Teacher education is historically a major function of The University of Tennessee. Beginning in 1903, when the first courses for teachers were offered, the University has increasingly fulfilled its responsibility to provide schools with competent teachers and service personnel and to improve the teaching profession by continually upgrading its membership. The College of Education was established in 1926, and all teacher preparation programs at The University of Tennessee are now coordinated within its seven departments and its School of Health, Physical Education, and Recreation.

The College of Education holds membership in the American Association of Colleges for Teacher Education. All certification and degree programs through the doctoral level are fully accredited by the National Council for Accreditation of Teacher Education, the Southern Association of Colleges and Schools, and the Tennessee State Department of Education.

The faculty of the College of Education is committed to performing three major functions: (1) to provide professional preparation for teachers, administrators, and school service personnel at undergraduate and graduate levels; (2) to collaborate with school personnel, educational agencies, professional groups, and others interested in the evaluation and improvement of educational opportunities programs, and services; and (3) to promote and conduct experimental and research studies in education.

The teacher preparation programs represent utilization of University-wide resources and cooperation of all appropriate units. Certain requirements are of basic importance: a broad cultural background in the arts and sciences (general education), mastery of professional knowledge and skills, and thorough preparation in specific teaching fields. Through a carefully planned program of combined academic and direct experiences, the prospective teacher acquires a depth and breadth of knowledge and understanding superior to that of the typical college graduate—superior in cultural and citizenship appreciation as well as in professional and scholarly accomplishment.

The Claxton Education Building contains many modern and functional facilities for the professional training of teachers. Classrooms, laboratories, seminar rooms, faculty and administrative offices, the instructional materials center, the Bureau of Educational Research and Service, the School Planning Laboratory, and facilities for special activities such as observation and experimentation are located in this air-conditioned building.

Special Services
Bureau of Educational Research and Service. Four major types of activities—research, development, educational services, and publications—are channeled through the Bureau of Educational Research and Service (BERS), located in Claxton Education Building. The research activities relate to the development of research proposals, conducting research, and assisting others in development of research proposals in the College of Education. Developmental activities relate to change efforts in curricular content and instructional methodology. Educational services include a wide list of activities such as inservice educational programs, consultant services, educational services and administrative training programs. Official publications of the College of Education are developed through the Bureau. A limited number of graduate student assistantships are available. The Educational Opportunities Planning Center, the Research Coordinating Unit, and the School Planning Laboratory are integral parts of the Bureau of Educational Research and Service.

EDUCATIONAL OPPORTUNITIES PLANNING CENTER
The Educational Opportunities Planning Center (EOPC) works with school districts in the Tennessee-Kentucky area to help meet their desegregation-related needs by assisting with needs assessment and by helping develop plans to meet the needs. A new component was added during the 1975-76 year to deal with sex discrimination in the school systems of Tennessee and Kentucky. Staff follow through with inservice training of local district personnel, with such training directed toward solutions of curricular, human relations, and other types of problems created or compounded by school desegregation and sex discrimination. On-site evaluation of locally installed practices and continuing cooperative evaluation of the progress of local programs are additional major efforts. This program is funded by the U.S. Office of Education.

RESEARCH COORDINATING UNIT
The Research Coordinating Unit (RCU), located on campus at Alumni Hall, is available for use by students, faculty, administrators, and all vocational educators in the state of Tennessee.

The primary objectives of the RCU are to collect and disseminate information, coordinate research, stimulate research, and conduct research in selected areas. The RCU has a library with the complete series of ERIC Documents stored on microfiche. Microfiche reader-printers are available in the library and portable readers may be checked out.
overnight. Computer searches of the ERIC files are also available for a nominal fee.

SCHOOL PLANNING LABORATORY
The School Planning Laboratory (SPL), located in Claxton Education Building, assists school systems and colleges in the state and in the southeastern region with problems arising from revalidation of existing facilities and planning of new facilities. Course work peculiar to the field of school planning is offered through the Department of Educational Administration and Supervision. Graduate student assistanships are available each year through the Laboratory.

The Reading Center. A commitment to the concept of teaching, research, and service as the role of the University involves the Reading Center in a variety of activities. An extensive program of diagnostic and remedial reading services to children is closely tied to graduate course work and practicums in reading methodology. Effective reading and study classes are offered for the benefit of the University student body. Service functions of the Center include extensive inservice and consultation services for public school reading program improvement. The Center also maintains a remedial reading materials center and assists in the coordination of an ERIC/CRIER Regional Information Center in reading. For further information write the Director, Reading Center, 1912 Terrace Avenue, Knoxville, Tennessee 37916.

Teacher Placement Service. The College of Education, cooperating with the University Placement Service, assists qualified students and alumni in securing positions. School and college administrators are cordially invited to make full use of these services in their efforts to employ competent personnel.

General Information
Admission to the College
For transfer into the College of Education after completion of the freshman year, a minimum grade average of 2.0 (C) is required.

Course Load—Permission for more than 20 hours in a quarter must be obtained from the Associate Dean for Undergraduate Programs. A normal course load in the College for students employed full-time in teaching or other positions may not enroll for more than six quarter hours credit per quarter. Approval for enrollment in excess of this amount must be secured from the Dean.

Admission to Teacher Education
All students who desire teacher certification, whether enrolled in the College of Education or other colleges, are required to apply for admission to the Teacher Education Program. Formal application for admission to the Teacher Education Program should be made during the second or third quarter of the sophomore year. Application forms may be obtained in the Office of the Associate Dean for Undergraduate Programs on the University campus. Special note: Students must be admitted to the Teacher Education Program at least one quarter before taking 3010, 3030 and certain other courses in the College.

Student procedures for applying for admission to the Teacher Education Program are: (1) Obtain an application form in the Dean’s office during registration time at the beginning of the quarter. Speech and hearing tests are usually administered on registration days. (2) Proceed to the Speech and Hearing Center (at the corner of Yale and Stadium Drive) on one of the test dates between the hours of 9 a.m. and 4 p.m. and complete the speech and hearing tests. Leave the application form (scan sheet) with the test administrator.

The College of Education will be informed of the speech and hearing test results. Those applicants having satisfactory speech and hearing test results, a grade point average of 2.20 or above at the termination of the previous quarter (if admitted to the University prior to Fall, 1966, a 2.00 GPA is sufficient), and their academic adviser's consent will be informed of their acceptance by a letter from the Associate Dean for Undergraduate Programs sometime during the quarter. Students not qualifying for acceptance will also be informed of their status by letter. The academic adviser’s consent and confirmation of the grade point average is obtained by the Dean's office and does not entail action by the student. If a student takes the speech and hearing test and does not have the required grade point average at the time, but subsequently meets the requirements, it will be necessary to return to the Associate Dean's office and reapply for admission to the Teacher Education Program. You will not be admitted automatically upon raising your grade point average to the required level.

The following criteria must be met by all students applying for admission to teacher education:
- **Scholastic Achievement**—a cumulative grade point average of 2.2 (a 2.0 GPA if admitted to the University prior to Fall Quarter, 1966).
- **Physical Fitness**—satisfactory ratings in general health, speech, hearing, and sight.
- **Personal-Social-Ethical Fitness**—Teaching—satisfactory ratings from faculty advisers.

Admission to Student Teaching
Application for student teaching must be filed no later than January 1 of the academic year preceding the actual experience. For example, if the student plans to student teach during the 1976-77 academic year he must make application by January 1, 1976. Application forms may be obtained in the Office of the Director of Student Teaching, 212 Claxton Education Building.

Students majoring in Special Education—Speech and Hearing and in Special Education—Hearing Impaired are required to make application for Clinical Practice or Student Teaching in the Department of Special Education and Rehabilitation and in the Office of the Director of Student Teaching.

Before admission to the student teaching quarter, the student must have fulfilled the following requirements:
1. Full admission to the Teacher Education Program no later than the quarter preceding student teaching (i.e., all conditions relative to admission satisfied).
2. Completion of the professional core courses (Education 3010, 3020, 3030 and Educational Psychology 2430 or 3810).
3. Completion of at least 90 percent of course work in the endorsement area(s).
4. Completion of the special methods courses at The University of Tennessee.
5. Completion of the Student Teaching Seminar and the September experience (non-credit).
6. Senior standing and a minimum grade point average of 2.0 on work completed at The University of Tennessee.

The fifteen-hour student teaching experience is evaluated on a pass/fail basis and the hours are included in the University policy requiring a 2.0 in the last 60 hours work. The most important criterion in placing student teachers in the public schools is the value of the experience for preparing for teaching. The University cannot guarantee the geographic locale desired by the student though effort will be made to follow the student's wishes. The University maintains student teaching centers in East Tennessee communities, some of which are considerable distance from Knoxville. Married students will be placed as near their homes as possible in order to preserve family life.

Substitutions
It is sometimes necessary and advisable for students to substitute other courses for those required in a particular curriculum. This is particularly true of students who are transferring to The University of Tennessee, College of Education from another college or university. The general test of whether a substitution would be appropriate is "does the course you wish to substitute meet the spirit of the course requirement?" That is, "is the content similar or perhaps more appropriate to your needs?"

To initiate a substitution request the student should visit with his adviser first. If they agree that the substitution meets the requirements of the course requirement (i.e., the substitution request form) should be forwarded to the Office of the Associate Dean for Undergraduate Programs, Claxton Education Building 212. Approved petitions are forwarded to the Dean of Admissions for further approval, and for filing with the Undergraduate Council.

Recommendation For Certification
The application for a professional teacher's certificate should be completed early in the final quarter before graduation. Application forms may be obtained in the Admissions Office, Administration Building, and 212 Claxton Education Building.

Tennessee State regulations stipulate that the applicant for a professional certificate must be recommended by the teacher-training institution. The Dean of the College of Education is the official designated to recommend University of Tennessee graduates for teacher certification. To receive this recommendation, the applicant must have fulfilled the following requirements:
1. A minimum cumulative grade point average of 2.0.
2. Satisfactory performance of the student teaching experience.
3. A minimum grade point average of 2.0 in his teaching field(s).
4. Completion of a methods course in each area of endorsement.
5. Fulfillment of all special recommendations of the Committee on Standards and Admissions.
Undergraduate Curricula

The College offers courses of study leading to the Bachelor of Science in Education and to eligibility for teacher certification in Tennessee and in those states which grant reciprocity privileges to graduates of institutions accredited by the National Council for Accreditation of Teacher Education (NCATE). A core of studies provides the foundation for specialization in all teacher education curricula. In addition, approved concentrations must be completed in subject fields specifically related to the public school curriculum. A choice is to be made among programs leading to recommendation for certification at one of three levels: elementary (kindergarten-9), secondary (grades 7-12), or special subjects in grades 1-12.

Courses in Library Science are available to students who are interested in beginning positions in any library or in preparation for further graduate study in professional librarianship. The minimum requirements for full-time librarianship in any size school in Tennessee can be met through completion of the basic library service courses (3510, 3520, 3530, 4140, 4150, 4270, 4330, 4750). Endorsement as a librarian requires 27 quarter hours in library science; or endorsement as a teacher-librarian requires 18 quarter hours in library science. At the undergraduate level, only a minor in library science is available. Students in the College will select an appropriate curriculum from those outlined under the undergraduate curriculum section. Students interested in this program should consult with a member of the faculty of the Graduate School of Library and Information Science.

Students should work closely with faculty advisers in planning programs of study. The chosen curriculum must be followed as outlined to assure graduation and certification, and any proposed substitution for a required course should be filed for approval before the end of the junior year. NOTE: Students are advised to consult the University's degree requirements as stated in the front section of this catalog as well as the requirements for the college or department.

I. Curriculum for Elementary Teachers (K-9)

Communications (12 hours)

English 1510-20 (4, 4); Speech 2011 (4) or 2511 (4) or any Speech elective

Health and Physical Education (18 hours)

P.E. 3450 (3), School Health 3610 (3), Psychology 2500 (4). P.E. and Health electives (8 hours) must include minimum of 3 hours in each area.

Humanities (12 hours)

Literature 8 hours; the remaining four hours must be chosen from foreign language (above introductory level), philosophy, religious studies, Art 1815 or 1825, or Music 1210 or 1220

Mathematics (8 hours)

Mathematics 2110, 2120, 2130

Natural Science (20 hours)

8 or 12 hours in Biological Science. Recommended series are Biology 1210, 1220 (1230), or Botany 1110, 1120. 8 or 12 hours in Physical Science. Recommended series are Physics 1410, 1420, (1430) or Geology 1510-20 or Astronomy 2110, 2120, (2130) or Chemistry 1110, 1120, 1130

Social Studies (18-20 hours)

History (4 hours) - it is recommended that the history course be taken at the sophomore level. Electives (14-16 hours) from anthropology, economics, geography, political science, and sociology. Minimum of 3 areas required.

CORE PROFESSIONAL COURSES ........ 9 hours

Educ. C & I 3101*, 3202, 3203

EDUCATION ELEMENTARY COURSES 36 hours

Educ. C & I (Methods): 3260*, 3270*, 3280*

3281*, 3350*, 3720*, (18 hours); Educ. C & I (Field Experience): 3511, 3512*, 3513*, (3 hours); Educ. C & I (Student Teaching): 4810*, 4820* (15 hours).

SPECIALIZED COURSES .............. 18 hours

Educational Psychology 2430 (3 hours); Art Education 2100, 2110 (6 hours); Music Education 2100, 3110 (6 hours); Educ. C & I 3510 (3 hours).

AREAS OF CONCENTRATION .......... 15-16 hours

One of more areas of specialization are to be chosen from the following:

Art Requirements plus 15-16 hours from Art:

RACID, Art Education

Black Studies Courses from at least 3 different fields must be included. See Black Studies in General Catalog for specific course possibilities.

Child Study Requirements plus 15-16 hours from Child Development, Psychology, Educational Psychology

Early Childhood Education Kindergarten-Grade 3. To include Educ. C & I 4450 and 4451; Educational Psychology 4760 or Child Development and Family Relationships 3210, Anthropology 2530 or upper division anthropology or sociology course above 2130; 3 hours elective from Anthropology, Child Development, Special Education 3520, or other courses dealing specifically with young children. All courses must be approved by the student teaching. Student teaching will be in Kindergarten and Grades 1-3.

Foreign Language 16 hours

Health and Physical Education Requirements plus 15-16 hours from Health Education, Physical Education, Emotional Health, Nutrition, Zoology

Humanities Requirements plus 16 hours

Language Arts Requirements plus 16 hours in English, Speech, Journalism

Library and Information Science Requirements plus 15-16 hours. If certification is desired in Library Service, the student must complete 24 hours in Library and Information Science 3520-30, 4140, 4150, 4270, 4330, 4750

Mathematics Requirements plus 15 hours

Middle Schools 15-16 hours, to include Educ. C & I 4400; Ed. Psychology 3810; Educ. C & I 3630 or 4280; Educ. C & I 3560 or 3635, or 3664 or 3967 or 3658 (a second methods course); Educ. C & I 4350 or 4351 or 4352; lab experience in middle school.

Music Requirements plus 16 hours

Science Requirements plus 16 hours

Social Science Requirements plus 15-16 hours

Special Education 15 hours (If certification is desired in Special Education areas of Cripping and Special Education and/or Partially Seeing additional hours are required, including one additional quarter of student teaching.)

a) Cripping and Special Health Conditions (18 hours) Special Education and Rehabilitation 4150, 3335, 4840, 4891; Child Development 4610 or Human Services 2690; 3 hours from Special Education 3520, 4130, 4160 or 4250.

b) Partially Seeing (21 hours) Special Education and Rehabilitation 4150, 4110, 3335, 4840, 4923; 3 hours from Special Education 3520, 4110, 4120, 4150, 4250, 4840; Office Administration 2110 (for those lacking high school credits in typewriting).

