead to increased business by attracting and retaining desired customers. (Same as Hotel, Restaurant, and Tourism 360.) (RE) Prerequisite(s): 210 or Hotel, Restaurant, and Tourism 210.

376 Strategies for Growth (3) Issues concerning achievement of business growth with focus upon the consumer, operational, and financial dimensions of the service industry. (RE) Prerequisite(s): 310 and Marketing 300. (DE) Prerequisite(s): 341.

390 Professional Development (3) (See Hotel, Restaurant, and Tourism 390.) (WC)

410 Strategic Retail Planning (3) Retail Management from a strategic planning perspective: development and implementation of retail strategy from financial, operational, and customer orientation. (RE) Prerequisite(s): 376 and 422.

411 Entrepreneurship and Small Business Management (3) Concepts of entrepreneurship within single ownership and other business organizations; development of a business plan; management of a small business; current issues and problems. (RE) Prerequisite(s): 210 and Marketing 300. (DE) Prerequisite(s): 341 and Accounting 200.

412 e-Retailing (3) Issues concerning the use of the Internet and related technologies to improve and/or transform retail businesses. Emphasis on analysis of consumers and product/service types in online retailing and the effective management of online catalogs. Also direct retailing methods that involve technology such as interactive TV and e-commerce (mobile). (RE) Prerequisite(s): 210 and 341. (DE) Prerequisite(s): Marketing 300.

415 Retail Promotion (3) In-store promotional activities; development of retail promotion strategies; evaluation of retail promotions; supplementary focus on advertising and other methods to communicate in-store promotions. (RE) Prerequisite(s): 210 and 341. (DE) Prerequisite(s): Marketing 300.

421 International Retailing (3) The study and analysis of retailing in an international and global setting. Retail processes, practices and issues within international environments – cultural, economic, social, political, legal and business. (RE) Prerequisite(s): 210 and 341. (DE) Prerequisite(s): Marketing 300.

422 Professional Experience in Retail and Consumer Sciences (6) Supervised educational experiences in selected retail and consumer sciences service operations. (RE) Prerequisite(s): 310 and Hotel, Restaurant, and Tourism 390. Registration Restriction(s): Retail and consumer sciences major.

480 Retail Market Planning and Execution (1-3) Exposes students to the process of planning and executing a market trip; involves off-campus experience at a major market center. Repeatability: May be repeated. Maximum 6 hours. (RE) Prerequisite(s): 310. Registration Permission: Consent of instructor.
482 Professional Experience in Retailing II (6) Supervised professional experience in selected retail operations that build upon first professional experience.

(RE) Prerequisite(s): 410 and 422.

484 International Retail Industry Study Tour (3) Group study abroad involving academic research and field investigation.

Repeatability: May be repeated. Maximum 6 hours.
Recommended Background: 210.
Registration Permission: Consent of instructor.

493 Directed Study (1-3) Individual problems for junior and senior students with special interests in retail and consumer sciences.

Recommended Background: Minimum student level – junior.
Registration Permission: Consent of instructor.

495 Special Topics (3) Topics in retail and consumer sciences.

Repeatability: May be repeated. Maximum 9 hours
Recommended Background: Minimum student level – junior.
Registration Permission: Consent of instructor.

497 Honors: Retail and Consumer Sciences (1-3) Individual problems for junior and senior students showing special ability and interest in retail and consumer sciences.

Recommended Background: Minimum student level – junior.
Registration Permission: Consent of instructor.

498 Honors: Retail and Consumer Sciences (1-3) Individual problems for junior and senior students showing special ability and interest in retail and consumer sciences.

Recommended Background: Minimum student level – junior.
Registration Permission: Consent of instructor.

Rural Sociology (880)

380 Rural Sociology (3) Topics include the analysis of U. S. land tenure systems, agricultural regions, rural minorities, Amish, farmer organizations, rural institutions, community decision making, local government, rural policy issues, rural industrialization, food policy, and cross-cultural analysis.

Russian (886)

101 Elementary Russian (4)

102 Elementary Russian (4)

(RE) Prerequisite(s): 101.

201 Intermediate Russian (4) (CC)

(RE) Prerequisite(s): 102.

202 Intermediate Russian (4) (CC)

(RE) Prerequisite(s): 201.

221 Rebels, Dreamers, and Fools: The Outcast in 19th Century Russian Literature (3) Texts in English translation. Writing-emphasis course.

(AH) (WC)

Credit Restriction: No foreign language credit.

222 Heaven or Hell: Utopias and Dystopias in 20th Century Russian Literature (3) Texts in English translation. Writing-emphasis course.

(AH)

Credit Restriction: No foreign language credit.

311 Russian Composition and Conversation (3) Practice in writing and speaking; grammar review and vocabulary building.

(RE) Prerequisite(s): 202.

312 Russian Composition and Conversation (3) Practice in writing and speaking; grammar review and vocabulary building.

(RE) Prerequisite(s): 311.

325 Russian Film (3) A study of Russian cinema from the earliest days to the present. Writing-emphasis course. (Same as Cinema Studies 325.)

371 Martyrs, Mobs, and Madmen in Russian Literature: 988-1861 (3)

Explores various aspects of Russian music, art, and literature, emphasizing violent cultural clashes that produced extreme artistic reactions. Texts in English translation. Writing-emphasis course.

372 Modern Russian Culture through Readings and Dramatic Production (3) A survey of Russian culture from the era of great reforms of the 1860s through modern times, supplemented by participation in a dramatic production. Texts in English translation; some texts in Russian for Russian majors. Writing-emphasis course.

401 Advanced Grammar, Conversation, and Composition (3)

(RE) Prerequisite(s): 312.

402 Advanced Grammar, Conversation, and Composition (3)

(RE) Prerequisite(s): 401.

424 Nabokov’s Novels and Stories (3) An intensive course covering several novels and stories, the memoir, and some scientific writings of the prolific Russian-American author. Particular attention given to the author’s philosophical views and the contact between his science and his art. In English; readings in Russian for majors. Writing-emphasis course.

425 Introduction to Descriptive Linguistics (3) (See French 425.)

426 Methods of Historical Linguistics (3) (See German 426.)

430 Selected Topics in Russian Literature (3) Writing-emphasis course.

Repeatability: May be repeated if topic differs. Maximum 9 hours.

451 Senior Seminar (3) Intensive study of language, literary style, and literary criticism based on selected major novels.

(RE) Prerequisite(s): 312.

Comment(s): For students majoring in Russian; minors admitted at the discretion of the instructor.

452 Senior Seminar (3) Intensive study of language, literary style, and literary criticism based on selected major novels.

(RE) Prerequisite(s): 312.

Comment(s): For students majoring in Russian; minors admitted at the discretion of the instructor.

490 Internship (1-15) Career-related experiences in the United States or abroad.

Grading Restriction: Satisfactory/No Credit grading only.

Repeatability: May be repeated. Maximum 15 hours.
Registration Restriction(s): Russian major/language and world business concentration.

491 Foreign Study (1-15)

Repeatability: May be repeated. Maximum 15 hours.

493 Independent Study (1-15)

Repeatability: May be repeated. Maximum 15 hours.

Safety (890)

400 Directed Independent Study (1-3) Individual identification and study of safety or safety education problem/issue. Specific proposal must be made to instructor before registration.

Repeatability: May be repeated. Maximum 12 hours.

406 Death, Dying and Bereavement (3) (See Health 406.)

443 Sports and Recreational Safety (3) Accident prevention and injury control in sports activities; philosophy of sports safety; human environmental factors and interrelationship in sports injury and control; risk-taking and decision solution strategies; and contributions of sports medicine to safety.

Contact Hour Distribution: 3 hours and 2 labs.

452 Safety Principles and Practices (3) An introduction to the general principles, practices, and procedures in occupational and community safety. A survey of historical and present safety issues, problems, and practices addressing safety of individuals and groups in work-site, school, community, transportation, and industrial settings.

Registration Restriction(s): Minimum student level – junior.

460 Fire Risk Management (3) Provides the knowledge and skills necessary to develop, implement, and manage a comprehensive fire safety program. Incorporates basic fire risk management concepts, interpretation of codes, and an exposure to basic fire analysis techniques.

Registration Restriction(s): Minimum student level – senior.

Science Education (899)

496 Teaching Science Grades 7-12 (3) Methods, materials, recent trends in science and environmental education programs for secondary schools.

Registration Restriction(s): Qualification – admission to teacher education.

Social Science Education (900)

454 Teaching Strategies and Issues in Social Studies Education (3) Goals, objectives, techniques, materials, and evaluation; directed observation in public schools; preparation of teaching plans and materials; simulated teaching experiences.

Registration Restriction(s): Qualification – admission to teacher education.

Social Work (905)

200 Introduction to Social Work (3) Emergence of the social work profession; professional mission; knowledge, skills, and values; practice settings; client groups; helping services; career patterns; practice methods. Designed to assist students to consider their ability for careers in social work.
250 Social Welfare (3) Development, structure and function of the social welfare institution. Analysis of social welfare programs and impact of the institution on society.

310 Social Work Research (3) Scientific method and research strategies to evaluate one’s practice and/or social service delivery. Knowledge of statistical techniques required.

312 Social Work Practice I (3) Knowledge, values, and skills for entry level generalist practice in a variety of settings. The social work problem solving process, different size client systems, and theoretical perspectives, and the worker’s regard for person-environment configuration. Concurrent skills laboratory.

313 Social Work Practice II (3) In-depth study of generalist practice with individuals and families. Practice roles, value dilemmas, and working with people of diverse backgrounds. Concurrent skills laboratory.

314 Human Behavior and the Social Environment (3) Interrelatedness of biological, social, cultural, environmental, and psychological factors in human behavior. Person-in-environment and culture over the life span with special attention to diversity, impact of racism, sexism, and other sociocultural factors. Integration of knowledge into a social work practice perspective.