ELECTIVES ............ 21-25 hours

TOTAL MINIMUM REQUIRED ......... 191 hours

*Requires admission to Teacher Education Program

II. Curriculum for Secondary Education (7-12)

GENERAL EDUCATION ............ 69 hours

Communications (12 hours)

English 1510-20 and Speech 2311

Health and Physical Education (9 hours)

Including at least 3 hours of School Health or Public Health or Nutrition (P.E. must be represented)

Humanities (16 hours)

Any 4 hours from English 2510-20-30-40-60-70-80-90, plus 12 hours of electives from anthropology, art, English literature, Library and Information Science 3510-20-30, foreign language (beyond introductory level), history (upper-division), music, philosophy, or religious studies. (NOTE: At least three fields must be represented.)
Mathematics (4 hours)
Natural Science (12 hours)
A biological science, a physical science, or a combination of the two.
Psychology (4 hours)
Psychology 2550
Social Studies (12 hours)
Two fields should be represented from anthropology, economics, geography, history, human services, political science, and sociology.

CORE PROFESSIONAL EDUCATION .......... 9 hours
Educ. C & I 3301, 3302, 3303

SPECIALIZED PROFESSIONAL EDUCATION .................................................. 33 hours
Educational Psychology 3810; 6 hours of appropropriate methods courses; Educ. C & I 3521-22-23, 4710-20, and 6 hours of electives selected from the College of Education. NOTE: An appropriate special methods course must be taken in each subject and/or area in which endorsement is sought.

English
Educ. C & I 3357 and 3358

Foreign Language
Educ. C & I 3352 and 3353

Mathematics
Educ. C & I 3371 and 3372

Science
Educ. C & I 3364 and 4654

Social Studies* 
Educ. C & I 3365 and
additional methods course

TEACHING SUBJECT AREAS AND ELECTIVES .................................................. 72 hours
See outline of the programs below.

TOTAL MINIMUM REQUIRED .......... 183 hours

PROGRAMS AVAILABLE
Program majors leading to graduation and certification for high school teaching range from the breadth fields, comprehensive major to the subject major and minor combination programs.

*A requires admission to Teacher Education Program.
**Includes History, Economics, Geography, Sociology, Political Science, Psychology.

#Mathematics 202 recommended for students who will take only 4 hours.

#Requires admission to Teacher Education Program.

#At least one must be taken concurrently with a special methods course.

A. English Education
English with a Minor
a. 45 quarter hours in English, including three in English language (4410, 4420, 4430). Nine of the 45 hours may be in speech, provided the student is not minoring in speech.

b. 27 hours in some other subject which constitutes a minor. (If a student who elects to minor in a foreign language does not have two entrance credits in a foreign language from his high school, he must take 36 hours in a foreign language.)

c. Students enrolled in this program must take two English methods courses: Education 3657 and 3658.

B. Foreign Language Education
1. Foreign Language Area
a. 36 quarter hours in one language with no less than 18 quarter hours of upper division courses.

b. 27 quarter hours in another language with no less than 18 quarter hours of upper division courses.

c. 9 hours of general and applied linguistics.

d. Foreign Language Major and Minor
45 quarter hours (9 less quarter hours if 2 entrance credits from high school) and one language with no less than 27 quarter hours of upper division courses.

2. 27 quarter hours in another subject.

C. Mathematics Education
1. Area Majors in Mathematics
a. Mathematics and Physical Sciences (75 hours)

(1) Mathematics* (27 quarter hours) must include at least a one-year sequence in calculus or analytic geometry and calculus, and at least 12 quarter hours in courses numbered 3050 or above with at least one course selected from each of the following categories:

(a) Algebra: Mathematics 3090, 3120, 3720, 4150, 4180, 4170
(b) Analysis: Mathematics 3100, 3110, 4510, 4520, 4530
(c) Geometry: Mathematics 3130, 3230, 3240, 3310
(d) Probability: Mathematics 3050, 3060, 4650, 4660, 4670
(e) Physical Sciences — 12 quarter hours in each of the following: chemistry, geology, physics, etc.

(f) Electives — 12 additional quarter hours in physical sciences and/or mathematics.

2. A student may not receive credit for both Mathematics 1540 and Mathematics 1500.

A maximum of 12 quarter hours credit may be obtained in mathematics from courses numbered below 2000.

Endorsements: Mathematics

a. Mathematics and Physical Sciences, General Sciences
b. Mathematics and Related Sciences (72 hours)

(1) 1 Mathematics* (22 quarter hours) must include at least one year sequence in calculus or analytic geometry and calculus, and at least 12 quarter hours in courses numbered 3050 or above with at least one course selected from each of the following categories:

(a) Mathematics 3090, 3120, 3720, 4150, 4160, 4170
(b) Analysis: Mathematics 3100, 3110, 4510, 4520, 4530
(c) Geometry: Mathematics 3130, 3230, 3240, 3310
(d) Probability: Mathematics 3050, 3060, 4650, 4660, 4670

(2) Related Sciences — 12 quarter hours in physics* and at least 12 quarter hours in each of the following: subjects: astronomy, biology, botany, chemistry, geology, microbiology, zoology.

3. A student may not receive credit for both Mathematics 1540 and Mathematics 1500.

A maximum of 16 quarter hours credit may be obtained in mathematics from courses numbered below 2000.

Endorsements: Mathematics, General Sciences

a. Mathematics and Computer Sciences (72 hours)

(1) Mathematics* (36 quarter hours) must include at least one year sequence in calculus or analytic geometry and calculus, and at least 12 quarter hours in courses numbered 3050 or above with at least one course selected from each of the following categories:

(a) Algebra: Mathematics 3090, 3120, 3720, 4150, 4160, 4170
(b) Analysis: Mathematics 3100, 3110, 4510, 4520, 4530
(c) Geometry: Mathematics 3130, 3230, 3240, 3310
(d) Probability: Mathematics 3050, 3060, 4650, 4660, 4670

(2) Computer Science and Physics — 24 quarter hours in computer science including Computer Science 3150 or 3155 and 4410-4420 and 12 quarter hours in physics.*

Endorsement: Mathematics

2. Mathematics Major with a Minor (72 hours)

a. Mathematics* (45 quarter hours) must include at least one year sequence in calculus or analytic geometry and calculus, and at least 12 quarter hours in courses numbered 3050 or above with at least one course selected from each of the following categories:

(1) Algebra: Mathematics 3090, 3120, 3720, 4150, 4160, 4170
(2) Analysis: Mathematics 3100, 3110, 4510, 4520, 4530
(3) Geometry: Mathematics 3130, 3230, 3240, 3310

(b) Probability: Mathematics 3050, 3060, 4650, 4660, 4670

(2) 27 quarter hours in another subject used as a minor.

C. A student may not receive credit for both Mathematics 1540 and Mathematics 1500.

A maximum of 16 quarter hours credit may be obtained in mathematics from courses numbered below 2000.

Endorsements: Mathematics

*Excluding Math 2120, 2110, 2120, 2130.
**Excluding Physics 1410, 1420, 1430.
*Excluding Chemistry 1510, 1520, 1530.
*Plant and animal science courses required.

D. Psychology Education
1. A concentration and endorsement in Psychology shall require a minimum of 30 quarter hours — 12 hours upper division distributed as follows:

Core
Psychology 2110, 2130 ..................................................... 15 hours

Psychology 3120 .......................................................... 3 hours

Psychology 3130 .......................................................... 3 hours

Psychology 3150 .......................................................... 3 hours

Psychology 3160 .......................................................... 3 hours

Electives — 14 hours selected from:

Psychology 2120, 3120, 3220, 3319-29-39, 3410-20-30 or Botany 1100, 4510, 4520, 4650, 4690, 4900; Psychology or Ed. Psych. 4640; Ed. Psych. 4130, 4800, 4880, 4110.

2. Two minors (18-27 hours for a total of 45 quarter hours) each with a minimum of 6 hours upper division.

At least one of the two minor areas must meet Tennessee minimum endorsement requirements for the subject area.

E. Science Education
1. Area Majors in Science

a. Biological Science (72 hours minimum)

One year sequence in two of the following:

*Biology 1210-20-30 or Botany 1110-20-40

Biology 2110-20-30

Microbiology 2010

Biological Science Electives — Approved electives must be selected from one or more of the following: botany, zoology, microbiology, or biochemistry.

Minimum requirement in Biological Sciences consists of 60 hours (12 hours in Chemistry required).

Endorsements: Biology and General Science+ (Life or biological science)

b. Earth and Environmental Sciences (72 hours minimum)

Includes 12 hrs Biological Science required, and 12 hrs Science Electives selected from Astronomy, Chemistry (excluding 1410 series), Geological Sciences, and Physics.

Geology — 18 hours

Astronomy — 8 hours

Geology — 8 hours

Astronomy (excluding 1410 series) — 8 hours

Geography (in area of physical geography) — 4 hours

Courts in meteorology or climatology — 4 hours

Courses in cartography, conservation of natural resources, oceanography, or soil science — 6 hours

Endorsements: General Science+ (Biological, earth, or physical science)

A student with a minor minimum

Basic requirement of 12 hours in each of four of the following subjects:

*Botany 1110-20-40

Biology 2110-20-30

Chemistry series (excluding 1510 series)

Physics (excluding 1410 series)

Mathematics (excluding 1020, 2012, 2020, and 2110-20-30)

Approved Science Electives — 24 hours of minimum, including a total of six quarter hours of coursework work in one subject area, other than Math.

Endorsements: General Science+ (Biological or Physical Science)

+Plant and animal science courses required.

*Only one freshman level biological science series permitted.
College of Education

2. Subject Majors in Science
The only single subject majors in science leading to teacher certification are: chemistry, physics. Majors - 45 quarter hours; Minors - 27 quarter hours.** Endorsements: Major Subject

**27 quarter hours minimum required for certification in any single area.

F. Social Studies Education
Program I
Broad fields Social Science (Major 72 hours)
Certification includes Economics, Geografía, History, Political Science and Sociology.
- a. 28 quarter hours in history, including 1510-20 and 2510-20, and 12 hours in world and/or American history.
- b. 8 quarter hours in each of the following: geography, political science, and sociology.
- c. 4 quarter hours in anthropology.
- d. 9 quarter hours in economics, including 1710-20 and 4201.
- e. 7-8 additional quarter hours in the above-listed or related fields.
Program II
Specific subject major (45 hours plus 27 hours for a minor.)

Minors: A minor is defined as 27 quarter hours in a single subject area, i.e., biology, history, French, psychology, speech, etc. A minor does not meet certification requirements in all cases.

III. Art and Music Education
A. Art Education
GENERAL EDUCATION 67-69 hours
Communications (11-12 hours)
- English 1510-20 (4, 4) and 3-4 hours in Speech
Health and Physical Education (9 hours)
- Activities courses in physical education plus School Health 3510
Humanities (15-16 hours)
- Algebra 1125, 1215 and 1825, one literature course, and one elective from anthropology, philosophy, foreign language above freshman level, recreation, religion, history, library service, religion, or music.
Mathematics (4 hours)
Natural Sciences (51-52 hours)
Any twelve hours from the biological and/or physical sciences.
Psychology (4 hours)
Psychology 2500 (4)
Social Studies (12 hours)
Any twelve hours from at least two areas.

CORE PROFESSIONAL EDUCATION 9 hours
Ed. C & I 3010, 3020, 3030

SPECIALIZED PROFESSIONAL EDUCATION
- English 1410, 1420, 1430, 1440, 1450, 1460.

Music Education
- 3801-20, 3810.

TOTAL MINIMUM REQUIRED 187 hours

B. Musical Education
GENERAL EDUCATION 65-67 hours
Communications (11-12 hours)
- English 1510-20 (4) and 3-4 hours in Speech
Health and Physical Education (9 hours)
- Activities courses in physical education plus School Health 3510
Humanities (14 hours)
- Music 2230-30, literature course, and one elective from art, anthropology, literature, foreign language beyond introductory level, upper division history, philosophy, or religious studies.

Mathematics (4 hours)
Natural Science (11-12 hours)
- Three courses from the Biological and/or Physical Sciences, to include Physics 1810
Psychology (4 hours)
Psychology 2500 (4)
Social Studies (12 hours)
- Any 12 hours, to include at least two areas.

CORE PROFESSIONAL EDUCATION 9 hours
Ed. C & I 3010, 2020, 3030

SPECIALIZED PROFESSIONAL EDUCATION 21 hours
- English 1410, 1420, 1430, 1440, 1450.

Concentration in Vocal Music (Music/ Vocal)
- a. 25 quarter hours in Music Education. 1010-20, 2110, 2411, 2421, 2431, 2433, 3130, 4250, 4450, 4610.
- b. 55 quarter hours in Music. 1111-21-31, 1113-23-33, 2111-21-31, 2113-23-33; 2340; piano or organ 22 hours; voice 6 hours; plus required ensemble participation.

Concentration in Elementary Music Education (Music/ Vocal Principal)
- a. 31 quarter hours in Music Education. 1010-20, 2110, 2411, 2421, 2431, 3141-2, 3150, 4250, 4420-42-43, 4450.
- b. 55 quarter hours in Music. 1111-21-31, 1113-23-33, 2111-21-31, 2113-23-33; 2340; piano or organ 22 hours; voice 6 hours; required ensemble participation.

Concentration in Elementary Music Education (Music/ Organ Principal)
- a. 31 quarter hours in Music Education. 1010-20, 2110, 2411, 2421, 2431, 3141-2, 3150, 4250, 4420-42-43, 4450.
- b. 61 quarter hours in Music. 1111-21-31, 1113-23-33, 2111-21-31, 2113-23-33; 2340; 3112; 3122 or 4124; principal instrument 22 hours; secondary instrument 6 quarter hours; piano proficiency; participation in required ensemble.

Concentration in Instrumental Music
- a. 35 quarter hours in Music Education. 1010-20, 2411-12-13, 2421-22-23, 2431-32-33, 3130, 3150, 4240, 4240, 4450.
- b. 61 quarter hours in Music. 1111-21-31, 1113-23-33, 2111-21-31, 2113-23-33; 2340, 3112; 3122 or 4124; principal instrument 22 quarter hours; secondary instrument 6 quarter hours; piano proficiency; participation in required ensemble.

C. Music Education 4460 is required for all students whose principal instrument is wind or percussion.

TOTAL MINIMUM REQUIRED 181-208 hours

GENERAL REGULATIONS FOR ALL MUSIC EDUCATION STUDENTS
- A. Required participation, with credit or as a registered auditor, in a major instrumental or vocal organization each quarter in residence (on-campus) as a music education major, as approved by the student's advisor and the directors of the organizations concerned. Students preparing to be band directors are expected to enroll in Marching Band unless officially excused.
- Instrumental Music Majors: Concert Band: University Marching Band; or University Orchestra.
- Vocal Major: VOI Chorus; UT Singers; University Glee Clubs; Madrigal Singers.

Elementary Music Education Major: Same as Vocal Major.

*B. Transfer students must take proficiency examinations in applied music, music theory, sight singing and dictation prior to registration in Music Education curricula.