316 Culturally Responsive Social Work Practice (3) Social work practice with diverse populations. Variables including race, ethnicity, gender, class and sexual orientations as they relate to generalist social work practice. Students develop self-awareness of their own culture and the culture of others, acquire knowledge and understanding of the impact of oppression on diverse groups.

380 Field Practice in Social Work I (3) Eight-hour-per-week, supervised field experience with practice situations for developing professional skills, values and attitudes. Concurrent seminar focuses on integration of knowledge with practice experiences.

412 Social Work Practice III (3) Generalist practice with emphasis on groups and communities, including treatment theories, techniques, and issues.


460 Integrative Seminar (3) Social work content for entry-level professional practice and current issues influencing the profession. Includes development of a portfolio reflecting BSW competencies and research development and presentation.

461 Child Welfare I: History, Programs, and Policies (3) Study of the child welfare system examining history, policies and programs, both state and federal, pertinent to child maltreatment and juvenile justice.

462 Child Welfare II: Skills and Practice Methods (3) Emphasis on the special challenges, needed skills, and different strategies and interventions in the provision of culturally responsive child welfare services.

480 Field Practice in Social Work II (6) Sixteen-hour-per-week supervised agency field practicum for integration of theory and practice and critical examination of oneself as a professional helping person. Concurrent field seminar on integration of knowledge with practice experiences.

481 Field Practice in Social Work III (6) Sixteen-hour-per-week supervised agency field practicum for integration of theory and practice and critical examination of oneself as a professional helping person. Concurrent field seminar on integration of knowledge with practice experiences.

491 Foreign Study (1-15) Repeatability: May be repeated. Maximum 15 hours. Registration Permission: Consent of instructor.

492 Off-Campus Study (1-15) Repeatability: May be repeated. Maximum 15 hours. Registration Permission: Consent of instructor.

493 Independent Study (1-15) Repeatability: May be repeated. Maximum 15 hours. Registration Permission: Consent of instructor.

Sociology (915)

110 Social Justice and Social Change (3) Problems of deviance, crime, and victimization, inequalities in exposure to environmental risks, and inequities in power and participatory democracy within the context of social change. Assessment of control strategies and redress of injustices.

117 Honors: Social Justice and Social Change (3) (SS) Comment(s): 3.0 GPA required for first-year students; 28 ACT composite or 1200 SAT required for incoming students.

120 General Sociology (3) Major concepts and theoretical approaches of sociology with emphasis on understanding social, social organization, and social stratification.

127 Honors: General Sociology (3) (SS) Comment(s): 3.0 GPA required for first-year students; 28 ACT composite or 1200 SAT required for incoming students.

232 Varieties of Religious Community (3) (See Religious Studies 232.)

250 Introduction to Global Studies (3) Exploration of how globalization is fostering change in culture, politics, economics, philosophy, and the environment. Uses interdisciplinary perspectives to understand the relationship between historic processes and the contemporary world, and the reciprocal influences of local dynamics and global change. (Same as Global Studies 250.) (CC)

260 Introduction to the Study of Environmental Issues (2) Examination of selected environmental issues and their significance in contemporary societies. Demonstrates the utility of combining sociological and humanistic perspectives of the environment with the more traditional biophysical perspectives. Writing-emphasis course.

310 American Society (3) Institutional organization of contemporary American society with particular attention to major social values. Writing-emphasis course.

311 Family (3) Theoretical frameworks and methodological approaches; their application in the sociological study of past and present family forms.

321 Sociological Theory (3) Survey of contemporary issues and problems in sociological theory with an emphasis on their historical development and their importance for the field. Students are required to form critical appraisals of the topics addressed.

331 Sociological Research (3) Selected issues in philosophy of social science, research design, sampling, methods of data collection, and interpretation. Requires written research report. (Same as Legal Studies 331.) (RE) prerequisite(s): Statistics 201. Comment(s): C or higher in 110 or 120 required.


343 Race and Ethnicity (3) Social sources of racial and ethnic cleavages and social, economic, and political consequences. Emphasis on race and ethnicity in the United States. Writing-emphasis course. (Same as Africana Studies 343; American Studies 343.)

344 Power and Society (3) Sociological analysis of the formation and political consequences of nation state policies. Examination of who gets what, why, and how. Emphasis on contrasting explanations of the control of the state and the relative autonomy of the state.

345 Collective Behavior and Social Movements (3) Collective phenomena leading to social change. Response to disaster, popular crazes, and social movements. Emphasis on American cases. (Same as American Studies 345.)
COURSES OF INSTRUCTION

350 Criminology (3) Systematic inquiry into how crime is defined, measured and explained. Implications for criminal justice policy.

351 Juvenile Delinquency and Social Policy (3) This course examines the historical and contemporary nature and social contexts of juvenile delinquency, as well as theoretical explanations of and social reactions to delinquency in American society.

352 Deviance and Social Control (3) Deviants, their lifestyles, social organization, and social control.

360 Environment and Resources (3) Relationship between scarcity of natural resources and changes in societal beliefs and social structure. Topics include social and physical limits to growth and collective action problems. Writing-emphasis course.

370 Social Psychology (3) Social psychological analysis of social behavior emphasizing its acquisition, its enactment, and its dynamic nature.

375 Gender in Society (3) Exploration of gender in society utilizing various sociological perspectives with special focus on the relationships between social structures, social roles, and gender identities. (Same as Women’s Studies 375.)

400 Special Topics (3) Variable topics. Scope of subject matter determined by students and instructor with consent of department.

420 Comparative Poverty and Development (3) A critical examination of patterns of poverty and inequality in developing areas of the world, along with a review of major sociological theories which attempt to explain differences in patterns of development. Writing-emphasis course. (Same as Africana Studies 442.)

446 The Modern World System (3) Critical examination of the capitalist world-system as a social system, its coherence, boundaries, regions, member groups, cleavages, and patterns of conflict. Analysis of who gets what, why, and how in the global political economy. Writing-emphasis course.

451 Criminal Justice (3) A critical assessment of the criminal justice apparatus and its components. Brief examination of the police, with most of the emphasis on the criminal courts and institutions and programs such as the prison, probation, and parole. Analysis of their operation and impacts. (Same as Legal Studies 451.)

Recommended Background: Completion of 350.

452 Minorities, Crime, and Criminal Justice (3) Examines racial/ethnic disparities in criminal offending and victimization, as well as different experiences with law enforcement, judicial and correctional agencies. Emphasis on social justice.

453 Gender and Crime (3) Probes the gendered nature of offending, victimization and criminal justice. Examines the different experiences of males and females, and theories that attempt to explain these differences.

455 Society and Law (3) How laws and legal processes are affected by social change, the social impact of legal sanctions, relations between law and social justice. Writing-emphasis course. (Same as Legal Studies 455.)


462 Population (3) Demographic factors and social structure; trends in fertility, mortality, population growth, migration, distribution, and composition; population policy.

464 Urban Ecology (3) The relation of humans to their urban environment with emphasis on conservation and the use of appropriate technology.

465 Social Values and the Environment (3) Human dimensions of ecosystem management and public policy. An applied focus on how social values are activated within specific biophysical and social settings. Writing-emphasis course. (RE) Prerequisite(s): 110 or 120.

491 Foreign Study (1-15)

Repeatability: May be repeated. Maximum 15 hours.

492 Off-Campus Study (1-15)

Repeatability: May be repeated. Maximum 15 hours.

493 Independent Study (1-15)

Repeatability: May be repeated. Maximum 15 hours.

495 Social Justice and Community Service (3) Examines social stratification, inequalities, and social justice. Service learning component offers supervised internships in the community with service agencies and non-profit organizations.

Comment(s): For sociology majors with senior standing.

Spanish (924)

111 Elementary Spanish (3) Language laboratory required.

Credit Restriction: Not available to students eligible for 150.

112 Elementary Spanish (3) Language laboratory required.

Credit Restriction: Not available to students eligible for 150.

(RE) Prerequisite(s): 111.

150 Intermediate Spanish Transition (3) This course is designed to prepare students for enrollment in 211.

Credit Restriction: For elective credit only. This class will not count toward the College of Arts and Sciences intermediate-level foreign language requirement. Since 150 is a review of elementary Spanish, students who receive credit in this course may not also receive credit for any other 100-level Spanish course and, therefore, also forfeit the 6 hours of elementary language credit awarded through placement examination. Recommended Background: Two years of high school Spanish or placement score below level required for 211.

211 Intermediate Spanish (3) (CC)

(DE) Prerequisite(s): 112 or 150 or departmental placement exam.

Comment(s): Students who place in 200-level courses from high school will receive 6 hours of elementary Spanish credit.

212 Intermediate Spanish (3) (CC)

(RE) Prerequisite(s): 211 or 217.

Comment(s): Students who place in 200-level courses from high school will receive 6 hours of elementary Spanish credit.

217 Honors: Intermediate Spanish (3) Honors course for students of superior ability in Spanish. Students follow enriched program with continuing emphasis upon speaking ability and with an introduction to reading literary selections. (CC)

(DE) Prerequisite(s): 112 or 150 or departmental placement exam.

Comment(s): Incoming freshmen are admitted on the basis of a diagnostic test, high school average and performance on the ACT.

218 Honors: Intermediate Spanish (3) Honors course for students of superior ability in Spanish. Students follow enriched program with continuing emphasis upon speaking ability and with an introduction to reading literary selections. (CC)

(RE) Prerequisite(s): 217.

Comment(s): Incoming freshmen are admitted on the basis of a diagnostic test, high school average and performance on the ACT. Students who earn an A or B in 218 receive credit for 300.

300 Transition: Composition and Grammar through Reading (3)

Provides preparation in writing skills and exercise in key elements of grammar through the development of reading comprehension, vocabulary acquisition, and compositions on assigned topics.

(DE) Prerequisite(s): 212 or 218 or departmental placement exam.

Comment(s): Available to non-native or non-bilingual students of Spanish only.

305 Conversation and Aural Comprehension (3) Develops speaking and listening comprehension skills through a variety of in-class and extracurricular activities.

Credit Restriction: Not available for credit for students whose level of proficiency in Spanish is superior as defined by the ACTFL Proficiency Guidelines. (RE) Prerequisite(s): 300 or 218.

323 Upper-level Grammar and Composition (3) Study of the more challenging grammatical issues in Spanish with practical application in composition assignments. Any review of basics covered in previous courses is to introduce finer points. Writing-emphasis course.

Credit Restriction: Not available for credit for students whose level of proficiency in Spanish is superior as defined by the ACTFL Proficiency Guidelines. (RE) Prerequisite(s): 218 or 300.

330 Textual Analysis (3) Introduction to the art of reading and interpreting literary texts and the writing of critical essays, with attention to language structures, literary terminology, theory and concepts such as romance, tragedy, comedy, irony, narrative voice, symbol, metaphor, etc., with application to works such as short stories, one-act plays, essays, and letters. Writing-emphasis course.

(RE) Prerequisite(s): 323.

331 Introduction to Hispanic Culture (3) Introduction to the fundamental historical, political and demographic developments that led to the creation of Hispanic distribution and distinctive character of Hispanic cultures, with attention to those qualities that distinguish Hispanic culture from other cultures, as well as to ethnic and linguistic components of the Hispanic world in the present day. Writing-emphasis course. (Same as Latin American Studies 331.)

(RE) Prerequisite(s): 323.
332 Survey of Spanish Literature: 1700-Present (3) Main writers, trends, stylistic periods and artistic movements in Spain since 1700 set against a broad background of cultural, socio-political and historical developments. Emphasis on neo-classicism, the romantics, the realists of the 19th century, the Generation of '98, the avant-garde of the 1920s and 1930s, social realism, women writers, and contemporary developments. Writing-emphasis course.  
(RE) Prerequisite(s): 323.  
(RE) Corequisite(s): 330.

333 Survey of Spanish-American Literature: 1700-Present (3) Main writers, trends, stylistic periods and artistic movements in Spanish America since 1700 set against a broad background of cultural, socio-political and historical developments. Emphasis on neo-classicism, the romantics, modernismo, the avant-garde of the 1920s and 1930s, social realism, magical realism, the Latin American boom, women writers, and contemporary developments. Writing-emphasis course. (Same as Latin American Studies 333.)  
(RE) Prerequisite(s): 323.  
(RE) Corequisite(s): 330.

334 Survey of Hispanic Literatures: Beginnings-1700 (3) Main writers, trends, stylistic periods and artistic movements in Spain and Spanish America up to 1700 set against a broad background of cultural, socio-political and historical developments. Writing-emphasis course. (Same as Latin American Studies 334.)  
(RE) Prerequisite(s): 323.  
(RE) Corequisite(s): 330.

345 Language and Culture of the Hispanic Business World (3) Commercial vocabulary, business letters, import-export, marketing. Hispanic social management culture, and the global significance of economic and political developments in Spanish-speaking countries. Writing-emphasis course. (RE) Prerequisite(s): 323.

346 Language and Culture of the Hispanic Business World (3) Commercial vocabulary, business letters, import-export, marketing. Hispanic social management culture, and the global significance of economic and political developments in Spanish-speaking countries. Writing-emphasis course. (RE) Prerequisite(s): 323.

401 Cultural Plurality and Institutional Changes in Latin America (3) Value systems, behavioral patterns, political parties, role of the military, the church, educational institutions, dictatorship and nationalism. Writing-emphasis course. (Same as Latin American Studies 401.)  
Credit Restriction: May not be applied toward the Spanish major.  
Recommended Background: 6 hours of coursework in Latin American studies.

402 Latin American Studies Seminar (3) Selected topics in Latin American studies. Writing-emphasis course. (Same as Latin American Studies 402.)  
Repeatability: May be repeated. Maximum 6 hours.  
Credit Restriction: May not be applied toward the Spanish major.  
Recommended Background: 6 hours of 300- or 400-level coursework in Latin American studies.

421 Phonetics (3)  
(RE) Prerequisite(s): 323.

422 Advanced Grammar and Translation (3) Structure of the grammatical system of Spanish. In-depth analysis of selected syntactic phenomena with practical illustration/application and exercise in Spanish-English and English-Spanish translation. Emphasis on finer points of grammatical structures. Writing-emphasis course.  
(RE) Prerequisite(s): 323.  
Comment(s): Not available to native or bilingual students of Spanish without permission of department.

423 Advanced Composition and Conversation (3) Develops writing and speaking skills to the advanced level, covering a wide range of topics and situations and including a variety of in-class and extra-class activities. Writing-emphasis course.  
(RE) Prerequisite(s): 323.  
Comment(s): Not available for credit for students whose level of proficiency in Spanish is superior as defined by the ACTFL Proficiency Guidelines.

425 Introduction to Descriptive Linguistics (3) (See French 425.)

426 Methods of Historical Linguistics (3) (See German 426.)

429 Romance Linguistics (3) (See French 429.)

430 Topics in Hispanic Linguistics (3) Introduction to the study of the Spanish language from different areas of linguistics such as phonology, morphology, syntax, semantics, sociolinguistics, dialectology, and second language acquisition. Writing-emphasis course. (Same as Linguistics 431.)  
Repeatability: May be repeated with permission of department. Maximum 6 hours.  
(RE) Prerequisite(s): 323.  
(RE) Corequisite(s): 330.

433 Images of Woman in Hispanic Literature (3) Examines major Hispanic texts (and/or women authors) in the light of the relation of female individuality to a particular social context, the role of women in society, patriarchal tradition, woman as cultural and as aesthetic value (the feminine symbolic), and feminist theoretical issues. Writing-emphasis course.  
(RE) Prerequisite(s): 323.  
(RE) Corequisite(s): 330.  
Comment(s): Requires completion of major or minor requirements in 332, 333, 334.

434 Hispanic Culture through Film (3) Analysis of selected films on subjects concerning life, culture, and artistic traditions in the Hispanic world; exploration of ideological, philosophical, social, and political implications of films and a comparison of them with treatments of related subjects in other types of artistic production. Taught in Spanish. Writing-emphasis course. (Same as Cinema Studies 434.)  
Repeatability: May be repeated with consent of department. Maximum 6 hours.  
(RE) Prerequisite(s): 323.  
(RE) Corequisite(s): 330.  
Comment(s): Requires completion of major or minor requirements in 332, 333, 334.

461 Special Topics (3) Focus on some aspect of Hispanic literature, culture, linguistics, or foreign language pedagogy. Topics vary.  
Repeatability: May be repeated with consent of department. Maximum 6 hours.

465 Latin American Film and Culture (3) Explores Latin American and Latino/a films and videos from 1900s to present as works of art and in light of political, cultural, and social contexts. Taught in English. Writing-emphasis course. (Same as Cinema Studies 465; Latin American Studies 465.)  
Contact Hour Distribution: 1 hour lecture, 2 hours screening, and 1 hour discussion.  
Credit Restriction: May not be applied toward Spanish major.

479 Disenchanted Texts in Hispanic Literature (3) Texts representing trends and periods of renewal in Spain and Latin American countries. Selected topics on traditions in crisis. Content will vary. Writing-emphasis course. (Same as Latin American Studies 479.)  
Repeatability: May be repeated with consent of department. Maximum 6 hours.  
(RE) Prerequisite(s): 323.  
(RE) Corequisite(s): 330.  
Comment(s): Requires completion of major or minor requirements in 332, 333, 334.

480 Social Forces in Hispanic Literary Expression (3) Analysis of major Hispanic texts that address factors and events that influenced and/or continue to influence the social and cultural evolution of the Hispanic world, including literature itself. Writing-emphasis course.  
Repeatability: May be repeated with consent of department. Maximum 6 hours.  
(RE) Prerequisite(s): 323.  
(RE) Corequisite(s): 330.  
Comment(s): Requires completion of major or minor requirements in 332, 333, 334.

482 Trends in Hispanic Thought (3) Intellectual/philosophical currents represented in literary works, selected thinkers, or movements from historical periods of Spain and Latin American countries. Writing-emphasis course.  
Repeatability: May be repeated with consent of department. Maximum 6 hours.  
(RE) Prerequisite(s): 323.  
(RE) Corequisite(s): 330.  
Comment(s): Requires completion of major or minor requirements in 332, 333, 334.

484 Race, Ethnicity, and Nation in Hispanic Literature (3) Close reading and analysis of literary texts that deal with issues of race and ethnicity in the Hispanic world, especially with regard to identity and concepts of nationhood. Among possible course topics: mestizaje; conceptual distinctions between race and ethnicity in Latin America; indigenismo; afrocentrism; issues of monarchy and empire; relationship between Jews, Christians, and Moors in Spain. Writing-emphasis course.  
Repeatability: May be repeated with consent of department. Maximum 6 hours.  
(RE) Prerequisite(s): 323.  
(RE) Corequisite(s): 330.  
Comment(s): Requires completion of major or minor requirements in 332, 333, 334.

486 Literary and Artistic Movements in the Hispanic World (3) Examination of relationships (thematic, cultural, socio-political, aesthetic, philosophical, etc.) between specific trends in literature and other artistic genres in light of historical contexts in which those relationships emerged. Writing-emphasis course.  
Repeatability: May be repeated with consent of department. Maximum 6 hours.  
(RE) Prerequisite(s): 323.  
(RE) Corequisite(s): 330.  
Comment(s): Requires completion of major or minor requirements in 332, 333, 334.
489 Topics in Hispanic Civilization (3) Analysis of major trends, issues and/or movements in the civilizations of Spain and Spanish America. Political, literary, and cultural perspectives dealing with topics from the Middle Ages to the present day may be explored. Writing-emphasis course.