IV. Health, Physical Education, Recreation, and Safety
A. Concentration in Elementary Physical Education (1-9)
GENERAL EDUCATION 86 hours
Communications (12 hours)
- English 1510-20 (4) and Speech 2021 or 2311 (4)
Humanities (15 hours)
- English 2510 or 2520 (4); plus 11 hours of electives
Social Studies (15 hours)
- Sociology 1510 (4) plus 11 hours of electives
Natural Science (24 hours)
- Chemistry 1510-20, Physics 1410, and Zoology 2920-30 and 4940
Mathematics (4 hours)
Psychology (4 hours)
Psychology 2500 (4)
Health and Physical Education (12 hours)
- School Health 3010 and 3420; Physical Education Activities (6 hours): including P.E. 2012, 2020, 2022, 3180

COE PROFESSIONAL EDUCATION 9 hours
Ed. C & I 3101, 3020, 3030

SPECIALIZED PROFESSIONAL EDUCATION 27 hours

TEACHING AREAS AND ELECTIVES 72 hours
Elementary Physical Education (48 hours)
- P.E. 1000; 3510, 3540; 3550, 3560; 3570, 3660; 3670; 3680, 3320, 4110; 4150, 3350, 4440; 3260 and 3660; and 6 hours of P.E. activity electives.

Cognitive Courses (Electives) (24 hours)
CFS 3210 and 21 hours to be used for endorsement, minor, or free electives. (None of the 21 hours must be taken in lower division physical education).

TOTAL MINIMUM REQUIRED 196 hours

MINOR IN ELEMENTARY PHYSICAL EDUCATION OPEN ONLY TO STUDENTS WITH A CONCENTRATION IN SECONDARY PHYSICAL EDUCATION:
- P.E. 3540; 3550; 3560; 3570; 3660; 3670; 3680, 4150, 3360.

*Requires admission to Teacher Education Program.

B. Concentration in Secondary Physical Education (7-12)
GENERAL EDUCATION 89 hours
- English 1510-20; Speech elective; Chemistry (1510-20 suggested); Physics 1410, Zoology 2920-30 and 4940; Mathematics elective; School Health 3210; Humanities electives (15 hours) selected from: English literature, anthropology; art; foreign language; music; philosophy; religion; dance appreciation; related arts and crafts; Social Studies elective (21 hours) selected from: History; anthropology; economics; geography; political science; sociology; psychology; political science.

Physical Education 2500; Physical Education Activities (6 hours): P.E. 1020, 1022 or 1022, 1032, 2012, 2022, 2032.

PROFESSIONAL EDUCATION 32 hours
Education C & I 3101-20-30, Educ. Psych. 3810; Educ. C & I 4125; Educ. elective (3 hours); Physical Education 3260 (Practicum, field experience - 2 hours).

SPECIALIZED PROFESSIONAL EDUCATION 48 hours
- English 1000; 3100, 3110, 4120; 3220 or 3170, 4310, 4440 or 4450; 3350, 4310 or 3010, 3180, 3240, and 13 hours electives from any upper division P.E. course.
Electives .......................... 27 hours (To be used for minor, endorsement, or interest) Note: Not more than 27 hours may be taken in lower division physical education)

Total minimum required ........ 196-197 hours

*Requires admission to Teacher Education Program

C. Minor in Dance (27 hours).

P.E. 2040-50-60; 3010; 3020 or 3030; 3050; 3060; 3070; 3090; 3151; 4010; 4060; 4330 or 4340-50; 4550.

Total minimum required ........ 196 hours

D. Concentration in Recreation

General Education .................. 97 hours

Natural Sciences (16 hours minimum)

4 hours selected from: Chemistry, Physics, Geology, Astroonomy, or Geography 3350.
4 hours selected from: Biology or Botany, Zoology, the areas of Anatomy or Physiology.

Social Science (16 hours minimum)

Sociology 1510 and 4530.

At least 9 additional hours selected from Sociology 1520, 3130, 4510, 4330, 4830, or Rural Sociology 3420 or Human Services 2650. 4900, 3300 or Political Science 2530, 2020, 2510-20, 3588-63-86.

Behavioral Sciences (16 hours minimum)

Psychology 2500.

At least 12 additional hours selected from: Psychology 2520, 3120, 3550, 3650, 4550, 4610 or Educational Psychology and Guidance 2430, 2510, 2520, 4130, 4600, or Child and Family Studies 2110, 3210, 3220, 4260, 4610, 4810.

Communications (15 hours minimum)

English 1510-20, Speech 2311.

At least 3 additional hours selected from Speech 2351, 3021, Communications 1110, Journalism 2210, 3710; Educ. C & 14700.

Health and Safety (3 hours minimum)

School Health 3310 or Safety 3520.

Humanities (16 hours minimum)

At least 4 hours selected from: English 2000-level.

At least 3 hours selected from History 1510-20.

At least 9 additional hours selected from English 2000-level and above, History 2510-20, 2350, 2390, Anthropology 2530, Geography 3660, Classics 2810, 2820, 2910-20, 3210-20, 3510-20, 3710-20, 3810-20, 3910-20, 4330, 4350, 4510, 4600, or Philosophy 2350, 3315, 3630, 3910, 2550, Religious Studies 2510, 2610.

Cultural Arts (12 hours minimum)

4 courses from at least 2 of the following arts:
Music: 1210-20, 4241-51, 4820, 4270.
Theatre 1510, 2352-53-54, 2362-63.
Art 2715, 1815-25.
P.E. 3090, 2070 (Dance).

Professional Recreation Education .................. 22-30 hours

Recruitment 1100, 3140, 3140, 3200, 4130, 4200, 3860, 4500.

Field Study .................. 18-33 hours

Recruitment 3000, 2000, 3000, 4000.

Skills Areas .......................... 18-24 hours

Student selects two of the following skill areas and completes at least 3 courses (9-12 hours) in each:
Art: Art 1115-25-35, 2115, 2215, 2315, 2515, Art Education 2100, 2110, 2120.
Dance: Physical Education 4310, 3010-20-30, 3040, 3100, 4320.

Dramatics: Theatre 1510, 1520-30, 2111, 2211-2727-25-35.

Music: Music Education 4410, 2100, 1010-20-30, Music 1500 through 1598 series, membership in choral or instrumental group.

Sports: Physical Education 2100 (2 team sports, 2 individual sports, 3 individual sports.
Free Electives (to be added to above requirements to total minimum of 190 hours for the degree).

Total minimum required ........ 192 hours

E. Concentration in Public Health

General Education .................. 85 hours

Communications (12 hours)

English 1510-20 (4, 4) and Speech 2311 (4)

Health and Physical Education (11 hours)

Public Health 3030 (4)
Public Health 3210 (4)
Physical Education Electives (4)

Humanities (16 hours)

English - any 4 hours from literature
Anthropology 2530 (4)
Philosophy or Religious Studies Elective (4)
Art or Music Elective (4)

Mathematics (4 hours)

Natural Science (20 hours)
Chemistry or Physics Sequence (4, 4, 4)

Biology 1210-20 (4, 4) or Zoology 2920-30 (4)

Psychology (4 hours)

Psychology 2500 (4)

Social Studies (19 hours)
Economics 2110 (3)

Psychology 2500 (4)

School Health 3650 (3)

Total minimum required ........ 190 hours

*Requires admission to Teacher Education Program.

V. Special Education*

General Education .................. 82-85 hours

Communications (11-12 hours)

English 1510-20 (4, 4) and 3-4 hours in Speech.

Health and Physical Education (9 hours)

Activities courses in physical education plus School Health 3510.

Humanities (15-16 hours)

Any four hours from literature, plus 11-12 hours of electives from anthropology, art, literature, Library and Information Science 3510-20-30, foreign language beyond introductory level, upper division history, music, philosophy or religious studies. (NOTE: at least three fields must be represented.)

Mathematics (4 hours)

Natural Science (20 hours)

Any combination from the biological and physical sciences and two hours from one (biological or physical) and 8 hours from the other.

Psychology (4 hours)

Psychology 2500 (4 hours)

Social Studies (19-20 hours)

History 1510-20 (4, 4) or 2510-20 (4, 4) plus a minimum of 11-12 hours from three of the following: Anthropology, Economics, geography, political science, sociology.

Core Professional Education .................. 9 hours

ed. C & 1301*, 3020, 3300.

Specialized Professional Education .................. 24 hours

Ed. C & 14710 (4), 14720* (Ed. Psych 2430 or 3810), and a senior elective in the College of Education.

Teaching Areas and Electives .......................... ( Hours will vary according to program and endorsements.

*Requires admission to Teacher Education Program.

A. Concentration in Edcucable Mentally Retarded (Elementary)

Special Education and Rehabilitation 3333, 3520, 4110-20-30, 4350, 4810, 4811, 4922, and 9 quarter hours Special Education and Rehabilitation 3910-20-30.

b. Education 3260, 3280, Education.
Reading elective, Education Arithmetic elective, Education elective; c. Music, Education, Art Education elective, Physical Education or Health elective; d. Educational Psychology 2430 or Psychology 3550, Educational Psychology Diagnostic Measurement elective; e. 12 quarter hours from the following: Psychology 2530, 3210, 3220, 4230, 4250, or Educational Psychology 2430, or Psychology 3650, or Educational Psychology 4790, 4800, 3730, d. Requirements for a minor in a subject area must be met (minimum of 24 hours). e. Education (C & I) 4720** and Special Education Elective 4924, and one methods course in minor field.

TOTAL MINIMUM REQUIRED: Total hours required for endorsement in the various special education programs appear on curriculum sheets available from the faculty advisor.

**Recommended electives:

E. Concentration in Emotionally Disturbed (Elementary)

GENERAL EDUCATION .......................... 91 hours

Communications (12 hours)
English 1510 and 1520; Speech 1211 or 2111

Health and Physical Education (14 hours)
School Health 3610; Physical Ed. 3450; P.E. and Health electives (must include a minimum of 3 hours in each area)

Humanities (12 hours)
Literature (6 hours); Elective chosen from Philosophy, Religious Studies, foreign language above freshman level, or course from Art 1815 series, or from Music 1210 series

Mathematics (9 hours)
Mathematics 2110-20-30

Natural Science (20 hours)
Schools 1020-20-30; Biology 1210-20; 30

Social Sciences (20 hours)
History 2100-20-20; Psychological Science 4500; Sociology 4510; Social Sciences electives

Total Minimum Required .......................... 185 hours

b. Specialization in Elementary Education

General Education .................................. 84 hours

Communications (12 hours)
English 1510, 1520, Speech 1211

Health and Physical Education (15 hours)
Physical Education 3450; School Health 4510; Physical Education electives

Psychology 2500 (4 hours)

Humanities (12 hours)
Literature, elective from Philosophy, Art, Religious Studies, or Music

Mathematics 2110 (3 hours)

Natural Sciences (20 hours)
Schools 1020-20; Biology 1210-20-30; Chemistry 1110-20-30

Total Minimum Required .......................... 185 hours

SPECIALIZED PROFESSIONAL EDUCATION .................. 12 hours

a. Ed. Psy. 2430 and 4640 (6 hrs.)

b. Art Ed. 2100, Music Ed. 2110-3110, Educ. C & I 1350** (15 hrs.)


d. Special Ed. and Rehab. 3330, 4610, 4620, 4630, 4640 (18 hrs.)

e. Related Electives (18 hrs.) A minimum of 3 areas must be represented; Spec. Ed. 4110, 4110*, 4130*, 4140*, 4150*, 4160*; 4230, 4250, 4250*, 4120; Psych 3120, 3210, 3220, 3550, 3650, 4520; Educ. C & I 4830, 4302; Ed. Psy. 3110, 4130, 4760, 4800 (or appropriate alternatives).

f. Student Teaching (30 hours)

Edu. C & I 4810*–20*; Spec. Ed. 4924

TOTAL HOURS FOR GRADUATION .................. 205 hours

*Requires admission to Teacher Education Program

**Recommended electives:

F. Concentration in the Hearing Impaired

a. Specialization in Early Childhood Development

General Education .......................... 81-85 hours

Communications (12 hours)
English 1510, 1520, Speech 1211 or 2311

Health and Physical Education (10 hours)
School Health, Physical Education Elective 3450, Physical Education Electives

Psychology 2500 (4 hours)

Humanities (12 hours)
English Literature

11-12 hours electives (choose 2 areas); An-
Health and Physical Education (9 hours)  Activities courses recommended plus Health and Physical Education electives (both areas must be represented)  

Humanities (15-16 hours)  English (4 hours from 2000-level literature)  Electives representing two areas from the following: Anthropology, Art, English (literature), foreign language (above introductory level), History (upper division), Library and Information Science 3510-20, Music, Philosophy, and Religious Studies  

Mathematics elective (4 hours)  

Natural Science (20 hours)  12 hours from one sequence and 8 hours from the other biological and physical science  

Psychology 2500 (4 hours) Social Studies (18 hours)  History 1510-20 or 2510-20  

Core Professional Courses 9 hours  Edu. C & I 3101*, 3020, 3030*  

Specialized Professional Education 6 hours Educational Psychology 3810 and appropriate methods course for major area  

Deaf Education Courses 65 hours Audiology and Speech Pathology elective (3050 recommended); 3310, 4710 (or Special Education 4240), 4719, 4930 (or 5950); Special Education 3333, 4190, 4200, 4210, 4220, 4230, 4250, 4290, 4360, 4380, 4585 (or Edu. C & I 3521-22-23), 4870, 4871; Special Education elective, and Pre-Student Teaching Seminar.  

Major areas 20-30 hours  

NOTE: 30 quarter hours are required for graduation in the biological sciences of the Deaf Certification. For Tennessee State Certification for Teachers of Deaf-Handicapped Students, additional credit hours are required.  

Total Minimum Required for Graduation and Deaf Education Certification 192 hours  

d. Specialization in Multiply Handicapped General Education 82-83 hours  Communications (12 hours)  English 1510, 1520; Speech 1211 or 2311  

Health and Physical Education (10 hours)  School Health 3510; Physical Education 3450 and Physical Education electives  

Psychology 2500 (4 hours)  

Humanities (15-16 hours)  English Language  

12 electives - choose 2 areas: Anthropology, Art, Philosophy, foreign language (above introductory level), Religious Studies, Music, Library and Information Science  

Mathematics 2110 (3 hours)  

Natural Sciences (20 hours)  8-12 hours in Biological Science, Biology 1210-20-30, Botany 1110-20-20; Physics 1410-20-30; Geology 1510-20; Astronomy 2110-20-30, Chemistry 1110-20-30  

Social Studies (18-20 hours)  History 1510-20 or 2510-20  

Choose 2 areas: Anthropology, Economics, Geography, Political Science, Sociology  

Core Professional Courses 9 hours  Edu. C & I 3101*, 3020, 3030*  

Specialized Professional Education and Major 65 hours  Audiology & Speech Pathology elective (3050 recommended); 3310, 4710 (or Special Ed. 4240), 4719, 4930 (or 5950); Special Education 3333, 3334, 4190, 4200, 4210, 4220, 4230, 4250, 4290, 4360, 4370, 4870, 4871, Special Education elective, and Pre-Student Teaching Seminar.  

Area of Specialization 30 hours  Selected from the following courses: Special Education 3333, 3334, 3335, 3336, 3337, 3338, 3339, 4190, 4210, 4220, 4230, 4250, 4290, 4360, 4370, 4380, 4540, 4585, 5401, 5620, and Special Education electives.  

Total Minimum Required 186 hours  

G. Concentration in Speech and Hearing GENERAL EDUCATION 84 hours  Communications (12 hours)  English 1510-20, Speech 2311  

VI. Vocational-Technical Education  

A. Business Education  See curricula for Secondary Education (7-12) p. 88 for General Education and Professional Education requirements.  