Repeatability: May be repeated with consent of department. Maximum 6 hours.
(RE) Prerequisite(s): 210.
(RE) Corequisite(s): 330.
Comment(s): Requires completion of major or minor requirements in 332, 333, 334.

490 Internship (1-15) Career-related experiences in the United States or abroad.
Grading Restriction: Satisfactory/No Credit grading only.
Repeatability: May be repeated. Maximum 15 hours.
Registration Restriction(s): Spanish major/language and world business concentration.

491 Foreign Study (1-15)
Repeatability: May be repeated. Maximum 15 hours.

493 Independent Study (1-15)
Repeatability: May be repeated. Maximum 15 hours.

494 Spanish Community Service Practicum (1) Supervised community service with local agencies that assist Hispanic community or supervised activities with local cultural organizations that promote awareness of Hispanic culture among the general public. Each credit hour requires 40 semester hours of off-campus supervised work and a weekly one-hour tutorial with a faculty member.
Grading Restriction: Satisfactory/No Credit grading only.
Repeatability: May be repeated. Maximum 3 hours. Maximum 1 hour credit per semester.
Credit Restriction: May not be applied toward the Spanish major.
(RE) Prerequisite(s): 210.
(RE) Corequisite(s): 330.
Comment(s): Requires completion of 18 hours of upper-division Spanish.
Registration Permission: Consent of instructor.

Special Education (932)

310 Special Education Principles (3) Introduction to the field of special education, including the nature and causes of disabling conditions, family systems, a history of the field, and current policies.

320 Special Education Strategies (3) Introduction to basic special education procedures, including formal and informal assessment, planning, development of individual education plans, applied behavioral analysis, appropriate medical procedures, and effective instructional strategies.
(RE) Prerequisite(s): 310.

402 Professional Studies: Special Education and Diverse Learners (2) Characteristics and needs of students with disabilities and diverse learners with emphasis on educational implications. Techniques, strategies and resources for teaching students with special learning, behavioral or medical needs, and the requirements of special education laws.
(RE) Prerequisite(s): Educational Psychology 210.
Registration Restriction(s): Qualification admittance to teacher education.

410 Early Childhood Special Education Foundations (3) Introduction to the field of early childhood special education including the nature of disabling conditions; theoretical perspectives in the field; legislation; policies and procedures used in the field.
Registration Restriction(s): Qualification admittance to teacher education.

419 Psychology and Education of Students with Mild Disabilities (6) Nature and characteristics of persons with mild handicaps and the educational strategies appropriate for these persons.
(RE) Prerequisite(s): 402.
(RE) Corequisite(s): 420.

420 Field Experience in Special Education Programs (3) Practicum in teaching special education programs: planning, developing, implementing and evaluating instruction.
Grading Restriction: Satisfactory/No Credit grading only.
(RE) Prerequisite(s): 402.
(RE) Corequisite(s): 419.
Registration Restriction(s): Qualification admittance to teacher education.

431 Field Experience in Comprehensive Programs (3) On-site teaching experience with moderately and severely handicapped children and youth.
Grading Restriction: Satisfactory/No Credit grading only.
(RE) Prerequisite(s): 402.
(RE) Corequisite(s): 432.
Registration Restriction(s): Qualification admittance to teacher education.

432 Psychology and Education of Students with Moderate/Severe Disabilities (6) Nature and characteristics of persons with moderate/severe disabilities and the educational strategies appropriate for those persons.
(RE) Prerequisite(s): 402.
(RE) Corequisite(s): 431.
Registration Restriction(s): Qualification admittance to teacher education.

454 Education of the Gifted and Talented Children (3) Psychometric and behavioral studies of giftedness. Analysis of past and present school practices in reference to curriculum and program implementation.
Registration Restriction(s): Qualification admittance to teacher education.

456 Speech and Language Basis of Learning Disabilities in the Classroom (3) Normal communication development; understanding of speech and language impairments in school-age students; integration of oral/written communication skills into existing curriculum, especially for high incidence special education students.

470 Psychology of the Exceptional Child (3) General characteristics and educational needs of exceptional children. Implications of developmental variations for functioning as adults.

471 Early Childhood Special Education (6) Assessment, curriculum planning and development and teaching approaches used in early childhood special education.
Registration Restriction(s): Qualification admittance to teacher education.

472 Field Experience in Early Childhood Special Education (2-5) Placement in educational settings serving young children with special needs. Provides experience in assessment, curriculum planning and teaching.
Grading Restriction: Satisfactory/No Credit grading only.
Repeatability: May be repeated. Maximum 5 hours.
Registration Restriction(s): Qualification admittance to teacher education.

Sport Management (957)

100 Orientation to Sport Management (1) Overview of the sports industry and sport management major. To be taken the first semester as a pre-major.

250 Foundations of Sport Management (3) An introduction to the scope of the sport enterprise including why business is involved in sport and an overall evaluation of sport management as a profession.
(RE) Prerequisite(s): 100.

290 Practicum 1 (3) Supervised part-time field experience (minimum of 120 clock hours) at an approved site for the purpose of clarifying career goals.
Grading Restriction: Satisfactory/No Credit grading only.
Registration Restriction(s): Sport management major.

311 Coaching Football (1) Theoretical and practical application of various coaching techniques in football for the prospective secondary/college coach. Includes analysis and selection of appropriate game plans, specific conditioning and training programs, practice organization, player evaluation, scouting, individual and team offensive and defensive strategies.

312 Coaching Basketball (1) Individual and team fundamentals for the high school coach; conditioning, schedule making, and other business arrangements.

313 Coaching Track and Field (1) Coaching methods and training techniques for various track and field events, including experience observing and working at meets and practices.

315 Coaching Baseball/Softball (1) Theoretical and practical application of various coaching techniques in baseball/softball for the secondary/college coach. Topics include analysis and selection of appropriate game plans, specific conditioning and training programs, practice organization, player evaluation, scouting, individual and team offensive and defensive strategies.

330 Sport Communication (3) An introduction to the communications industry and its relationship with sport. Students will explore cultural issues, such as gender and ethnicity, and their relationship to sport and media. The course will also provide students opportunities to develop practical communication skills and learn how media and sport interact.
Registration Restriction(s): Sport management major.

340 Sport Finance (3) This course enables students to understand the importance of budgeting and finance in the sports industry. Students will understand how financing works in the sports industry and how corporations are valued. Students will also be introduced to the basic fundamentals of investing and accounting, and how they relate to the sport industry.
Registration Restriction: Sport management major.

350 Sport Management: Theory to Practice (3) Overview of managerial theories and applications including responsibilities and practices associated with broad perspectives of sport enterprise.
360 Sport Governance (3) The primary focus is the organizational structure, authority and functions of governing bodies. Special emphasis is given to the role of the National Collegiate Athletic Association in collegiate athletics.

370 Event Management (3) Study of the various principles involved in the organization, promotion, and management of special events. Students will combine theory and practice through experience with assigned special events.

Registration Restriction(s): Sport management major.

380 Special Topics (1-3) Study in selected disciplinary or professional areas of sport management.

Repeatability: May be repeated.

Registration Restriction(s): Sport management major.

390 Practicum II (3) Supervised part-time experience (minimum of 120 clock hours) at an approved site offering sport management opportunities. Grading Restriction: Satisfactory/No Credit grading only. (RE) Prerequisite(s): 290. Registration Restriction(s): Sport management major.

440 Sport Marketing (3) Application of fundamental marketing concepts to the sport industry. Marketing research, promotions, fund raising, advertising, and assessment of marketing programs specific to sport will be covered. The historical development of sport marketing will be included. (RE) Prerequisite(s): Marketing 300. Registration Restriction(s): Sport management major.

450 Legal Aspects of Sport (3) Identification and application of various areas of law to sport industry. Includes how constitutional law, contract law, anti-trust law, and tort law impact sport management decisions. Special emphasis placed on discrimination in sport (e.g., race, gender, ethnicity, and disability). Registration Restriction(s): Sport management major.

460 Development and Revenue Generation in Sport (3) Designed to provide overview of theories, strategies, and techniques used in the production of revenue for sport organizations and through sporting events. Emphasis on developing balanced, multifaceted programs that target a variety of constituencies in the sport industry.

490 Sport Management Internship (6-12) Supervised work experience (minimum of 480 clock hours) at an approved site offering sport management opportunities. Emphasis on managerial tasks and administrative procedures. Grading Restriction: Satisfactory/No Credit grading only. Repeatability: May be repeated. Maximum 12 hours. (RE) Prerequisite(s): 390. Comment(s): Enrollment for 2 semesters (6 hours each) or 1 semester (12 hours). Total of 12 hours required. Registration Restriction(s): Sport management major; 2.5 GPA; minimum student level — senior.

493 Directed Independent Studies (1-3) Independent study in a specialized area of sport management.

Repeatability: May be repeated. Maximum 9 hours.

Registration Restriction(s): Sport management major.

Sport Studies (959)

231 Introduction to Sport Psychology (3) Introduction to the psychology of sport and exercise. Includes the scientific study of people and their behaviors in these contexts and the practical application of that knowledge. Topics include: personality, motivation, anxiety, competition and cooperation, group and team dynamics, leadership, goal-setting, self-confidence, injury, moral and ethical considerations, and unhealthy behaviors.

290 Human Motor Behavior (3) Theories and principles explaining motor behavior; psychological factors related to and/or affecting motor skill acquisition and performance. Registration Restriction(s): Minimum student level — sophomore; exercise science or recreation and leisure studies majors.