63 quarter hours in business and economics to meet five business endorsement areas approved by the department advisor. A statement of requirements and alternative programs may be obtained from the chairman of Business Education.  

B. Distributive Education  GENERAL EDUCATION 85 hours  Communications (12 hours)  English 1510-20 and speech elective  

Health and Physical Education (9 hours) School Health 3510 and Health and P.E. electives  

Mathematics (8 hours)  Mathematics 1540 and 1550  

Humanities (16 hours)  

Literate Elective (4 plus 12 hours humanities elective)  

Natural Science (12 hours)  Biological or Physical Science sequence.  

Psychology (7-8 hours)  Psychology 2500; Psychology 2520 or E. Pey. 3110.  

Social Studies (20 hours)  History 1510-20 or 2510-20; Economics 2110-20-30; plus elective.  

PROFESSIONAL EDUCATION 42 hours  Ed. C & I 3101*-20; Ed. C & I 3303* or Bus. Ed. 4010; Ed. 3810; Dist. Ed. 4310-20-30, 4130, 4110-20; Ed. C & I 4750.  

SPECIALIZED COURSES 45 hours  Business Administration 7210, Office Administration 4310 or 4320; Accounting 7210, Marketing 3110-20, 4140, 4105; 4150; 4210; Finance 3120; Industrial Management 3010; Textile elective; Business Law 4110; Distributive Educ. 4140; Advertising 3000.  

ELECTIVES 183 hours  TOTAL ELECTIVES 183 hours  

*Requires admission to Teacher Education Program  

C. Industrial Education  GENERAL EDUCATION 82-85 hours  Communications (11-12 hours)  English 1510-20 (3) and 3-4 hours in Speech Health and Physical Education (9 hours)  Activities courses in physical education plus Social Studies  

Humanities (15-16 hours)  Any 4 hours from literature; plus 11-12 hours of electives from anthropology, art, literature, Library and Information Science 3510-20-30, foreign language beyond introductory level, upper division history, music, philosophy, or religious studies; (NOTE: at least three fields must be represented)  

Mathematics (4 hours)  Any combination from the biological and physical sciences with 12 hours from one area (biological or physical) and 8 hours from the other  

Psychology (4 hours)  Psychology 2500 (4)  

Social Studies (19-20 hours)  History 1510-20 (4, 4) or 2510-20 (4, 4) plus a minimum of 11-12 hours from three of the following: anthropology, economics, geography, political science, and sociology  

CORE PROFESSIONAL EDUCATION 9 hours  Edu. C & I 3101*, 3303, 3306*  

SPECIALIZED PROFESSIONAL EDUCATION 27 hours  Ed. Psych. 3810; and a senior elective in the College of Education.  

NOTE: An appropriate special methods
course must be taken in each subject area and/or area in which endorsement for teaching is sought.

TEACHING AREAS AND ELECTIVES

<table>
<thead>
<tr>
<th>Hours</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>72</td>
<td>45 quarter hours in Industrial Education</td>
</tr>
<tr>
<td>27</td>
<td>27 quarter hours in related fields for Industrial Arts endorsement</td>
</tr>
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</table>

For Industrial Arts endorsement, the requirements are as follows:

<table>
<thead>
<tr>
<th>Hours</th>
<th>Description</th>
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<tbody>
<tr>
<td>66</td>
<td>General Education</td>
</tr>
<tr>
<td>11</td>
<td>Communications (11 hours) English (6 hrs.), Speech (3 hrs.)</td>
</tr>
</tbody>
</table>

Health and Physical Education (9 hours)

Health and P.E. Electives (Both areas must be represented)

Humanities (15 hours)

Literature Elective (4 hrs.), Art or Art Ed. (6 hrs.) Additional hours taken from the following: History (upper division), philosophy, anthropology, foreign language (beyond introductory level), music or religious studies.

Mathematics (3 hours)

Natural Science (12 hours)

Psychology (4 hours)

Psychology 2500

Social Studies (12 hours)

Two areas from the following must be represented: history, anthropology, economics, geography, political science, sociology.

PROFESSIONAL EDUCATION (36 hours)


TEACHING AREAS

<table>
<thead>
<tr>
<th>Hours</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>39</td>
<td>Ind. Educ. 1620, 1642, 1661, 2621, 2641, 2652, 2654, 2660, 3640, 3651, 3652, 4652, 4670, 4671.</td>
</tr>
</tbody>
</table>

ELECTIVES

<table>
<thead>
<tr>
<th>Hours</th>
<th>Description</th>
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<tbody>
<tr>
<td>21</td>
<td>Option I - Outside Minor (21 hours)</td>
</tr>
<tr>
<td></td>
<td>Option II - Industrial Arts Sequence (21 hours)</td>
</tr>
<tr>
<td></td>
<td>1. Power and Energy Sequence</td>
</tr>
<tr>
<td></td>
<td>Ind. Educ. 1610, 1630, 2601, 2631, 3612, 3632, 4682.</td>
</tr>
<tr>
<td></td>
<td>2. Visual Communications Sequence</td>
</tr>
<tr>
<td></td>
<td>Ind. Educ. 3621, 4621, 4690, Journalism 3310, 3910, Broadcasting 4030, three hours visual communications electives.</td>
</tr>
</tbody>
</table>

D. Agricultural Education

See page 47 for this program.

E. Home Economics Education

See page 144 for this program.

Departments of Instruction

Numbers in parentheses following the course titles indicate quarter hours.

Art and Music Education

Professors:


Associate Professors:


Assistant Professors:


Music Education (707)

UNDERGRADUATE

The curricula in music education provide for five areas of concentrations: vocal music (voice principal), vocal music (piano or organ principal), elementary music education (voice principal), elementary music education (piano or organ principal), and instrumental music.

1010-20 Choral Laboratory (1, 1) Choral conducting: methods and materials, required of all Music Education majors. Prereq: approval of instructor.

1511 Field Experience in Teaching Music (1) Field experiences in which students perform tasks related to teaching and to teacher roles. Satisfactory-No Credit. May be repeated for credit.

2100 Introduction to Art Education in the Schools (3) Art grades 1 through 12; growth and development, objectives, motivation, evaluation. Experiences with school media. 1 hr. and 2 labs.

2110 Drawing, Painting, and Design Activities in Elementary School (3) Prereq: 2100, 1 hr. and 2 labs.

2120 Drawing, Painting, and Design Activities in Junior and Senior High School (3) Prereq: 2100 1 hr. and 2 labs.

3110 Crafts in the Elementary School (3) Prereq: 2100, 1 hr. and 2 labs.

3210 Art in Secondary School Program (3) Program planning, materials and equipment; relation to other school experiences. Classroom observation. Prereq: nine quarter hours in art education. 1 hr. and 2 labs.

3511 Field Experiences in Teaching Art (1) Field experiences in which students perform tasks related to teaching and to teacher roles. Satisfactory-No Credit. May be repeated for credit.

3920 Clay in School Program (3) Exploring methods of hand-built forms, glazing and firing procedures. Prereq: 2100. 1 hr. and 2 labs.

3930 Textiles in School Program (3) Exploration of processes of weaving, stitching, batik, and silk screen. Prereq: 2100. 1 hr. and 2 labs.

4120 Designing of Teaching Aids for Art in School Program (3) Design and preparation of charts, exhibits, slides, films, and other teaching aids for art grades one through twelve. Prereq: 2100. 1 hr. and 2 labs.

4130 Three-Dimensional Design in School Program (3) Exploration of wood, wire, metal, plastics, and other sculptural materials. Prereq: 2100 or consent of instructor. 1 hr. and 2 labs.

4150 Lettering, Posters, and Displays in the School Program (3) Design and layout; techniques and procedures. Prereq: 2100 or consent of instructor. 1 hr. and 2 labs.

4160 Appreciation of the Arts in School Program (3) Prereq: 2100 or consent of instructor. 1 hr. and 2 labs.

4210 Art in Special Education (3) Techniques and materials for exceptional children. 1 hr. and 2 labs.

4350-60-70 Problems in Art Teaching (3, 3, 3) Prereq: Consent of instructor.

4410 The Administration and Organization of Recreational Arts and Crafts Programs (3) Purpose of art activity in recreation; scope of activities, organizational procedures, resources, and co-ordination required in community arts and crafts programs. GRADUATE

5000 Thesis

5210 Organization, Administration, and Supervision of Art in the School Program (3)

5310 Art of Education (3)

5320 Program Development in Art Education (3)

5850-60-70 Problems in Art Education (3, 3, 3)
Continuing and Higher Education (261)

Professors: W.H. Coffield (Head), Ph.D. Iowa; J.P. Goard, Ph.D. Tennessee; E.D. Tenpier, Ph.D. Ohio State; E.M. Ramer, Ed.D. Columbia.


GRADUATE

5000 Thesis
5060 Adult Education: A General Survey (3)
5110 Seminar in College Teaching (3)
5530 Theory and Research in Human Learning (3)
5360-70 Problems in Continuing and Higher Education (3, 3)
5440 American Higher Education (3)
5450 Instruction in Higher Education (3)
5460 Adult Development (3)
5510 Governance of Colleges and Universities (3)
5550 Fiscal Problems in Higher Education (3)
5680 Program Planning in Continuing and Higher Education (3)
5860 The Community-Junior College (3)
5955-65-75 Practicum in Continuing Education (Higher Education, 3, 3)
5960-70 Seminar in Continuing and Higher Education (3, 3)
6450 Community Education for Adults (3)

(See also course listings under the Departments of Curriculum and Instruction, Educational Administration and Supervision, and Educational Psychology and Guidance.)

Curriculum and Instruction (301)


UNDERGRADUATE

Undergraduate programs in the Department of Curriculum and Instruction provide the general professional courses for the preparation of education of teachers in elementary and secondary schools.

1410 Efficient Reading and Study Skills (1) Improvement of reading and study skills. Satisfactory-No credit.

2010-20-30 Field Study in Education (3, 3, 3) Problems of teachers in active service in the fields of methods of teaching, curriculum materials, school-community relationships, and school organizations.

3010 History and Philosophy of Education (3) Role of philosophy in education; realism, Neo-Thomism, pragmatism, and other contemporary movements; major philosophers and modern applications. Prerequisite: admission to Teacher Education. Undergraduate credit only.

3020 Principles and Organization of Education (3) Relevance of current educational philosophies; organizational patterns; financing of public education; professionalization of teaching. Undergraduate credit only.

3030 Social Foundations and Curriculum (3) Culture and society and their influence on curriculum; principles, problems, and procedures of subject matter selection, sequence, grade placement, and time allotment; curriculum issues; State curriculum policies and practices. Prerequisite: admission to Teacher Education. Undergraduate credit only.

3100 Curriculum I (6) Prerequisite: Ed. Psych. 1000. Psychology 2110, Ed. Psych. 2510 or consent of instructor. Satisfactory-no credit.


3150 Analysis of Teaching (3) Use of interaction analysis to describe and classify verbal interactions between teacher and student, related nonverbal behavior techniques. Prerequisite: consent of instructor.

3160 Microteaching (3) Emphasis upon the development of instructional skills. Students teach a series of lessons to small groups of students in elementary or secondary schools. Lessons are videotaped, and the students and instructor evaluate the teaching behaviors recorded on the tape. Prerequisite: consent of instructor.

3260 Teaching Language Arts in the Elementary School (3) Methods and materials in teaching writing, spelling, and language. Undergraduate credit only. Should be taken prior to or concurrently with C&I 3280. Prerequisite: Educational Psychology 2430 or equivalent, admission to Teacher Education.

3270 Teaching Social Studies in the Elementary School (3) Methods and materials. Undergraduate credit only. Prerequisite: Educational Psychology 2430 or equivalent, admission to Teacher Education.

3280 Teaching Developmental Reading in the Elementary School (3) Developmental reading programs in sequence designed to enable preservice teachers to develop skills and understandings necessary for operation of successful developmental reading program in the elementary school. Prerequisite: Ed. Psych. 2430 or equivalent and admission to Teacher Education.

3281 Teaching Developmental Reading in the Elementary School (3) Second course in sequence designed to teach content and skills of teaching reading in the elementary school. Prerequisite: 3280.
3310 History of Education (3)
3320 History of Education in the United States (3)
3350 Teaching Arithmetic in the Elementary School (3) Goals, methods, materials, and evaluation. Undergraduate credit only. Prereq: Educational Psychology 2100 or equivalent. 2100-20-30, admission to Teacher Education.
3510 Books and Related Materials for Children (3) (Same as Library and Information Science 3510)
3511-12-13 Field Experiences in Teaching: Elementary (1, 1, 1) Field experiences in which students prepare lessons related to teaching and to teaching roles. May be taken separately or concurrently by consent of instructor. Must be taken before student teaching. Prereq: Educ. Psych. 2430 or equivalent; 3512-13-admission to Teacher Education. Satisfactory-No Credit.
3520 Books and Related Materials for Young People (3) (Same as Library and Information Science 3520)
3521-22-23 Field Experiences in Teaching: Secondary (1, 1, 1) Field experiences in which students perform tasks related to teaching and to teaching roles. May be taken separately or concurrently. By consent of instructor. Satisfactory-No Credit.
3561 Teaching of Speech and Drama, Grades 7-12 (3) For description, see 3563.
3562 Teaching of Modern Foreign Languages: Oral Communication Skills, Grades 7-12 (3) For description, see Educ. C & I 3563. This course is required for certification in foreign languages. Must be taken concurrently with 3563.
3563 Teaching of Modern Foreign Languages: Reading, Literature, Grammar and Composition, Grades 9-12 (3) For description see Educ. C & I 3563. This course and Educ. C & I 3562 are required for certification in foreign languages. Must be taken concurrently with 3563.
3565 The Teaching of Social Studies, Grades 7-12 (3) Purposes, techniques, materials, and evaluation; directed observation in public schools; preparation of teaching plans and materials. Undergraduate credit only. Prereq: Educational Psychology 3810 or equivalent.
3564 The Teaching of Science, Grades 7-12 (3) For description, see 3563.
3565 The Teaching of Latin, Grades 7-12 (3) For description, see 3563. (Same as Classics 4210.)
3567 Teaching Language, Composition and Speaking to Grades 7-12. For description, see 3563. Both this course and Educ. C & I 3568 are required for certification in English.
3568 Teaching Reading, Literature, and Listening, Grades 7-12 (3) For description, see 3563. Both this course and Educ. C & I 3567 are required for certification in English.
3720 Teaching Science in the Elementary School (3) Methods and materials, undergraduate credit only. Prereq. Educ. Psych 2430 or equivalent, admission to Teacher Education.
3751 Teaching of Mathematics: Numerical and Algebraic Concepts, Grades 7-12 (3) For description, see Educ. C & I 3563. Both this course and 3752 are required for certification in Mathematics.
3752 Teaching of Mathematics: Geometry and Analysis, Grades 7-12 (3) For description, see Educ. C & I 3563. Both this course and 3751 are required for certification in Mathematics.
4000 Mathematics Laboratories in the Elementary School (3) Introduction for elementary school teachers or prospective teachers dealing with activity-oriented mathematics laboratory materials and pedagogical strategies for increasing enthusiasm, interest, and achievement in mathematics. The essence of laboratory concept of learning mathematics is fostering of inquiry, problem solving, and self-motivation to seek answers to posed questions.
4010 International Education: Europe and the Americas (3) Historical, philosophical, and sociological foundations, special reference to England, USSR, France and Germany.
4110 Philosophies of Education in Cultural Perspective (3) Education in relation to liberal, conservative, and radical currents of thought in American culture.
4150 School Library Administration (3) Same as Library and Information Science 4150.
4200 Creative Thinking and Expression in the Elementary School (3) Designed to give students opportunity to examine development of creative potential across academic curriculum of the elementary school. The student will hopefully develop techniques and strategies as well as an understanding of creativity in relation to child development and self-actualization.
4210 Curriculum in Elementary School Social Studies (3) Survey of current curricular approaches and trends in elementary school social studies. Prereq: teaching experience or student teaching.
4215 Teaching Elementary School Science (3) Methods and materials used in teaching of science in elementary school. Developmental and diagnostic/corrective programs. Not open to students with recent course or background in teaching of elementary school science.
4216 Teaching Elementary School Mathematics (3) Methods and materials used in teaching of mathematics in elementary school. Developmental and diagnostic/corrective programs. Not open to students with recent course or background in teaching of elementary school mathematics.
4217 Teaching Elementary School Language Arts (3) Methods and materials used in teaching of language arts. Development of functional relationships with other curriculum areas, diagnostic procedures, and corrective work. Not open to students with recent course or background in teaching of elementary school language arts.
4250 Initiating the Activities Program (3) Prereq: Educational Psychology 2430, six quarter hours of methods of teaching in the elementary school, and junior or senior standing.
4260 Philosophy of Education: Introductory Studies (3) Truth, knowledge, and valuation in relation to work of the field. Prereq: none. Educational Psychology 2430 or 3810, or equivalent.
4261 Educational Classics (3) Discussion of selected writings on education from Plato to Dewey.
4280 Diagnosis and Correction of Classroom Reading Problems (3) Prereq: 3280 or equivalent.
4300 Developmental Reading in the Secondary School (3)
4301 Teaching Developmental Reading (3) Methods and materials used in teaching of reading in the elementary school. Course includes development of functional relationships with other curriculum areas, diagnostic procedures and remedial work. Not open to students with recent course or background in the teaching of reading.
4302 Teaching Reading to Linguistically Different Learner (3) Language characteristics and special reading problems attendant with linguistically different learner. Prereq: undergraduate reading course or 5300.
4340 The Junior High School and Middle School (3) To identify and analyze distinguishing characteristics of the Junior High and Middle School Curriculums.
4350-60-70 Problems in Teaching English (3, 3, 3)
4351-61-71 Problems in Teaching Mathematics (3, 3, 3)
4352-62-72 Problems in Teaching Social Studies (3, 3, 3)
4353-63-73 Problems in Teaching Science (3, 3, 3)
4354-64-74 Problems in Teaching Language Arts (3, 3, 3)
4355-65-75 Problems in General Curriculum (3, 3, 3)
4356-66-76 Problems in Instructional Materials (3, 3, 3)
4357-67-77 Problems in Teaching Foreign Languages (3, 3, 3)
4359-69-79 Problems in Teaching Conservation (3, 3, 3)
4380-90-4400 Problems in the Improvement of Instruction (2, 2, 2) Registration in special conferences, workshops, or inservice programs.
4381 Problems in Early Childhood Education (3) May be repeated for a total of 9 hrs. Six hrs can be taken concurrently.
4410 Educational Sociology (3) (Same as Sociology 4410)
4430 Directing Learning in the Elementary School (3) For students who have had sophomore student teaching. Must be taken with 4810. Prereq: 18 hours in education. Undergraduate credit only.
4450 Teaching in Kindergarten: Overview (3) Relation of kindergarten to total elementary program; goals; historical settings and current developments.
4451 Teaching in Kindergarten: Program Development (3) Curriculum planning and organization; classroom management. Prereq: Education C & I 3563 or permission of instructor.
4510 Teaching Modern Languages in the Elementary School (3) Trends, content, methods, and materials. Prereq: completion of a 3000-level sequence in one modern foreign language or consent of instructor.
4530 Home and School Relations (3) Study of need and techniques which can develop closer relationship between the home and school at both elementary and secondary levels. Prereq: Senior standing.
4630 Current Educational Problems (3)
4654 Programs, Methods and Materials in Environmental and Science Education (3) Instructional materials, teaching methods, curriculum programs and issues in environmental and science education.
4710 Student Teaching, Grades 7-12 (8) Application for student teaching must be filed not later than final quarter of junior year. Students should hold themselves available to do this work in off-campus centers. Must be taken with 4720. Prereq: 3010-20-30, Educational Psychology 3810, appropriate special methods course(s), minimum grade point average of 2.0. Undergraduate credit only. Satisfactory-No credit.
4720 Student Teaching, Grades 7-12 (6) Cooperative planning with other students and teachers; analysis of teaching practices; evaluation of teaching competencies as a result of student teaching. Must be taken with 4710. Undergraduate credit only. Satisfactory-No credit.
4750 Audiovisual Methods and Techniques (3) Selection, operation, and use of equipment and materials. (Same as Library and Information Science 4750 and Vocational-Technical Education 4780.)
4810 Student Teaching in the Elementary School (9) Application for student teaching must be filed not later than final quarter of junior year. Students should hold themselves available to do this work in off-campus centers. Must be taken with 4820. Prereq: 3010-20-30, 3260-70-80, 3350, 3720, Educational Psychology 2430; Library Service 3510; minimum grade point average of 2.0. Undergraduate credit only. Satisfactory-No credit.
4820 Student Teaching in the Elementary School (6) Must be taken with 4810. Undergraduate credit only. Satisfactory-No Credit.
4840 Introduction to Data Processing in Education (3) Analysis of current activities in field of educa-
Graduate instruction in the Department of Curriculum and Instruction provides opportunities to improve the effectiveness of educational service in a number of areas.

5000 Thesis

5040 Seminar in Elementary School Language Arts (3)

5100 History of European Education (3)

5110 History of Education (3)

5120 Principles of Education (3)

5140 Comparative Philosophies of Education (3)

5141 Pragmatism in Education (3)

5142 Existentialism in Education (3)

5143 Supervised Readings in Philosophy of Education (3)

5150-50-70 Seminar (1, 1, 1)

5180-90-5200 Educational Specialist Research and Thesis (3, 3, 3)

5210 Seminar in International Education: Asia and Africa (3)

5211 Instructional Strategies in Elementary School Social Studies (3)

5220 Seminar in Comparative Education: The Americas (3)

5250 Secondary School Instruction (3)

5270 The Elementary School Curriculum (3)

5280 Teaching Language Arts in the Elementary School (3)

5281 Teaching Social Studies in the Elementary School (3)

5282 Teaching Science in the Elementary School (3)

5283 Programs and Materials in Teaching Elementary Science (3)

5284 Seminar in Teaching Elementary Science (3)

5290 The Teaching of Mathematics in the Elementary School (3)

5291 Programs and Materials in Elementary School Language Arts (3)

5292 Seminar in Research and Theory in Teaching Mathematics in the Elementary School (3)

5302 Psychology of Reading (3)

5304 Programs and Materials for Reading Instruction (3)

5305 Trends and Issues in Teaching Reading (3)

5350 Curriculum Development and Evaluation (3)

5360-70 Curriculum Development in the Local School (3, 3)

5380 Diagnosis of Remedial Reading Problems (3)

5381 Remediation of Remedial Reading Problems (3)

5382 Developmental Reading Practicum (3)

5383 Remedial Reading Practicum (3)

5390 Organization and Administration of Reading Programs (3)

5410 The High School Curriculum (3)

5530 Curriculum Laboratory for High Schools (3)

5580 Curriculum Planning and Development (3)

5610 Educational Statistics (3)

5620 Problems in Direction and Supervision of Student Teaching (3)

5630 Practicum in the Individualization of Instruction (3)

5640 Newer Trends in Elementary Education (3)

5650-60 Curriculum Laboratory for Elementary Schools (3, 3)

5670 Curriculum Laboratory for Early Childhood Education (3)

5681 Production and Use of Audio-Visual Materials (3)

5710 Techniques of Research in Education (3)

5720 Classroom Observation and Analysis (3)

5800 Seminar in Cooperative Curriculum Research (3)

5820 Seminar in the Teaching of Mathematics (3)

5825 Teaching Mathematics in the Middle and Junior High School (3)

5830 Seminar in Mathematics Education (3)

5835 Teaching Mathematics in the Senior High School and Community/Junior College (3)

5841 Trends and Issues in Early Childhood (3)

5842 Problems in Education: Early Childhood (3)

5843 Seminar in Early Childhood Education (3)

5844 Mathematics in Early Childhood Education (3)

5845 Social Studies and Science in Early Childhood Education (3)

5846 Language Arts in Early Childhood Education (3)

5850-60-70 Problems in Education: English (3, 3, 3)

5851-61-71 Problems in Education: Mathematics (3, 3, 3)

5852-62-72 Problems in Education: Social Studies (3, 3, 3)

5853-63-73 Problems in Education: Science (3, 3, 3)

5854-64-74 Problems in Education: Language Arts (3, 3, 3)

5855-65-75 Problems in Education: General Curriculum (3, 3, 3)

5856 Problems in Education: Instructional Materials (3)

5866-76 Problems in Education: Instructional Materials (3, 3)

5871-67-77 Problems in Education: Foreign Languages (3, 3, 3)

5856-69-79 Problems in Education: Conservation (3, 3, 3)

5900 Seminar in the Teaching of English in the Secondary School (3)

5901 Linguistics and the Teacher of English (3)

5902 Teaching Composition in the High School (3)

5903 Teaching Fiction in the Secondary School (3)

5904 Teaching the Mass Media in the English Classroom (3)

5905 Teaching English in the Community/Junior College (3)

5906 Teaching Poetry in Grades 7-12 (3)

5907 Teaching Drama in Grades 7-12 (3)

5908 Developing Speaking and Listening Skills in Grades 7-12 (3)

5909 Instructional Theory and Design (3)

5910-20-30 Problems in Lieu of Thesis (3, 3, 3)

5950 Reflective Thinking: The Method of Education (3)

5960 Teaching Natural Science (3)

5961 Seminar in Science and Environmental Education (3)

5970 Teaching the Social Studies (3)

5980 Projects, Programs, and Materials in Social Studies (3)

6000 Doctoral Research and Dissertation (3)

6010 Studies in English Education (3)

6020 Seminar in Teaching the Social Studies (3)

6030 Research and Theory in Teaching Reading (3)

6031 Seminar in Reading and Language Arts (3)

6040 Seminar in Curriculum and Instruction (1, 1, 1)

6060 Philosophy of Methodology in the Elementary School (3)

6070 Advanced Seminar in International Education (3)

6080 Advanced Seminar in Philosophy of Education (3)

6081 Phenomenology and Education (3)

6082 Philosophical Analysis and Education (3)

6150 Education as Social Policy (3)

6210 Seminar in Elementary School Social Studies Research (3)

6230 Programs for Curriculum Improvement (3)

6250 Seminar in History of Education (3)

6282 Advanced Studies in Elementary School Science (3)

6350 The Professional Education of Teachers (3)

6400 The Dynamics of Educational Change (3)

6450 Advanced Studies in Early Childhood Education (3)

6450 Advanced Studies in Elementary School Language Arts (3)

6710 Advanced Educational Statistics (3)

6720 Interpretation of Data (3)

6730 Theory and Evaluation in Curriculum Planning (3)

6731 Studies in Curriculum Theory and the Structure of Knowledge (3)

6740 Curriculum Workshops in Instructional Improvement (3)

6750-60-70 Problems in Curriculum and Instruction (3, 3, 3)

6830 Studies in Mathematics Education (3)

6850 Principles of Educational Leadership (3)
2430 Child Study (3) Child growth and development; study of individual children. Prereq: Psychology 2110. 3 hrs and 1 period.

2510 Child and Adolescent Study (4) Encompasses study of principles of behavior, intervention techniques, principles of child and adolescent development, special categories of children, child in relation to family, community, and methods of studying children. Prereq: Educational Psychology 1000 and Psychology 2110 or permission of instructor.

2520 Study of Self and Self-Concept (4) Study of (1) student understanding of how the self develops, that prospective teacher can better understand pupils and (2) student's increased understanding of himself. Prereq: Educational Psychology 1000, Psychology 2110, and Educational Psychology 2510 or permission of instructor.

3000 Field Experience (1) Field experiences in working with children and youth and their teachers. Students will perform various teaching tasks and be given opportunity to act in teaching roles. May be repeated for a total of six credit hours.

3110 Classroom Behavior Management (4) Student will develop understanding of behavior management procedures and skill in utilizing behavior management procedures in shaping pupil classroom behaviors. Prereq: Psychology 2110. 3550 Child Psychology (4) Same as Psychology 3550.

3730 Educational Psychology (3) Increasing effectiveness of learning. Prereq: Psychology 2110-20 or equivalent.

3810 Educational Psychology: Adolescence (3) Prereq: Psychology 2110.

4110 Psychology of Sex Role Development (3) Examination, from both a theoretical and research base, of factors which contribute to sex role development with attention to changes in sex role definition in society and role of education in these changes. Aimed at the undergraduate or graduate student with minimal background in behavioral sciences.

4130 Mental Health (3)

4350-60-70 Problems in Educational Psychology and Guidance (3, 3, 3)

4440 General Evaluation Procedures for Public Schools (3) Prereq: 2430 or equivalent.

4551-52-53-54-55-56 Student Leadership Workshops (1, 1, 1, 1, 1, 1) Series of small group and individualized experiences to develop knowledge and skills required of students in leadership roles. Section I designed for resident assistants, student government leaders, student activities, and other student organizations. Prereq: Permission of instructor. Satisfactory-No Credit.

4640 Standardized Testing (3) Use and interpretation of standardized group instruments in assessment of intelligence, aptitude, achievement, vocational interests and personality adjustment.

4650 The Construction of Classroom Tests (3) Concerned with teacher-made classroom tests: instructional objectives, principles of test construction, item analysis, evaluating a test's reliability and validity, interpretation of test scores, relationship between testing and grading.

4700 Assertion Training - Theory and Application (3) Exploration of theoretical and experimental bases of interpersonal behavior which enables a person to be self-assertive.

4760 Advanced Child Study (3) Prereq: 2430 or 3810 or permission of instructor.

4800 Psychology of the Disadvantaged Child (3) Significant behavioral differences and causes; appropriate intervention approaches.