330 Socio-Cultural Foundations of Sport and Leisure (3) An overview of the sociological, historical, and philosophical foundations of sport and leisure in American society. Various forms of sport and leisure are explored within a social justice framework based on a cultural studies perspective. Students explore sport and leisure as global phenomena in social, historical and philosophical contexts.

336 Social Issues in Sport (3) An exploration of power relations and cultural ideologies as they impact participation opportunities in sport. Students use in-depth critical thinking analysis to identify and explore social justice issues linked to the major spheres of social life. In addition, moral decision-making and ethical dilemmas in sport, leisure and exercise are addressed.

380 Special Topics (1-3) Study in selected disciplinary or professional areas of physical education.

Repeatability: May be repeated.

391 Psychology of Coaching (2) Major topics and theories dealing with social-psychological factors affecting and relating to sport performance, with practical implications and applications to teaching and coaching.

493 Directed Independent Studies (1-3) Independent study in a specialized area within physical education.

Repeatability: May be repeated. Maximum 9 hours.

Statistics (962)


207 Honors: Introduction to Statistics (3) Intended as an alternative to 201 for higher GPA students. (QR) Contact Hour Distribution: Two 50-minute lectures and one 110-minute lab per week. (RE) Prerequisite(s): Mathematics 125 or Mathematics 141. Recommended Background: 28 composite ACT or 1250 composite SAT.

251 Probability and Statistics for Scientists and Engineers (3) Data collection; descriptive statistics. Concepts of probability and probability distributions. Discrete and continuous distributions. Estimation of means, confidence intervals, hypothesis tests for single mean and proportion. Simple regression and correlation. Process improvement and statistical process control. 2-level experiments. Use of statistical computing software. Applied course appropriate for a general audience. (RE) Prerequisite(s): 201 or 251.

320 Regression and Correlation Methods (3) Simple linear regression and correlation analysis, time series analysis, multiple regression, variable selection, regression diagnostics, partial correlation, and categorical data analysis techniques. Use of statistical computing software. Applied course appropriate for a general audience. (RE) Prerequisite(s): 201 or 251.

330 Experimental Methods (3) Strategies of experimentation, factorial and fractional factorial experiments, sequential experimentation, blocking and run order restrictions, Taguchi’s strategies to reduce variation. Use of statistical computing software. Applied course appropriate for a general audience. (RE) Prerequisite(s): 201 or 251.


471 Statistical Methods (3) Numeric and graphic description of data; probability and probability distributions, simulation; sampling distributions; estimation and hypothesis testing for one and two samples, parametric and nonparametric approaches, bootstrapping; tests for count data; simple and multiple linear regression, diagnostics and validation; analysis of variance. Uses SAS and other statistical software. (RE) Prerequisite(s): 320.


474 Introduction to Data Mining (3) Understanding and application of data mining models. Data preparation; exploratory data analysis and visualization; cluster analysis; logistic regression; decision trees; neural networks; association rules; model assessment; and other topics. Applications to real world data. Use of standard computer packages. (RE) Prerequisite(s): 471.
475 Time Series Analysis (3) Model building techniques for linear time series models, practical methods for univariate time series forecasting, Box-Jenkins forecasting methods, forecasting based on exponential smoothing, autoregression and stepwise autoregression, forecasting from regression models. Use of standard computing packages. Major writing requirement.  
(RE) Prerequisite(s): 320.

483 Special Topics in Statistics (1-3) Topics vary. Registrability: May be repeated. Maximum 6 hours. 
Registration Permission: Consent of instructor.

485 Principles of Statistical Process Management (3) Control charts and other statistical techniques applied to management of business processes. 
Registration Permission: Consent of department head.

492 Internship (1-6) Supervised off-campus experience in application of statistical principles and methods in business, industry, or government, culminating in a written and oral report. 
Grading Restriction: Satisfactory/No Credit grading only. Registrability: May be repeated. Maximum 6 hours. 
Registration Permission: Consent of department head.

493 Independent Study (2-6) Faculty directed reading and investigation of specified topic in probability or statistics culminating in a written report. Registrability: May be repeated. Maximum 6 hours. 
Registration Permission: Consent of department head.

Theatre (976)
100 Introduction to Theatre (3) Understanding theatre: thought, philosophy, aesthetics, and production practices. Writing-emphasis course. (AH)

220 Acting I (3) Basic acting techniques.

221 Acting II (3) Further exploration and development of acting techniques through exercises and beginning scene work. 
(RE) Prerequisite(s): 220.

242 Fundamentals of Costume Design and Technology (2) Introduction to the elements of costume design, technology and the design process. Hands on and lab intensive.

252 Fundamentals of Scene Design and Technology (2) Introduction to the elements of scene design, basic scenic technology and the design process. Hands on and lab intensive.

262 Fundamentals of Lighting Design and Technology (2) Introduction to the elements of theater lighting design, basic technology and the design process. Hands on and lab intensive.

300 Play Analysis (3) Study of methods and tools used in script analysis for the purpose of play production. (WC) 
(RE) Prerequisite(s): 100.

320 Advanced Acting I (3) Character study and scene study in 20th century American plays. 
(RE) Prerequisite(s): 221.

(RE) Prerequisite(s): 320.

323 Stage Movement (3) Introduction to movement/kinaesthetic awareness techniques and their application to performance. 
(RE) Prerequisite(s): 221.

325 Fundamentals of Musical Theatre (3) Introduction to musical theatre, including: reading music, singing techniques, basic dance, and an overview of musical theatre styles. 
(RE) Prerequisite(s): 220.

326 Advanced Voice and Speech (3) Breath-centered voice production; exploration and control of shaping sound; IPA; text work; geared toward acting for the stage. 
(RE) Prerequisite(s): 221.

340 Costume Design I (3) Development of research, rendering, and conceptualization skills.

345 Costume Construction (3) Techniques in the construction of costumes for the theatre. 
(RE) Prerequisite(s): 242.

352 Entertainment Technology I (3) Techniques in live entertainment production, including scenery techniques, structures, special effects and rigging. 
(RE) Prerequisite(s): 252.

355 Scenic Design I (3) Designing a set by combining the elements and principles of design composition with dramaturgical research. 
(RE) Prerequisite(s): 252.

362 Lighting Design I (3) In depth lighting design practice and principles. Project and lab intensive. 
(RE) Prerequisite(s): 252.

410 Special Studies in History, Literature, and Criticism (3) Content varies. Concentrated study in a given period or area of theatre history, literature or criticism. 
Registrability: May be repeated. Maximum 6 hours.

411 Theatre History I (3) Antiquity to 1700. Major historical periods and diverse cultural traditions in world theatre history. 
(RE) Prerequisite(s): 300.

412 Theatre History II (3) 1700 to contemporary theatre. Major historical periods and diverse cultural traditions in world theatre history. 
(RE) Prerequisite(s): 300.

420 Special Studies in Acting (3) Content varies. Exercises in selected concentrated areas such as styles, techniques, approaches, e.g., Shakespeare, movement, humor. 
Registrability: May be repeated. Maximum 9 hours. 
(De) Prerequisite(s): 320. 
Registration Permission: Consent of instructor.

421 Theatre Projects in International Theatre (3-5) Study and performance of foreign works. Content varies. Language skills required. 
(De) Prerequisite(s): 320. 
Registrability: May be repeated. Maximum 9 hours. 
Registration Permission: Consent of instructor.

425 Advanced Musical Theatre (3) Study and practice of musical theatre material including both dance and vocal work. 
(RE) Prerequisite(s): 335.

430 Principles of Play Directing (3) Problems in composition, picturization, rhythm, movement. 
(RE) Prerequisite(s): 220.

431 Principles of Play Directing (3) Problems in composition, picturization, rhythm, movement. 
(RE) Prerequisite(s): 430.

446 Costume Patterning (3) Draping patterns for period costumes. Includes corsery and the study of historic patterns 1500-1900.

450 Special Studies in Entertainment Technology (1-3) Content varies. 
Registrability: May be repeated. Maximum 9 hours.

452 Entertainment Technology II (3) Automation systems in live entertainment, including advanced rigging and flying for stage and film.

454 Scenery Painting (2) Introduction to materials, techniques, and principles of the craft. Emphasis on gaining skill and understanding through studio experience.

456 Scenic Design II (3) Advanced studies in set design. 
(RE) Prerequisite(s): 335.

462 Lighting Design II (3) Advanced lighting design theory and practice. Lab and project intensive. 
(RE) Prerequisite(s): 362.

464 Computer Aided Drafting for the Theatre (3) Introduction to entertainment drafting. Emphasis on 2-D graphical standards, drafting techniques, drawing layout and presentation.

470 Playwriting (3) Advanced instruction in the writing of plays. 
Registration Permission: Consent of instructor.

481 Applied Theatre (1-2) Laboratory in applied theatre techniques for departmental productions. 
Registrability: May be repeated. Maximum 6 hours. 
Registration Permission: Consent of instructor.

491 Foreign Study (1-15) Registrability: May be repeated. Maximum 15 hours.

492 Off-Campus Study (1-15) Registrability: May be repeated. Maximum 15 hours.

493 Independent Study (1-15) Registrability: May be repeated. Maximum 15 hours.

Theory and Practice in Teacher Education (978)
203 Field Study in Education (1-3) Problems of persons in active service in the field. Includes methods of teaching, curriculum materials, school-community relationships and school organizations. 
Registrability: May be repeated. Maximum 6 hours.

352 Field Experiences in Teaching: Secondary I (1) Field experiences in tasks related to teaching and teacher roles. 
Grading Restriction: Satisfactory/No Credit grading only. 
Registration Restriction(s): Qualification – admission to teacher education.
353 Field Experience in Teaching: Secondary II (1) Field experiences in tasks related to teaching and to teacher roles. Grading Restriction: Satisfactory/No Credit grading only. (RE) Prerequisite(s): 352. Registration Restriction(s): Qualification – admission to teacher education.

355 Introduction to Secondary Schools (3) Aspects of teaching in grades 7-12, including curriculum, program and roles and responsibilities of secondary school teachers and administrators. Registration Restriction(s): Qualification – admission to teacher education.

492 Directed Independent Study (1-3) Tutorial and specialized area. Repeatability: May be repeated. Maximum 6 hours. Registration Permission: Consent of instructor.

493 Independent Study (1-3) Topics to be assigned. Repeatability: May be repeated. Maximum 12 hours.

494 Supervised Readings (1-3) Topics to be assigned. Repeatability: May be repeated. Maximum 12 hours.

495 Special Topics (1-3) Topics to be assigned. Repeatability: May be repeated. Maximum 12 hours.

University Honors (983)

See Chancellor's Honors Program for Honors-by-Contract information.

100 Introduction to University Honors (1) Required of and limited to freshmen in the Chancellor's Honors Program. Computer skills, service learning, study abroad options, professional development, and research skills. Grading Restriction: Satisfactory/No Credit grading only.

157 Arts and Humanities Honors Seminar (3) Interdisciplinary examination of selected issues in the arts and/or humanities. Topics vary. (AH) Repeatability: May be repeated if topic differs. Maximum 6 hours.

167 Social Science Honors Seminar (3) Interdisciplinary examination of selected issues in the social sciences. Topics vary. (SS) Repeatability: May be repeated if topic differs. Maximum 6 hours.

177 Cultures and Civilizations Honors Seminar (3) Interdisciplinary examination of selected global and cultural issues. Topics vary. (CC) Repeatability: May be repeated if topic differs. Maximum 6 hours.

187 Quantitative Reasoning Honors Seminar (3) Interdisciplinary applications of quantitative reasoning methods. Topics vary. (QR) Repeatability: May be repeated if topic differs. Maximum 6 hours.

257 Special Topics in the Arts and Humanities (3) Examination of a selected issue in the arts and/or humanities from a multi-disciplinary perspective. Topics vary. (AH) (WC) Repeatability: May be repeated if topic differs. Maximum 6 hours. (RE) Prerequisite(s): English 102 or English 118.

267 Special Topics in the Social Sciences (3) Examination of a selected issue in the social sciences from a multi-disciplinary perspective. Topics vary. (SS) (WC) Repeatability: May be repeated if topic differs. Maximum 6 hours. (RE) Prerequisite(s): English 102 or English 118.

277 Special Topics in Cultures and Civilizations (3) Examination of a selected global or cultural issue from a multi-disciplinary perspective. Topics vary. (CC) (WC) Repeatability: May be repeated if topic differs. Maximum 6 hours. (RE) Prerequisite(s): English 102 or English 118.

287 Special Topics in the Natural Sciences (3) Examination of a selected issue in the natural sciences from a multi-disciplinary perspective. Topics vary. Repeatability: May be repeated if topic differs. Maximum 6 hours. (RE) Prerequisite(s): English 102 or English 118.

337 Honors: Concentration in the Humanities (3) Small group studies of selected topics, issues or problems with a concentration in the humanistic disciplines. Topics vary. Repeatability: May be repeated if topic differs. Maximum 6 hours. Comment(s): Open to all students with a GPA of 3.25 or greater.

347 Honors: Concentration in the Social Sciences (3) Small group studies of selected topics, issues or problems with a concentration in the social sciences. Topics vary. Repeatability: May be repeated if topic differs. Maximum 6 hours. Comment(s): Open to all students with a GPA of 3.25 or greater.

357 Honors: Concentration in the Natural and Applied Sciences (3) Small group studies of selected topics, issues or problems with a concentration in the natural and applied sciences. Topics vary. Repeatability: May be repeated if topic differs. Maximum 6 hours. Comment(s): Open to all students with a GPA of 3.25 or greater.

491 Honors: Foreign Study (1-15) Open to any undergraduate honors student. Proposals must be approved in advance. Contact the director for information. Repeatability: May be repeated. Maximum 15 hours.

492 Honors: Off-Campus Study (1-15) Open to any undergraduate honors student. Proposals must be approved in advance. Contact the director for information. Repeatability: May be repeated. Maximum 15 hours.

493 Honors: Independent Study (1-9) Open to any undergraduate honors student. Proposals must be approved in advance by University Honors. Grading Restriction: Letter grade only. Repeatability: May be repeated. Maximum 9 hours.

499 Senior Honors Project (3) Substantial scholarly, scientific, or artistic endeavor representing the capstone of a student's undergraduate education. Required of all Chancellor’s Honors Program students not completing an equivalent senior project for an academic department or program.

University Studies (984)

101 Lives and Times (3) Intended for entering students. Study of biography, autobiography, and biographical theory including factors that shape individual lives. Writing-intensive.

210 Special Topics in University Studies (1-9) Interdisciplinary approaches to selected topics for lower-division students. Small group discussion of varying topics that transcend the boundaries of a single discipline. Writing-intensive and team-taught. Repeatability: May be repeated. Maximum 9 hours. Registration Permission: Consent of instructor.

220 Special Topics in University Studies (1-9) Interdisciplinary approaches to selected topics for lower-division students. Small group discussion of varying topics that transcend the boundaries of a single discipline. Writing-intensive and team-taught. Repeatability: May be repeated. Maximum 9 hours. Registration Permission: Consent of instructor.

227 Honors: Topics in University Studies (3) Interdisciplinary approach to a significant scholarly or social issue for lower division students. Small group discussion of varying topics that transcend the boundaries of a single discipline. Writing-intensive and team-taught. Repeatability: May be repeated. Maximum 9 hours.

310 Special Topics in University Studies (3) Interdisciplinary approaches to issues transcending the boundaries of a single discipline. Topics may be initiated by faculty or students through arrangements with the University Studies Program. Taught by faculty from throughout the university (often team-taught). Discussion-based and writing-intensive. Repeatability: May be repeated. Maximum 9 hours.

311 AIDS and Society (3) Speakers from across the state speak about scientific, social, medical, emotional and financial aspects of acquired immunodeficiency syndrome. Students are required to participate in some AIDS related community activity and to describe that activity in writing. Repeatability: May be repeated. Maximum 9 hours.

317 Honors: Special Topics in University Studies (3) Honors course utilizing an interdisciplinary approach to a significant scholarly or social issue. Topics change every semester. Consult Timetable for current offerings. Discussion-based and writing-intensive. Repeatability: May be repeated. Maximum 9 hours.

320 Special Topics in University Studies (3) Interdisciplinary approaches to issues transcending the boundaries of a single discipline. Topics may be initiated by faculty or students through arrangements with the University Studies Program. Taught by faculty from throughout the university (often team-taught). Discussion-based and writing-intensive. Repeatability: May be repeated. Maximum 9 hours.

322 Technology, Society, and the Common Good (3) Explores philosophical and religious systems with a commitment to stewardship of the planet and those with an antagonistic or neutral perception of the natural world. Systems are presented in conjunction with cultural and species extinctions caused by or related to their beliefs and values.

410 Advanced Topics in University Studies (1-9) Interdisciplinary research approaches to major issues transcending the boundaries of a single discipline. Topics may be initiated by faculty or students through arrangements with the University Studies Program. Taught by faculty from throughout the university (often team-taught). Discussion-based and writing-intensive. Repeatability: May be repeated. Maximum 9 hours.

411 Art and Organism (3) Interdisciplinary investigations of the relationship between art and biology. Readings and discussions focus on the idea that, while art is one of the most wholly human cultural endeavors, it is undeniably linked to, if not emergent from, our basic biology.
412 Normandy Scholars Seminar: War and Remembrance (9)
Students take coursework and travel as a learning community during their time in the program. The course has three coordinated components: Values and Politics; 20th Century French Literature, Culture, and Language; and World War II. The course is team-taught by members of various departments, and prepares students for the culminating integrative four weeks of study in France during the summer term. Writing-intensive.
Comment(s): Enrollment is limited to honors students selected for the Normandy Scholars Program.
Registration Permission: Consent of coordinator.

417 Honors: Advanced Topics in University Studies (3)
Honors course utilizing an in-depth interdisciplinary research approach to a significant scholarly or social issue. Topics change every semester. Consult timetable for current offering. Discussion-based and writing-intensive.
Repeatability: May be repeated. Maximum 9 hours. Registration Permission: Consent of instructor.

420 Advanced Topics in University Studies (1-9)
Interdisciplinary research approaches to major issues transcending the boundaries of a single discipline. Topics may be initiated by faculty or students through arrangements with the University Studies Program. Taught by faculty from throughout the university (often team-taught). Discussion-based and writing-intensive.
Repeatability: May be repeated. Maximum 9 hours.

491 Foreign Study (1-15)
Repeatability: May be repeated. Maximum 15 hours.

492 Off-Campus Study (1-15)
Repeatability: May be repeated. Maximum 15 hours.

493 Independent Study (1-15)
Repeatability: May be repeated. Maximum 15 hours.

Wildlife and Fisheries Science (993)

101 Current Topics in Wildlife Health (1)
All aspects of wildlife health including current topics, emerging diseases, impact of diseases on wildlife populations, general disease mechanisms, and career opportunities in the wildlife profession.

201 Seminar in Wildlife Health (1)
All aspects of wildlife health with an emphasis on current events and research.
(RE) Prerequisite(s): 101.

301 Introduction to Wildlife Diseases (3)
Fundamentals of wildlife health and disease emphasizing relevant current information on the biology of physiological diseases, infectious agents, pathogenesis, epidemiology, wildlife management, interrelationships among diseases of wild animals, humans and domestic animals, and molecular techniques.
(RE) Prerequisite(s): 201 and Microbiology 310.

305 Prescribed Fire Management (2)
Prescribed fire ecology, use, and management in forest stands.
(RE) Prerequisite(s): Forestry, Wildlife and Fisheries 212.
(RE) Corequisite(s): 323 and 341.