4890 Differential Psychology (3) Same as Psychology 4890.

4910 Diagnostic and Corrective Teaching (3)

GRADUATE

5000 Thesis

5040 Guidance and Pupil Personnel Services in Education (3)

5050 Children and Adolescents (3)

5060 Group Approaches with Students (3)

5070 Seminar in Elementary School Guidance (3)

5099 Field Work in School Psychology (2)

5100 Developmental Psychology (3)

5110 Psychology of Women (3)

5111-12-13 Seminar in Current Issues in School Psychology (1, 1, 1)

5140-50-60 Psychoeducational Assessment (3, 3, 3)

5149-59-69 Practicum in School Psychology I (2, 2, 2)

5180-90-5200 Educational Specialist Research and Thesis (3, 3, 3)

5210 Interpretation and Evaluation of Research Reports in Educational Psychology (3)

5220 Interpretation and Evaluation of Research Reports in Educational Psychology (3)

5319 Field Work in School Psychology: Level I (2)

5320 Advanced Classroom Behavior Modification (3)

5330 Theory and Research in Human Learning (3)

5331 Current Developments in Human Learning (3)

5340 Group Dynamics (3)

5350 Educational Applications of Cognitive Theories (3)

5550 Student Personnel in Higher Education (3)

5560 The College Student (3)

5570 Case Studies in College Student Personnel (3)

5720 Evaluation in Education (3)

5750 Verbal Behavior and Classroom Learning (3)

5780 Career Development: Theory and Research (3)

5840 Student Appraisal (3)

5850-60-70 Problems in Educational Psychology and Guidance (1-6, 1-6, 1-6)

5880 Occupational and Educational Information (3)

5890 Counseling Theories and Techniques (3)

5897 Pre-Practicum (3)

5910-20-30 Problems in Lieu of Thesis (3, 3, 3)

5940 Practicum (3)

5945 Group Counseling Practicum (3)

5950-60-70 Consultation in Human Development Settings (3, 3, 3)

5959-69-79 Practicum in School Psychology II (2, 2, 2)

5980 Organization and Administration of Counselor Programs (3)

5990 Practicum in College Student Personnel (3)

6000 Doctoral Research and Dissertation

6040 Seminar in Educational Psychology and Guidance (No credit)

6110 Application of Research Design in Educational Psychology and Guidance (3)

6120 Application of Experimental Research Design in Educational Psychology and Guidance (3)

6319 Field Work in School Psychology: Level II (2)

6610-20-30 Seminar in Advanced Educational Psychology (3, 3, 3)

6650-60-70 Systems Approaches in Psychological Services (3, 3, 3)

6659-69-79 Practicum in School Psychology III (2, 2, 2)

6750-60-70 Problems in Psychology and Guidance (3, 3, 3)

6810 Seminar in Counseling (3)

6941-42-43 Practicum in Guidance, Counseling and Personnel Services (3, 3, 3)

6944-45-46 Teaching Practicum in Educational Psychology and Guidance (3, 3, 3)

6950 Counseling Supervision (3)

School of Health, Physical Education, and Recreation

Madge M. Phillips, Director

At the undergraduate level, professional preparation programs are offered for teachers of health, physical education, dance, and/or recreation and for administrators of public health or recreation programs. For information on graduate programs leading to the Master of Science, the Master of Public Health, Educational Specialist, the Doctor of Education, or the Doctor of Philosophy degrees, see the Graduate School Catalog. The School of Health, Physical Education, and Recreation also provides activities programs for all students in physical education and service courses in Health and Safety.

Health and Safety Education


Associate Professors: J.D. Gorski, Ph.D. California; C.B. Hamilton, Dr. P.H. Oklahoma.

Assistant Professors: I.A. Ahmad, Ph.D. Oregon; A.J. Pickett, M.S. Columbia; A.F. Thompson, Ph.D. Michigan.

Instructors: J.S. Ellison, M.A. Hawaii; V.W. Presly, M.S. Tennessee.

School Health (898)

UNDERGRADUATE

3000 Foundations of Health Science (3) Same as Public Health 3000.

3210 First Aid and Emergency Care (4) Same as Public Health 3210.

3410 School Health Instruction (3) Selection of health content in school curriculum.

3420 School Health Services (3) Development, maintenance, and protection of health of students including examination, screening, special services, communicable disease control, emergency care, and school health records.

3510 The School in Community Health (3) Role of teacher in community health education; school's
Educational Administration and Supervision (292)


Assistant Professors: G.W. Harris, Jr., Ph.D. Michigan; P.M. Husen, Ed.D. Stanford.

*U.T. at Nashville.

5000 Thesis

5100 Internship in Educational Administration (3)

5130 Introduction to Educational Administration (3)

5180-90-5200 Educational Specialist Research and Thesis (3, 3, 3)

5220 Philosophy and Theory in Educational Administration (3)

5230 Seminar in the Behavioral Sciences for Educational Administration (3)

5290 The Politics of Education (3)

5310 School Administration in a Multi-Ethnic Society (3)

5420 District Level Administration (3)

5430 Building Level Administration (3)

5440 Introduction to Law, Finance, and Business Management at the Building Level (3)

5450 Organization of the School Program (3)

5470 Introduction to School Facility Planning (3)

5480 Introduction to Supervision and Personnel Administration (3)

5490 Administration of Community Education (3)

5530 Introduction to Educational Planning (3)

5560 Analysis and Interpretation of Research for Educational Administrators (3)

5580 Seminar in Communication Skills for Educational Administrators (3)

5711-21-31 Problems in Educational Administration and Supervision: School Operation (3, 3, 3)

5712-22-32 Problems in Educational Administration and Supervision: Higher Education (3, 3, 3)

5713-23-33 Problems in Educational Administration and Supervision: State School Administration (3, 3, 3)

5714-24-34 Problems in Educational Administration and Supervision: Preparation Programs (3, 3, 3)

5715-25-35 Problems in Educational Administration and Supervision: Community Education (3, 3, 3)

5720 Seminar in Urban School Administration (3)

5730 School Business Management (3)

5740 School Law (3)

5751-61-71 Problems in Educational Administration and Supervision: Theory (3, 3, 3)

5752-62-72 Problems in Educational Administration and Supervision: Finance (3, 3, 3)

5753-63-73 Problems in Educational Administration and Supervision: Transportation (3, 3, 3)

5754-64-74 Problems in Educational Administration and Supervision: Business management (3, 3, 3)

5755-65-75 Problems in Educational Administration and Supervision: Personnel (3, 3, 3)

5756-66-76 Problems in Educational Administration and Supervision: School Plant (3, 3, 3)

5757-67-77 Problems in Educational Administration and Supervision: Organization and Structure (3, 3, 3)

5758-68-78 Problems in Educational Administration and Supervision: School Law (3, 3, 3)

5759-69-79 Problems in Educational Administration and Supervision: Supervision (3, 3, 3)

5770 Maintenance of School Plants (3)

5780 Supervision (3)

5790 School Board-Superintendent Relationships (3)

5810 Survey Research Methods (3)

5830 Contemporary Economics and Educational Finance (3)

5890 Decision Making and Decision Theory in Educational Organizations (3)

5910-20-30 Problems in Lieu of Thesis (3, 3, 3)

5980 Administration in Higher Education (3)

5981 Specialized Seminar in Educational Administration and Supervision: School Operation (3)

5982 Specialized Seminar in Educational Administration and Supervision: Higher Education (3)

5983 Specialized Seminar in Educational Administration and Supervision: State School Administration (3)

5984 Specialized Seminar in Educational Administration and Supervision: Preparation Programs (3)

5991 Specialized Seminar in Educational Administration and Supervision: Theory (3)

5992 Specialized Seminar in Educational Administration and Supervision: Finance (3)

5994 Specialized Seminar in Educational Administration and Supervision: Business Management (3)

5995 Specialized Seminar in Educational Administration and Supervision: Personnel (3)

5998 Specialized Seminar in Educational Administration and Supervision: School Law (3)

6000 Doctoral Research and Dissertation

6040 Seminar in Educational Administration and Supervision (1, 1, 1)

6100 Internship in Educational Administration (3)

6210 Modern Trends in the Theory and Practice of Educational Administrators and Supervisors (3)

6220 Programs for the Professional Preparation of Educational Administration and Supervision (5)

6480 School Personnel Administration (3)

6480 Special Topics in School Personnel Administration (3)

6530 Futuristic Educational Planning Methods (3)

6550 State-Federal Relations in Education (3)

6560 Legal Foundations of Public Education (3)

6580 Seminar in Managing Conflict (3)

6750-60-70 Independent Studies in Educational Administration and Supervision (3, 3, 3)

6800 Administration of Complex Educational Organizations (3)

6870 Advanced Study in School Facility Planning (3)

6990 Specialized Doctoral Seminar in Politics of Education (3)

6996 Specialized Seminar: School Plant (3)

6997 Specialized Seminar in Organization and Structure (3)

6999 Specialized Seminar: Supervision (3)

Educational Psychology and Guidance (311)


*Memphis Center.

UNDERGRADUATE

1000 The Educational Environment and Career Choices (3) Exploration of occupations based upon analysis of self and occupational requirements; development of commitment to teaching and understanding of teaching-learning problems in the classroom. Prereq: consent of instructor. Satisfactory-No Credit.

2000 Field Experience (1) Field experiences in working with children and youth and their teachers. Students will perform various teaching tasks and be given opportunity to act in teaching roles. May be repeated for a total of six credit hours.
responsibility in promoting healthful living and the place of existing media and agencies in program. Not open to health and physical education majors.

3610 Methods in Elementary Health Instruction (3) Preparation and presentation of health topics. Teaching method is emphasized and student participation stressed. Required for elementary teachers. Prereq: 3510 or Public Health 1110 or Nutrition 1230.

3620 The Teaching of Sex Education (3) Trends, content, methods, and materials.

3650 Methods in Secondary Health Instruction (3) Preparation and presentation of health topics. Teaching method is emphasized and student participation stressed. Prereq: 3410.

4710 Workshop in School Health Education (3-6) For advanced students, teachers, school administrators, nurses and other para-medical school personnel. Lectures, demonstrations, films, field trips, and supervised research in special health problems. May be repeated for credit.

4810-20-30 Problems in School Health Education (1, 1, 1) Individual identification and study of current problems in school health education. Extensive reading of literature required.

GRADUATE

5000 Thesis

5010 Problems and Practices in School Health (3)

5510 Curriculum Construction in School Health Instruction (3)

5520 Evaluation in School Health Instruction (3)

5530 School Health Program Surveys (3)

5620 School Health Administration and Supervision (3)

5630-40 Workshop in School Health Education (3, 3)

5720-30-40 Graduate Workshop in Health Education (3-6, 3-6, 3-6)

5810-20-30 Problems in School Health Education (1-3, 1-3, 1-3)

6000 Doctoral Research and Dissertation

6030 Critical Analysis of Writing and Research in Health Education (3)

6050-60 Seminar in Health Education (3, 3)

Public Health (839)

UNDERGRADUATE

1110 Principles in Personal Health (3) To develop ability to approach health scientifically and to develop justified confidence in judgments affecting personal health.

2040 Seminar in Human Sexuality (2) Problems and responsibilities of being male and female. Satisfactory-No Credit.

2050 Seminar in Drug Use and Abuse (2) Intensive look at problems related to use and abuse of drugs. Satisfactory-No Credit.

3000 Foundations of Health Science (3) In-depth study of content areas relating to personal health and contemporary health problems, i.e., mood modifying products, consumer health, international health, personal health practices, reciprocal relationships involving man, disease and environment. (Same as School Health 3000.)

3210 First Aid and Emergency Care (4) Theory and practice of first aid and emergency care. Instruction in self-help. Course leads to Red Cross Certification in Advanced First Aid and Emergency Care. (Applicant must be at least 18 years of age for certification.) (Same as School Health 3210.)

3310 Communicable and Non-communicable Diseases (3) Modern concepts of diseases; etiology of common communicable and chronic disease problems including prevention and control. Prereq: One year of biological science and one course in bacteriology.

3320 Sanitation (3) History of sanitary awakening; disease-producing relationships and controls of water, sewage, refuse, milk, meat and other foods, air, insects, and soil; sanitation of homes, streets, pools, industrial plants, markets, restaurants, camps, and public bathing places. Healthful school living as affected by buildings and grounds, lighting, acoustics, thermal control, and safety provisions. Prereq: One year biological science, one course in microbiology, 2 hrs and 1 lab.

3330 Introduction to Public Health (3) Philosophy, organization, and functions of federal, state, and local, official and voluntary public health agencies. Includes periodic field trips.

4120 Community Health Problems—Alcoholism (3) Explores problems of alcoholism regarding overall health of community. Emphasis placed on factors making alcoholism a serious public health problem. Various types of educational programs to control the disease covered.

4130 Community Health Problems—Suicide (3) Explores problems of suicide regarding overall health of community.

4140 Community Health Problems—Death Education (3) Exploration of ramifications of death and dying as related to personal and community health.

4210 Urban and Industrial Health (3) Health problems created by a burgeoning population and the megalopolis; industrial health problems of concern to management, supervisor, and industrial worker, control of occupational diseases, poisons, accidents, and other conditions incidental to industry.

4220 Communications for Better Health (3) Selective study of communications in Health enterprise. Consideration in logical progression the problems of transmitting current and new information to practitioners, communications among members of modern health teams, among health agencies, and use of mass media for transmitting health information.

4410 Consumer Health and Safety Education (3) Survey of major consumer health and safety problems; selecting, purchasing, and financing of safety and medical services.

4411 Instructor's Advanced First Aid and Emergency Care (3) Designed to teach First Aid. Satisfactory completion qualifies one for American National Red Cross Certification as an Advanced First Aid and Emergency Care Instructor. (A requirement for this certification is that an applicant must be at least 21 years of age.) Prereq: 3210 or valid Advanced First Aid and Emergency Care Certificate.

4420 Drug Abuse Education (3) Drug abuse problem and suspected causes; pharmacology of drugs and effects on society and methods of drug abuse education.

4700-10-20 Field Practice in Public Health (3, 3, 3) Field practice in public health under supervision of public health profession. Satisfactory-No Credit.

4730 Workshop in Public Health Education (3-6) For teachers, nurses, case workers, sanitarians, and other voluntary and public health agency personnel; emphasizes the problem solving approach through small group interaction, case method, and critical incident technique. May be repeated for credit.

4840-50-60 Problems in Public Health Education (1, 1, 1) Individual identification and study of current problems in public health education. Extensive reading of literature required.

GRADUATE

5010-20-30 Workshop in Public Health (3-6, 3-6, 3-6)

5070-80-90 Field Practice and Seminar in Public Health Education (5, 5, 5)

5110 Environmental Health (5)

5120-30 Occupational Health and Safety (5, 5)

5140 Ergonomics and Work in Occupational Health and Safety (3)

5210 Ecosystem of Public Health Education (5)

5220 Health and Sickness in the Focus of Public Health Education (2)

5410 Epidemiology (3)

5420 Administration of Public Health (3)

5430 Vital and Medical Statistics (4)

5440 Methods and Materials in Public Health Education (4)

5540 Factors in Problem Solving for Community Health (5)

5550 The Public Health Educator in Community Organization and Development (4)

5560 Functions and Roles of the Public Health Educator (3)

5580 Physical Activity and Health (5)

5705 Advanced Professional Health Education: Health Planning I (3-5)

5710 Advanced Professional Health Education: Health Planning II (3-5)

5715 Advanced Professional Health Education: Health Planning III (3-5)

5730 Dental Health Education (3-5)

5735 Emergency Medical Services (3-5)

5745 Family Health Unit (3-5)

5750 Health and Medical Care Legislation and Law (3-5)

5755 Health Facilities Administration (3-5)

5760 Health Services Administration (3-5)

5785 Occupational Health Unit (3-5)

5790 Self-Care Unit (3-5)

5795 The Training of Paramedical Personnel (3-5)

5840-50-60 Problems in Public Health Education (1-3, 1-3, 1-3)

6000 Doctoral Research and Dissertation

6030 Critical Analysis of Writing and Research in Health Education (3)

6050-60 Seminar in Health Education (3, 3)

6210 Health Aspects of Gerontology (3)

6220 Seminar on the Nation's Health (3)

6230 International Health (3)

Safety (880)

UNDERGRADUATE

3520 Principles of General Safety (3) Dealing with principles, practices and procedures in general safety. Covers safety problems in school traffic, recreation, industry, home, and other public areas.

4100-20-30 Problems in Safety (1-3, 1-3, 1-3) Individual identification and study of current problems in safety.