323 Human Dimensions of Wildlife and Fisheries (1)
Examination of the linkages between people, institutions, and society at large to natural resource management practices. Case studies and application of basic skills of group communication and collaborative problem solving and planning will be emphasized. Overnight field trips required.
(RE) Corequisite(s): 305 and 341.

340 Wetlands Ecology and Management (2)
Ecology, restoration, and management of wetland ecosystems including biotic and abiotic processes, functions, and wildlife considerations.
(RE) Prerequisite(s): Forestry, Wildlife and Fisheries 317.
(RE) Corequisite(s): 305 and 323.

341 Law Enforcement and Public Relations (3)
Fundamentals and general principles of local, state and federal laws and regulations governing natural resources and their management. Principles and practices of interacting with the public.
(RE) Prerequisite(s): English 102 and Communication Studies 210.
(RE) Corequisite(s): 305 and 323.

350 Wildlife Damage Management (2)
Principles and methods for wildlife damage management including biological, regulatory, practical, and social considerations. Weekend field trips (2) required.
Contact Hour Distribution: 2 hours lab and 1 lab or field.
(RE) Prerequisite(s): Forestry, Wildlife and Fisheries 317.
(RE) Corequisite(s): 305 and 323.

440 Wildlife Techniques (3)
Methods in wildlife damage control, forest, farmland, wetland wildlife habitat management, identification of wildlife field sign, wildlife capturing techniques and management plan preparation. Weekend field trips (2) required.
Contact Hour Distribution: 1 hour and 1 lab or field.
(RE) Prerequisite(s): Forestry, Wildlife and Fisheries 317.
(RE) Corequisite(s): 305 and 323.

442 Fisheries Techniques (3)
Active and passive sampling techniques for fish and aquatic organisms; population estimation methods; fish handling and transport; food habits analysis; marking and tagging techniques; age determination and incremental growth analysis; stream assessment; equipment and instrumentation usage and maintenance; special in sampling field trip may be required.
Contact Hour Distribution: 1 hour and 1 lab or field.
(RE) Prerequisite(s): Forestry, Wildlife and Fisheries 317.
(RE) Corequisite(s): 305 and 323.

443 Fisheries Science (3)
Quantification and management of freshwater fisheries including population estimation, age and growth, biological assessment, and stocking.
Contact Hour Distribution: 2 hours and 1 lab.
(RE) Prerequisite(s): Forestry, Wildlife and Fisheries 317.

444 Ecology and Management of Wild Mammals (3)
Biological and ecological characteristics of game mammals and endangered mammals. Current principles and practices of wild mammal management. Weekend field trip required.
Contact Hour Distribution: 2 hours and 1 lab.
(RE) Prerequisite(s): Forestry, Wildlife and Fisheries 317.

445 Ecology and Management of Wild Birds (3)
Biological and ecological characteristics of game birds, endangered birds, and bird pests. Current principles and practices of wild bird management. Weekend field trip required.
Contact Hour Distribution: 2 hours and 1 lab.
(RE) Prerequisite(s): Forestry, Wildlife and Fisheries 317.

450 Fish Physiology (3)
Mechanisms of gas transfer, circulation, excretion, osmoregulation, locomotion, and neural/hormonal control of these systems in fishes. Comparisons and contrasts with physiology of terrestrial animals. Practical applications of fish physiology to aquaculture, pollution assessment, and fisheries management.
Registration Restriction(s): Minimum student level – senior.

455 Fish Culture (3)
Principles, concepts, and techniques of culturing economically important fish and shellfish species.
Contact Hour Distribution: 2 hours and 1 lab.
Credit Restriction: Students cannot receive credit for both 455 and 555.
Registration Restriction(s): Minimum student level – senior.

456 Recirculating Aquaculture (3)
Growing fish in intensive, indoor systems with reconditioned water. Techniques of solids removal, nitrification, and gas balance. Practical experience with operating system.
Credit Restriction: Students cannot receive credit for both 456 and 556.
Registration Restriction(s): Minimum student level – senior.

493 Independent Study in Wildlife and Fisheries Science (1-15)
Special research or individual problem in wildlife and fisheries science.
Repeatability: May be repeated. Maximum 15 hours. Registration Permission: Consent of instructor.

496 Internship in Wildlife and Fisheries Science (1-6)
Supervised experience at departmental-approved employment location arranged by the student. Internship objectives must be pre-approved by the advisor/instructor and the field supervisor. Daily log, supervisor evaluations, and final report required. One credit per two weeks of full-time supervised field experience maximum. Up to 3 credits may be used for science elective.
Repeatability: May be repeated. Maximum 6 hours.
Registration Restriction(s): Minimum student level – junior.

Women’s Studies (994)

210 Images of Women in Literature: Biography and Autobiography (3)
Introduction to women’s journals, diaries, biographies and autobiographies. Writing-emphasis course.

215 Images of Women in Literature: Fiction, Poetry, Drama (3)
Introduction to the study of women through the roles and stereotypes portrayed in a variety of literary genres (fiction, poetry, and drama) including works from diverse historical periods and cultures. Writing-emphasis course.

220 Women in Society (3)
Role played by women in various societies during different historical periods, factors which have limited women’s participation in society, social scientists’ assumptions about women.

230 Marriage and Family: Roles and Relationships (3)
(See Child and Family Studies 220.) (SS)

310 Emergence of the Modern American Woman (3)
Role of women in the development of American civilization and values. Major topics include women’s legal and political status, the emergence and development of feminism, women and the creative arts, and women’s roles in industrial and post-industrial American society. Writing-emphasis course.

320 Women and Religion (3)
(See Religious Studies 320.)

330 Women in Music (3)
(See Musicology 330.) (WC)
332 Women in American Literature (3) (See English 332.)

340 Women, Politics, and the Law (3) An examination of recent changes in the laws affecting women and a study of the role of women in contemporary American politics. Writing-emphasis course. (Same as Legal Studies 340.)

360 Women in Cross-Cultural Perspective (3) A study of the changing role of women in various contemporary cultures: industrial democracies, developing nations, communist countries. A team-taught course with guest lectures and slide presentations. Writing-emphasis course.

375 Gender in Society (3) (See Sociology 375.)

382 Philosophy of Feminism (3) (See Philosophy 382.) (WC)

383 Women in the Greek and Roman World (3) (See Classics 383.)

400 Topics in Women’s Studies (3) Content varies. Repeatability: May be repeated. Maximum 6 hours.

410 Sex Role Development: Implications for Education and Counseling (3) (See Counselor Education 410.)

422 Women Writers in Britain (3) (See English 422.)

425 Women’s Health (3) (See Health 425.)

432 Women in European History (3) (See History 432.)

433 French and Francophone Women Writers (3) (See French 433.)

434 Psychology of Gender (3) (See Psychology 434.)

453 Women in American History (3) (See History 453.)

465 Media and Diversity (3) (See Journalism and Electronic Media 465.)

466 Rhetoric of the Woman’s Rights Movement to 1930 (3) (See Communication Studies 466.)

469 Sexuality and Cinema (3) Explores issues surrounding sexuality, gender and cinema from points of view of feminist film criticism. Writing-emphasis course. (Same as Cinema Studies 469.)

476 Rhetoric of the Contemporary Feminist Movement (3) (See Communication Studies 476.)

484 African-American Women in American Society (3) (See Africana Studies 484.)

491 Foreign Study (1-6) Repeatability: May be repeated. Maximum 6 hours.

492 Off-Campus Study (1-6) Repeatability: May be repeated. Maximum 6 hours.

493 Independent Study (1-6) Repeatability: May be repeated. Maximum 6 hours. Registration Permission: Consent of chair of Women’s Studies.
Disability Services 32
Distance Education and Independent Study, Department of 188
Distribution Requirements (College of Arts and Sciences) 73
Drawing Concentration (Studio Art – BFA) 81
Dual Enrollment 25

Early Childhood Education Teacher Licensure 140
Earth and Planetary Sciences, Department of 90
Ecology and Evolutionary Biology Concentration 85
Ecology and Evolutionary Biology Courses 218
Ecology and Evolutionary Biology, Department of 90
Economics Courses 219
Economics Major (Arts and Sciences) 91
Economics Major 121
Economics Minor 91
Economics, Department of 121
Education Courses 220
Education of the Deaf and Hard of Hearing Concentration (Special Education) 149
Education of the Deaf and Hard of Hearing Courses 220
Education, Health, and Human Sciences, College of 137
Educational Advancement Program 32
Educational Interpreting Concentration (Special Education) 148
Educational Interpreting Courses 221
Educational Psychology and Counseling, Department of 142
Educational Psychology Courses 221
EOO/Title IX/AA/Section 504 Statement 2, 24
Electrical and Computer Engineering Courses 221
Electrical and Computer Engineering, Department of 157
Electrical Engineering Major 158
Elementary Education Courses 223
Elementary Education Minor 149
Engineering Communication and Performance Minor 142
Engineering Fundamentals Courses 223
Engineering Fundamentals Division 154
Engineering Physics Major 159
Engineering Physics Program 159
Engineering, College of 151
English Courses 223
English Education Courses 226
English Language Institute 188
English Major 92
English Minor 92
English, Department of 91
Enrollment 43
Enterprise Management Major 123
Entomology and Plant Pathology Courses 227
Entomology and Plant Pathology Minor 58
Entomology and Plant Pathology, Department of 58
Environmental and Soil Sciences Courses 227
Environmental and Soil Sciences Major 56
Environmental and Soil Sciences Minor 58
Environmental Engineering Minor 157
Environmental Issues and Globalization Concentration (Sociology) 115
Environmental Science Concentration (Environmental and Soil Sciences) 57
Environmental Studies Concentration (Interdisciplinary Programs) 95
Exams 45
Exercise Science Courses 227
Exercise Science Major 142
Exercise, Sport, and Leisure Studies, Department of 142
Extracurricular Participation 44
Facilities Fee 28
Family Education Rights and Privacy Act (FERPA) 39
Federal Pell Grant 29
Federal Perkins Loan 29
Federal Supplemental Educational Opportunity Grant 29
Fees for Courses Not Taken for Credit 28
Fees for Sponsored International Students 27
Fifth Year Master of Science Programs 99, 130
Final Exams 45
Finance Courses 228
Finance Major 122
Finance, Department of 122
Financial Aid Withdrawals (Repayments) 28
First Year Studies 34
First Year Studies Courses 228
Food Science and Technology Courses 229
Food Science and Technology Major 59
Food Science and Technology Minor 60
Food Science and Technology, Department of 58
Foreign Language Placement 73
Foreign Language/ESL Education Courses 229
Forest Resources Management Concentration (Forestry) 61
Forestry Courses 229
Forestry Major 61
Forestry Minor 62
Forestry, Wildlife and Fisheries Courses 230
Forestry, Wildlife and Fisheries, Department of 60
French Courses 230
French Major 100
French Minor 102
Freshman Admission 25
Freshman English 43

General Concentration (Physics) 112
General Education Requirement 17
Geography Courses 232
Geography Major 93
Geography Minor 93
Geography, Department of 92
Geology Courses 233
Geology Major 90
Geology Minor 90
German Courses 234
German Major 101
German Minor 102
German Studies Concentration 101
Gerontology Minor
(Intercollegiate/Interdisciplinary) 145
Global Studies Concentration (Interdisciplinary Programs) 95
Global Studies Courses 235
Global Studies Minor 95
Glossary 15
Grade Appeal Procedure 38
Grade Point Average 42
Grades 42
Graduate Studies, Office of 185
Graduating Senior Privilege 46
Grant (African-American Incentive) 34
Graphic Design Major (Bachelor of Fine Arts) 83
Greek Concentration (Classics) 88
Greek Courses (see Classics) 88
Greek Minor 89

Health Courses 236
Hearing and Speech Center 32
Hebrew Courses 236
High School Deficiencies 42
Higher Education Administration Courses 236
Hispanic Studies Concentration (Spanish) 101
Historical Background (University of Tennessee) 23
History Courses 236
History Major 93
History Minor 93
History, Department of 93
Honor Statement 38
Honors Academic Concentration (Physics) 112
Honors Applied Concentration (Physics) 112
Honors Categories for Graduation 46
Honors Classical Civilization Concentration (Classics) 88
Honors Concentration (Anthropology) 80
Honors Concentration (Chemistry) 88
Honors Concentration (Economics) 91
Honors Concentration (English) 92
Honors Concentration (Geography) 93
Honors Concentration (Geology) 96
Honors Concentration (German) 110
Honors Concentration (History) 93
Honors Concentration (Political Science) 113
Honors Concentration (Psychology) 114
Honors Greek Concentration (Classics) 88
Honors Latin Concentration (Classics) 88
Honors Option (Biochemistry and Cellular and Molecular Biology Concentration) 85
Honors Option (Ecology and Evolutionary Biology Concentration) 86
Honors Option (Microbiology Concentration) 86
Honors Option (Plant Biology Concentration) 86
Honors Program (Mathematics) 98
Honors Program (Communication Studies) 134
Honors Programs 40
Honors-By-Contract 173
Hotel and Tourism Management Concentration (Hotel, Restaurant, and Tourism) 146
Hotel, Restaurant, and Tourism Courses 239
Hotel, Restaurant, and Tourism Major 146
Human Resource Management Courses 240
Human Resource Management Major 124
Inclusion Weather Policy 24
Incomplete Grade 43
Individualized Program (College of Arts and Sciences) 75
Individualized Program Concentration (English) 92
Industrial and Information Engineering, Department of 159
Industrial Engineering Courses 240
Industrial Engineering Major 160
Information Management Courses 241
Information Sciences Courses 241
Information Sciences, School of 134
Information Studies and Technology Minor 134
Information Technology, Office of 32
Innovative Technology Center 33
Instructional Technology and Educational Studies Courses 242
Instructional Technology Courses 242
-R-
Radiological Engineering Concentration (Nuclear Engineering) 165
Reading Education Courses 278
Readmission 26
Recreation and Leisure Administration Concentration (Recreation and Leisure Studies) 143
Recreation and Leisure Studies Courses 278
Recreation and Leisure Studies Major 143
Re-entry Student Applicants 26
Refund/Charge of Fees for Dropped Courses 28
Refund/Charge of Fees for Withdrawal 28
Refunds 28
Registration Restrictions 16, 189
Reliability and Maintainability Engineering Minor 153
Religious Studies Courses 279
Religious Studies Major 114
Religious Studies Minor 114
Religious Studies, Department of 114
Repeating Courses 43
Reserve Officers Training Corps (ROTC) 179
Residency Classification 26
Restaurant and Foodservice Management Concentration (Hotel, Restaurant, and Tourism) 147
Restaurant and Foodservice Management Minor 147
Retail and Consumer Sciences Courses 280
Retail and Consumer Sciences Major 147
Retail and Consumer Sciences Minor 148
Retail, Hospitality, and Tourism Management, Department of 146
Retention Standards 44
Returned Check Service Fee 28
Rhetoric and Writing Concentration (English) 92
RN Track (Bachelor of Science in Nursing) 169
Rural Sociology Courses 281
Russian Courses 281
Russian Major 101
Russian Minor 102

-S-
Sacred Music Concentration – Organ, Piano, Voice Tracks (Music) 107
Safety Courses 281
Satisfactory/No Credit Grading System 43
Scholarship (African-American Achievers) 34
Scholarships (International) 31
Scholarships and Grants (Financial Aid) 29
Science Concentration (Food Science and Technology) 59
Science Education Courses 281
Science/Technology – Pre-Veterinary Medicine Concentration (Animal Science) 53
Science/Technology Concentration (Animal Science) 53
Sculpture Concentration (Studio Art – BFA) 82
Second Bachelor’s Degree 46
Second Majors and Minors 46
Secondary Education Minor 150
Security Information 25
Senior and Disabled Applicants 26
Senior General Education Test 40
Senior Major Field Assessment Test 40
Seniors Eligible for Graduate Credit 41
Social Science Education Courses 281
Social Security Number Use 39
Social Work Courses 281
Social Work Major 171
Social Work, College of 171
Sociology Courses 282
Sociology Major 115
Sociology Minor 115
Sociology, Department of 114
Soil Science Concentration (Environmental and Soil Sciences) 58
Spanish Courses 283
Spanish Major 101
Spanish Minor 102
Special Course Fee 28
Special Education Courses 285
Special Education Major 148
Speech Pathology Major 84
Sport Management Courses 285
Sport Management Major 144
Sport Studies Courses 286
Stafford Loan (Federal) 30
Statistics Courses 286
Statistics Major (Arts and Sciences) 115
Statistics Major 129
Statistics Minor 115
Statistics, Operations and Management Science, Department of 128
Strings Concentration (Music) 109
Student Affairs and Academic Services 30
Student Athletes, Special Requirements for 40
Student Employment 30
Student Financial Aid 29
Student Health Service 33
Student Judicial Affairs 33
Student Loans 29
Student Orientation and Leadership Development, Office of 33
Student Rights and Responsibilities 37
Student Success Center 34
Studio Art Major (Bachelor of Arts) 84
Studio Art Major (Bachelor of Fine Arts) 80
Studio Art Minor 84
Studio Music and Jazz Concentration (Music) 109
Supplemental Educational Opportunity Grant 29

-T-
Table of Contents 5
Teacher Education 138
Teacher Licensure 40
Technical Communications Concentration (English) 92
Technology Fee 27
Technology/Business Concentration (Food Science and Technology) 60
Tennessee Education Lottery Scholarship 29
Tennessee Student Assistance Award 29
Theatre Courses 287
Theatre Major 115
Theatre Minor 115
Theatre, Department of 115
Theory and Practice in Teacher Education Courses 287
Theory and Practice in Teacher Education, Department of 148
Theory/Composition Concentration (Music) 109
Therapeutic Recreation Concentration (Recreation and Leisure Studies) 143
Thorton Athletics Student Life Center 34
Tourism and Hospitality Management Minor 147
Transfer Admission 25
Transportation Fee 28
Turfgrass Science and Management Concentration (Plant Sciences) 66

-U-
Undergraduate Admission 25
Undergraduate Majors, Minors, Concentrations, Degrees (chart) 9
University Conference Center 187
University Fees 27
University General Education Requirement 17
University Honors Courses 288
University Libraries 175
University of Tennessee 23
University of Tennessee Student Loan 30
University Outreach and Continuing Education 187
University Program and Services Fee 27
University Students 42
University Studies 177
University Studies Courses 288

-V-
Veteran’s Education Benefits 34
Veterinary Medicine, College of 185
Visiting Student Applicants 26
Voice Concentration (Music) 110
VolCard 29
VOLXpress 27

-W-
Waiver of Fees 29
Watercolor Concentration (Studio Art – BFA) 82
Wildland Recreation Concentration (Forestry) 62
Wildlife and Fisheries Science Courses 289
Wildlife and Fisheries Science Major 62
Wildlife and Fisheries Science Management Concentration 62
Wildlife and Fisheries Science Minor 63
Wildlife Health Concentration 63
Withdrawal 44
Women’s Center 35
Women’s Studies Concentration (Interdisciplinary Programs) 97
Women’s Studies Courses 289
Women’s Studies Minor 97
Woodwind, Brass, and Percussion Instruments Concentration (Music) 110
Work-Study Program (Federal) 30
Writing Center 35
Writing Competence 42