4410 Driver and Traffic Safety Education (5) Preparation of teachers of driver education in schools and colleges. Students are required to teach at least one non-driver. Valid driver's license required, 3 hrs and 2 labs.

4420 Advanced Driver and Traffic Safety Education (3) Development of competency in teaching of driver education through use of simulation, multimedia and multiple-car driving range. Emphasis placed on teaching skills and supervision. Prereq: 4410.

4430 Sports Safety (5) Accident prevention and injury control in sports activities; philosophy of sports
safety; human environmental factors and their interrelationships in sports injury and their control; risk-taking and decision solution strategies; and contributions of sports medicine to safety. 3 hrs lecture and 2 hrs lab.

4720 Workshop in Safety (3-4) Deals with special safety education problems. For advanced undergraduate students, graduate students, teachers, supervisors, and administrators. May be repeated for credit.

GRADUATE

5000 Thesis

5300 Behavioral Problems in Safety Education and Accident Prevention (3)

5330 Problems and Research in Accident Prevention (3)

5340 Organization, Administration and Supervision of Safety Programs (3)

5350 Civil and Defense Education (3)

5720-30-40 Graduate Workshop in Safety (3-6, 3-6, 3-6)

5810-20-30 Problems in Safety (1-3, 1-3, 1-3)

5870-80-90 Current Issues in Safety Education (1, 1, 1)

6010-20-30 Internship and Research in Safety Education (3, 3, 3)

Physical Education (764)


Associate Professor: E.T. Howley, Ph.D. Wisconsin; N.E. Lay, Ph.D. Florida; B.J. Mead, Ph.D. Purdue; H.G. Welch, Ph.D. Florida.


UNDERGRADUATE

1000 Career Orientation and Placement Requirements in Physical Education (2) Introduction to physical education with special emphasis on analyzing motor skills of each student. Satisfactory-No Credit. No substitution.

1020 Physical Education: Swimming (1)

1021 Physical Education: Bowling (1)

1022 Physical Education: Basketball (1)

1032 Physical Education: Tennis (1)

2012 Physical Education: Soccer-Speedball (1)

2022 Physical Education: Volleyball (1)

2032 Physical Education: Golf (1)

2040-50-60 Dance Production (2, 2, 2) Preparation and presentation of public dance performances. Prereq: approval of instructor.

2070 Orientation in Dance—Appreciation (3) History, aesthetic principles, and current trends in dance.

3000 Administration of Athletics (2) Conduct of program of athletic sports in high schools and colleges.

3010 Beginning Dance Techniques (2) Analytical and practical study of modern dance movements.


3040 Beginning Jazz Techniques (2) Instruction and practice in styles and techniques of jazz dance.

3050 Rhythmic Analysis (2) Emphasis on analysis of organic movement. Prereq: junior standing; consent of instructor.

3060 Beginning Dance Composition (2) Experience in creative forms of dance. Prereq: 3010.

3070 Beginning Ballet Techniques (2) Introductory course designed to acquaint students with discipline of classical ballet, cultural, and educational values, and relationship to other dance forms.

3080 Officiating Women's Volleyball (3) Officiating based on rules of National Association for Girls and Women in Sport. National tests and ratings will be given. Both men and women are encouraged to take the course.

*See also the courses listed under "Service Program in Physical Education" later in this section.

3090 History of Dance and the Related Arts I (2) Dance history and the arts related to it from beginnings in primitive societies through the nineteenth century.

3100 Social Dance (2) Instruction, practice, and teaching in basic social dance steps.

3110 Athletic Coaching of Football (2) Fundamentals and coaching techniques. Prereq: approval of instructor.

3120 Coaching of Basketball (2) Individual and team fundamentals for the high school coach; attention given to conditioning, schedule-making, and other business arrangements. Prereq: approval of instructor.

3130 Athletic Coaching of Track and Field Events (2) Techniques and training procedures. Prereq: approval of instructor.

3151 History of Dance and the Related Arts II (2) Survey of dance and the arts related to it tracing their development in the twentieth century.

3160 Officiating Women's Basketball (3) Officiating based on rules of National Association for Girls and Women in Sport. National tests and ratings will be given. Both men and women are encouraged to take the course.

3170 Weight Control and Physical Activity (3) Theoretical knowledge of and practical experience in principles and methods of weight control and related physical activity.

3180 Track and Field (2) Methods and practical experience in various events of track and field. Special emphasis on teaching techniques, demonstration, progression, and analysis.

3200 Athletic Coaching of Baseball (2) Individual and team fundamentals for high school and college coach. Prereq: permission of instructor.

3210 History and Principles of Physical Education (3) Principles from basic sciences of anatomy, bacteriology, biology, chemistry, physiology, psychology, and sociology applied to health, physical education and athletic coaching.

3220 Physical Fitness Activities (3) Teaching of calisthenics, conditioning activities, and weight training with emphasis on physical fitness concepts including muscular development of the body.

3240 Team Sports (2) Instruction, practice, and student teaching in selected team sports.

3250 Athletic Training Techniques (2) Theory and practice in the prevention and care of basic athletic injuries. Prereq: Approval of instructor.

3260 Practicum for Physical Education Majors (1-10) Observation and limited teaching, coaching, and leadership experiences in physical education programs. Experience will be planned to cover the last three-year period of professional preparation. May be repeated. Maximum of 10 hrs credit. Satisfactory-No Credit.

3310 Tests and Measurements in Physical Education (3) Study of elementary statistics related to measurement. Critical examination of tests used to evaluate strength, skills, and physical fitness.

3320 Applied Anatomy and Kinesiology (3) Bones, joints, ligaments, and muscles involved in movements, reaction of joints and muscular mechanism to bodily development and efficiency.

3330 Stunts and Tumbling (2) Instruction and practice; student teaching and lesser planning stressed with focus upon safety techniques.

3430 Adapted Physical Education Laboratory (1) Practical work, including student teaching, supplementing 4110.

3450 Physical Education in the Elementary School (3) Movement experiences appropriate for elementary school children: planning and teaching a developmental program.

3510 Conceptual Bases for Study of Human Movement Behavior (2) Bio-physical, percepto-cognitive, and socio-social forces causing humans to move as they do. Prereq: 1011 or 1012.

3530 The Teaching of Swimming and Lifesaving (2) Certification in ARC Water Safety Instructor Training or Senior Lifesaving with additional practical experience in teaching of swimming.


3560 Human Growth and Motor Development (3) Structural and functional changes in man from birth to old age, and relationship of changes to physical performance and skills.

3570 Developmental Trends in Movement Performance of Children (2) Motion characteristic of basic movement patterns evolving in children with an emphasis upon understanding the nature of movement as a product of interaction of bio-physical, percepto-cognitive and psycho-social variables. Prereq: 3540-50-60.

3610-25-30 Individual and Dual Sports (1, 1, 1) Instruction, student teaching, and practice in organizing adult sport and recreational activities suitable for schools, churches, or community recreation centers.

3650 Teaching Strategies and Program Implementation in Elementary Physical Education (3) Understanding and employing teaching strategies appropriate to elementary physical education, and study of program content and implementation. Prereq: 3570.

3660 Basic Movement Sequences for Children (3) Movement patterns and skills which are fundamental to movement activity, with emphasis upon designing and presenting sequential learning tasks and creative activity experiences. Prereq or Coreq: 3650.

3670 Practicum in Developmental Movement for Early Childhood (3) Experiences in designing and presenting developmental movement tasks to preschool children. Prerequisites: 3650; to cover the last Coreq: 3650.

3680 Structured Movement Activities in Elementary Physical Education (4) Self-testing, games and
sports, and dance activities included in elementary school physical education program, with emphasis upon beginning and presenting sequential learning experiences. Prereq: 3670.

3710 Camping (2) Theory and practice in leadership with practical experience in camp craft skills.

3880 Social Recreation (3) Theory and practice in social recreation for camps, community centers, clubs, and schools. Course includes folk and square dance, quiet and active games, skits, stunts, other recreational activities, and program planning. (Same as Recreation 3886.)

4001 Stage Movement (2) Theory and practice in stage movement for actors and dancers. Styles of movement, character and moral movement and combat.

4010 Advanced Dance Technique (2) Development, integration, and synthesis of previous dance vocabulary; emphasis on analysis and practice of dance principles; solo and group work. Prereq: 3020.

4020 Practicum in Dance Production (2) Prereq: consent of instructor.

4060 Advanced Dance Composition (2) Creation and development of ideas, themes, and dance forms; solo and group work. Prereq: 3060.

4070 Stagecraft for Dance Production (2) Equipment, light design, properties, sets, and stage management.

4110 Adapted Physical Education (3) Classification of atypical students who require modified programs in physical education; activities and class organization suitable for required or special physical education classes.

4120 Administration of Physical Education (3) Selected topics in organization and administration problems related to physical education programs in schools. Emphasis placed on human relations approach to solving problems in administration.

4150 Creative Rhythms for Children (3) Methods and materials for grades 1-6; 3 hrs and 1 lab.

4230 Program Planning in Physical Education (3) Curriculum building, course construction, and lesson planning for public schools and colleges.

4310 Folk and Square Dance (2) Materials and methods for public schools, colleges, and recreation centers.

4320 Tap Dance (2) Instruction, practice, and student teaching.

4330-40-50 (1, 1, 1) Specialization study in selected area of Physical Education.

4410 Wrestling (2) Theoretical and practical work for prospective teacher; emphasis on safety procedures.

4430 Women's Gymnastics (2) Development of skills on balance beam, uneven parallel bars, and horse vaulting; special emphasis on progression, safety, and teaching techniques. Open to men and women. Prereq: 3330.

4440 Men's Gymnastics (2) Development of skills on pommel horse, parallel bars, and long horse vaulting. Special emphasis placed on safety, progression, and teaching techniques. Open to men and women.

4450 Men's Gymnastics II (2) Development of skills on still rings, horizontal bar, trampoline, and exhibition gymnastics, special emphasis placed on safety, progression and teaching techniques. Open to men and women. Prereq: 4440.

4460 The Coaching and Judging of Women's Gymnastics (3) Appreciation of techniques used in the coaching and judging of women's gymnastics according to the rules of the United States Gymnastics Federation. National tests and ratings will be given. Both men and women are encouraged to take this course. Prereq: 2734 or 4440.

4550 Methods of Teaching Dance (2) Individual work with analysis and criticism. Prereq: senior standing and approval of instructor.

4130 Recreation Administration (3) Introduction to recreation administration, including planning, personnel, areas and facilities, program services, finances, and public relations. Prereq: 1100, 3100, 3140.

4200 Survey of Recreation for Special Populations (3) Responsibility of recreation professionals to minority groups whose leisure opportunities and needs may require special services.

4500 Specialized Study in a Selected Area of Recreation (1-9) Comprehensive study in a selected specialized area within the broad field of recreation. For recreation majors: Chosen only, 0.25 credit per hour. Prereq: 100, 2000, 3000. May be repeated for a maximum of 9 hours credit with permission of the division. Prereq: Consent of instructor.

GRADUATE

5000 Thesis (9)

5140 Leisure Service Delivery Systems (3)

5150 Current Issues in Recreation (3)

5240 Therapeutic Recreation (3)

5300 Seminar in Recreation (1)

5440 Problems and Projects in Recreation (1-9)

5450 Specialized Study in Recreation (1-9)

Special Education and Rehabilitation (933)


Instructors: R.F. Bynum, M.S. Florida State; S.G. Cook, M.S. Tennessee; R.L. Domingue, M.S. Tennessee; R.N. Freeman, M.A. MTU; J.E. Sieraff, B.S. Gustavus and St. depot College; W.D. Smith, M.S. Florida State.

Lecturers: S.W. Mulkey, M.S. Tennessee; O.E. Reece, B.S. Memphis State.

An experience program for regular teachers, special teachers, and attendance teachers may be planned to meet the needs of exceptional children in relationship to the program of general and special education. Specialized courses may be distributed over the several areas of exceptional children with emphasis in an area of special interest or need. Facilities are available for continuous observation and participation in direct relationships with exceptional children who are hospitalized, homeless, in residential schools, special classes, or regular classes.

Course sequences may be planned in the areas of (1) crippled and special health conditions; (2) acoustically handicapped; (3) mentally retarded; (4) gifted; (5) partially seeing; (6) speech correction; (7) socially or emotionally maladjusted; (8) rehabilitation counselor education.

The specialized professional courses in special education may be taken at the undergraduate or graduate levels. For planning a program, the student should consult an adviser in his chosen area.
development; auditory training, speech reading, manuel language and its relation to other forms of communication. Observation practicum. (Student must acquire a degree of proficiency in use of manual language.) Prereq: Consent of instructor.

4240 Nature of Hearing Impairments (3) Basic principles of audiology: anatomy and physiology of hearing; nature and causes of hearing loss; methods and means of assessment of hearing level; interpretation of audiograms; selection and use of hearing aids; relation of audiological services to medical and other rehabilitative disciplines. Observations and practicum.

4250 Introduction to the Education and Psychology of the Deaf (3) Offered for those planning to enter field of teaching the deaf and hard-of-hearing. Review of history of education of the deaf. Research studies relating to psychology, social adjustment, and learning of the deaf. Survey of professional literature in area of deaf child and adult. (Same as Audiology and Speech Pathology 4250.)

4280 Curriculum Development in Elementary and Secondary Schools for the Deaf (3) Adaptation of curriculum development and methods in public school education to meet needs of deaf and hard of hearing students in residential and integrated settings.

4290 The Teaching of Reading to Hearing Impaired Children (3) Readiness activities, developmental approaches, theories, and specialized materials for curricula in teaching reading.

4351-61-71 Practicum in Special Education (3, 3, 3) Studies in preprin and delivery of instruction in Special Education Programs. S/NC.

4410 Instructional Media for the Deaf: Materials Preparation and Utilization (9) For Institute participants only. Introduction to basic skills and techniques for preparing and using visual displays, graphic materials, and projected media in classrooms for the deaf. Practical applications of media to problems of educating hearing-handicapped children. Prereq: Consent of instructor.

4719 Audiology Laboratory (1) (Same as Audiology and Speech Pathology 4719.)

4870 Student Teaching of Acoustically Handicapped Children (9) Supervised practicum with preschool, day school, and residential pupils. Satisfactory-No Credit.

4871 Practicum with Acoustically Handicapped Children (6) Satisfactory-No Credit.

5220 Linguistics in the Education of the Auditory Impaired (3)

5240 Seminar in Language Remediation for the Hearing Impaired (3)

5280 Seminar on Educational Implications of Language Deficiency (3)

5310-20-30 Manual Communication (2, 2, 2)

5410 Instructional Media for the Handicapped: Design, Production, and Evaluation of Prototypical Curriculum Materials for the Deaf (9)

5490 Educational and Vocational Guidance of the Deaf and the Hard-of-Hearing (3)

5820 Curriculum Development Applied to Programs for the Hearing Impaired (3)

5820 Curriculum Development Applied to Programs for the Hearing Impaired (3)

EDUCATION OF THE EMOTIONALLY DISTURBED

4610 Nature and Characteristics of Learning and Behavior Disorders (3) Forms of academic and social difficulty; degree of severity, possible causes, and relationships to each other. Relationships with respect to personality characteristics and developmental factors interpreted through behavioral and psychodynamic theory as well as practical situations in which learning and behavior disorders may occur.

4620 Education of the Emotionally Disturbed Child (3) Managing behaviors, models for instruction, teaching techniques and materials, and teacher-pupil family interpersonal relationships as basic to academic achievement for the pupil. Prereq: 4610.

4630 Practicum in Residential Settings Serving Children with Disturbing Behavior (3) Practice in scientifically identifying, observing, and recording disturbing behaviors. Initiating behavior changes regarding academic and social behaviors. To perform in a tutorial capacity within a residential classroom setting. Observation in discussion and evaluation of relevant academic curriculum and reinforcement schedules. Prereq: 4610 and 4620 or permission of instructor.

4640 Practicum in Public School Systems Serving Children with Learning and Behavior Problems (6) Academic tutoring in a teacher/aid capacity within regular classrooms. Particular emphasis and practice in individualizing instruction for learning and behavior problem children within the regular classroom setting. Discussion and evaluation of relevant methods and materials unique to each teaching situation. Prereq: 4610 and 4620 or permission of instructor.

4924 Student Teaching of the Emotionally Disturbed (9) Individual tutoring and classroom observation and teaching. Prereq or parallel: Education, Curriculum and Instruction 4730 or 4820. Satisfactory-No Credit.

EDUCATION OF THE MENTALLY RETARDED

4110 The Nature and Concept of Mental Retardation (9) Identification, description, and study.

4120 Education of the Mentally Retarded Child (3) Philosophy and rationale underlying the teaching and guidance of the mentally retarded; methods and materials in special and regular classes. Prereq or parallel: 4110.

4440 High School Program for the Mentally Retarded (3) Trends, issues and research relating to core and work study programs.

4810 Student Teaching Mental Retardation (3) Prereq: Major in education of mental retardation. Satisfactory-No Credit.

4811 Student Teaching Mental Retardation (9) Prereq: Major in education of mental retardation. Satisfactory-No Credit.

4922 Student Teaching of the Educable Mentally Retarded (9) Observation and supervised practicum. Satisfactory-No Credit.

5111 Psychology of Mental Retardation (3)

5112 Psychology of the Severely Mentally Retarded (3)

5113 Advanced Curriculum for the Mentally Retarded (3)

EDUCATION OF THE VISUALLY HANDICAPPED

4160 Education of Partially Sighted Children (3) Curricular adjustments and materials; home visits for parents' cooperation in medical care and special needs.

4850 Eye Problems Encountered by the Teacher (3) Eye anatomy and hygiene; common diseases and defects; testing and treatment; educational adjustments for specific eye conditions; related service resources.

4923 Student Teaching of the Partially Seeing (3) Observation and supervised practicum in special and regular classes. Satisfactory-No Credit.

SCHOOL SPEECH AND HEARING THERAPY

3100 Articulation Disorders (3) (Same as Audiology and Speech Pathology 3100.)

4030 The Public School Speech and Hearing Program (3) Organization, administration, and procedures.

4040 Appraisal of Speech and Language Disorders (3) (Same as Audiology and Speech Pathology 4040.)

4049 Lab in Appraisal of Speech and Language Disorders (1) (Same as Audiology and Speech Pathology 4049.)

4310 Stuttering (3) (Same as Audiology and Speech Pathology 4310.)

4320 Clinical Practice in Speech Pathology (1-6) (Same as Audiology and Speech Pathology 4320.)

4330 Clinical Practice in Speech Pathology (1-6) (Same as Audiology and Speech Pathology 4330.)

4340 Clinical Practice in Speech Pathology (1-6) (Same as Audiology and Speech Pathology 4340.)

4341 Clinical Practice in Speech Correction in the Public Schools (3) Prereq: Audiology and Speech Pathology 4320-30-40, Special Ed. 4030 and consent of instructor. Satisfactory-No Credit.

4342 Seminar in Speech Correction in Public Schools (3) Prereq: Audiology and Speech Pathology 4320-30-40, Special Ed. 4030 and consent of instructor.

4400 Voice Disorders (3) (Same as Audiology and Speech Pathology 4400.)

4450 Clinical Practice in Audiology (1-6) (Same as Audiology and Speech Pathology 4450.)

4460 Clinical Practice in Audiology (1-6) (Same as Audiology and Speech Pathology 4460.)

4470 Clinical Practice in Audiology (1-6) (Same as Audiology and Speech Pathology 4470.)

4710 Introduction to Audiology (3) (Same as Audiology and Speech Pathology 4710.)

4720 Audiometry (3) (Same as Audiology and Speech Pathology 4720.)

4730 Aural Rehabilitation: Speechreading and Auditory Training (4) (Same as Audiology and Speech Pathology 4730.)

4739 Laboratory in Aural Rehabilitation (1) (Same as Audiology and Speech Pathology 4739.)

4840 Advanced Aural Rehabilitation (3) (Same as Audiology and Speech Pathology 4840.)

5040 Advanced Clinical Practice in Audiology (1-6)

5380 Cerebral Palsy (3)

5390 Cleft Palate (3)

5540 Seminar in Language Pathology (3)

5710 Medical Aspects of Rehabilitation Counseling (3)

5710 Medical Aspects of Rehabilitation Counseling (3)

5120 Psycho-Social Aspects of Disability (3)

5130-40 Seminar in Rehabilitation (3, 3)

5150-50 Internship in Rehabilitation (9, 9)

5170 Systematic Human Relations Training I (3)

5180 Systematic Human Relations Training II (3)

GENERAL COURSES

3333 Education of the Exceptional Child (3) Principles, characteristics, and special needs; local and state programs for diagnosis and care; educational provisions in regular or special classes; home teaching; social and vocational guidance.

3520 Language-Speech Handicapped Child in the Classroom (3) Recognizing and understanding speech problems; observing normal and defective speech development in children; incorporating speech improvement activities into the curriculum. For students not majoring in speech and hearing.

4530-60-70 Problems in the Education of Exceptional Children (1, 3, 3) Prereq: Consent of instructor.

4740 Diagnostic and Remedial Approaches in Special Education and Rehabilitation (3) Critical
examination of specialized tests and methods employed in measurement of educational needs of children and adults who are mentally retarded, learning disabled, multiple handicapped or physically handicapped.

5000 Thesis
5260 Education of Gifted Children (3)
5400 Assessment and Remediation of Learning Disabilities (3)
5401 Prescriptive Teaching for Children with Learning Disabilities (3)
5403 Resource Teachers for the Handicapped (3)
5450-60-70 Experience in Teaching and Supervision of Exceptional Children (1-6, 1-6, 1-6)
5510-20-30 Administrative Practicum or Problems in Institutional Care of Children (3, 3, 3)
5550-60-70 Problems in the Education of Exceptional Children (3, 3, 3, 3)
5620 Counseling Parents of Exceptional Children (3)
5630 Psychology of the Exceptional Child (3)
5830 Seminar: Issues and Theories in the Education of the Exceptional Child (3)
5910-20-30 Problems in Lieu of Thesis (3, 3, 3)
5970 Juvenile Delinquency and the School (3)

Vocational-Technical Education (988)
Professor: H.J. Woodin (Emeritus), Ph.D. Ohio State
Associate Professors: M.D. Miller (Head), Ed.D. Oregon State; G.R. Bice (Research Coordinating Unit), Ph.D. Ohio State; W. Cameron (Research Coordinating Unit), Ph.D. Ohio State.
UNDERGRADUATE
4750 Audiovisual Methods and Techniques (3) (Same as Curriculum and Instruction 4750 and Library and Information Science 4750)
GRADUATE
5010 History and Organization of Vocational-Technical Education (3)
5040 Guidance and Pupil Personnel Services in Education (3)
5180-90-5200 Educational Specialist Research and Thesis (3, 3, 3)
5250 Issues and Trends in Vocational-Technical Education (3)
5260 Continuing Education in Vocational-Technical Education (3)
5270 Placement, Follow-up, and Evaluation Procedures in Vocational Education (3)
5300 Occupational Program Development for Disadvantaged Persons (3)
5310 Supervision of Vocational-Technical Education (3)
5850-60-70 Problems in Vocational-Technical Education (1-6, 1-6, 1-6)
6000 Doctoral Research and Dissertation
6040 Seminar in Vocational-Technical Education (1, 1, 1)
6210 Curriculum Planning in Vocational-Technical Education (3)
6220 Program Planning and Development in Vocational-Technical Education (3)
6230 Evaluation of Vocational-Technical Education Programs (3)
6310 Administration of Vocational-Technical Education (3)
6411-12-13 Internship in Vocational-Technical Education (3, 3, 3)
Agricultural Education (056)
UNDERGRADUATE
3450 Agricultural Experience and Future Farmers of America Programs (3) Prereq: consent of instructor.
3460 Methods in Teaching Agriculture (3) Prereq: consent of instructor.
3470 Program Development and Adult Education in Agriculture (3) Prereq: consent of instructor.
4350-60 Student Teaching in Agricultural Education (9, 6) Offered in off-campus centers. Application must be filed not later than final quarter of junior year. Courses must be taken concurrently. Prereq: 3450, 3460, 3470, consent of instructor. Undergraduate credit only. Satisfactory-No Credit.
4510-20-30 Problems in Agri-business Education (1-6, 1-6, 1-6) Total not more than 9 hours.
4710-20-30 Seminar in Agricultural Education (1, 1, 1) Prereq: 4550 or consent of department head.
GRADUATE
5000 Thesis
5011-21-31 Problems in Lieu of Thesis (3, 3, 3)
5110-20-30 Current Literature (1, 1, 1)
5320-30 Agricultural Education in Off-Farm Agricultural Occupation (3, 3)
5340 Agricultural Education for First-Year Teachers (3)
5470 Adult Education in Agriculture (3)
5480 Supervision of Student Teaching in Agricultural Education (3)
5490 Supervised Occupational Experience in Agriculture (3)
5620 Teaching Agricultural Mechanization in Vocational Agriculture (3)
5750-60-70 Special Problems in Agricultural Education (3, 3, 3)
Business Education (207)
Professors: G.A. Wagoner (Chairman), M.S. Indiana; E.W. Davis (Emeritus), M.A. New York University.
UNDERGRADUATE
4010 Principles of Business Education (3) Historical background and present status; principles of vocational education applied to business education; guidance activities of business teachers.
4120 Teaching General Business Subjects (2) Materials, evaluation procedures and recent research in subject fields.
4130 Teaching Typewriting (2) Materials, methods evaluation procedures and recent research in subject fields.
4140 Teaching Shorthand (2) Materials, methods, evaluation procedures and recent research in subject fields.
4150 Teaching Bookkeeping (2) Materials, methods, evaluation procedures and recent research in subject fields.
4230 Curriculum Construction in Business Education (3)
4510-20-30 Problems in Business Education (3, 3, 3)
4611 Problems in Business Education (1, 1, 1)
GRADUATE
5000 Thesis
5011 Problems in Lieu of Thesis (3)
5110 Graduate Seminar: Current Problems in Business Education (1, 1, 1)
5120 Graduate Seminar: Tests and Measurements (1, 1, 1)
5130 Graduate Seminar: Guidance (3)
5140 Organization and Operation of Area Vocational-Technical Schools (3)
5410-20-30 Practicum in Business Education (2, 2, 2)
5510 Evaluation of Research in Business Education (3)
5611-21-31 Problems in Business Education: Typing (3, 3, 3)
5612-22-32 Problems in Business Education: Shorthand (3, 3, 3)
5613-23-33 Problems in Business Education: Bookkeeping and Accounting (3, 3, 3)
5614-24 Problems in Business Education: Clerical Practice (3, 3, 3)
5615-25-35 Problems in Business Education: General Business (3, 3, 3)
5617-27 Problems in Business Education: Business Law (3, 3)
5618-28-38 Problems in Business Education: Administration (3, 3, 3)
5619-29 Problems in Business Education: Psychology of Skill-Building (3, 3)
6110-20-30 Current Issues in Business Education (3, 3, 3)
6210-20-30 Advanced Studies in Business Education (3, 3, 3)
6410 Higher Education for Business (3)

Distributive Education (273)
Associate Professor: C.B. Coakley (Chairman), Ph.D. Wisconsin.
Assistant Professor: D.E. McNeely, M.Ed. Central Missouri State.
UNDERGRADUATE
4110 Student Teaching in Distributive Education (9) Full-time, supervised experience in classroom teaching, coordination, club work, and adult education. Prereq: 4310, 4320, Education 3030; Educational Psychology 3810; 4140 or equivalent. Undergraduate credit only. Satisfactory-No Credit.
4120 School and Community Relationships for the Teacher Coordinator (6) Content dependent upon teaching assignment. Human relations evolving from school, parent, business, and other community contacts. Must be taken with 4110. Undergraduate credit only. Satisfactory-No Credit.
4130 Areas of Distribution (3) Marketing, product or service technology, social skills, basis skills, and distribution as these areas affect the distributive
education curriculum in secondary and post-secondary programs.

4140 Supervised Distributive Experience (3) Minimum 200 hours experience in approved distributive business; concurrent analytic project.

4310 Organization and Operation of Distributive Education Programs (3) Background and development needs, federal and state legislation; curriculum implications, establishing, evaluating, reporting, and improving the programs.

4320 Methods and Materials in Distributive Education (3) Prereq: 4310 or permission of instructor.

4330 Coordination Techniques in Distributive Education (3) Selecting training agencies, job analysis; selecting and briefing the training super-visors; advisory committees; adult education and other community services. Prereq: 4310 and 4320.

4510-20-30 Problems in Distributive Education (3, 3, 3) Selected research problems in teaching and coordinating distributive education programs.

GRADUATE

5000 Thesis

5110 Administration and Supervision of Distributive Education (3)

5120 Organizing and Teaching Adult Distributive Education (3)

5210-20-30 Special Problems in Distributive Education (3, 3, 3)

5616-26-36 Problems in Distributive Education: Retailing (3, 3, 3)

Home Economics Education (490)


Associate Professor: S.W. Miller, Ph.D. Ohio State.

Assistant Professor: J.H. McInnis, Ph.D. Florida State.

UNDERGRADUATE

2240 Introduction to Teaching Vocational Home Economics (3) Introductory and exploratory experiences concerned with a teaching career in vocational home economics. Includes observation and participation within various educational and vocational settings.

3240 Strategies of Teaching Home Economics (4) Teaching strategies, methods, techniques and use of media. Field experience included. Prereq: 2240.

4240 Curriculum Development in Vocational Home Economics (4) Planning of curriculum and design of instruction for the classroom. Prereq: 2240, 3240. To be scheduled one of the two quarters immediately preceding student teaching.

4310 Student Teaching (6) Underlying philosophy, techniques, and materials; relation to school program and community. Satisfactory-No Credit.

4509 Field Experience in Home Economics Related Occupations (4) Supervised field experience and seminar in teaching of occupations which utilize home economics skills and knowledge. Prereq: permission of instructor. Satisfactory-No Credit.

4610 Student Teaching (9) Open to seniors or graduate students who have successfully completed one year's study at The University of Tennessee. Off-campus teaching centers (minimum of eight weeks). Prereq: 2240, 3240, 4240. Coreq: 4310. Satisfactory-No Credit.

4718-28-38 Honors: Home Economics Education (3, 3, 3) For juniors and seniors showing special ability and interest in home economics education. Prereq: permission of department head.

GRADUATE

5000 Thesis

5130 Furthering Good Human Relationships in the Classroom (3)

5220 Evaluation in Home Economics (3)

5310 The Problem Method of Teaching (3)

5520 The Teaching of Home Economics in College (3)

5530 Organization of the Homemaking Curriculum in Secondary Schools (3)

5610 Supervision of Home Economics in the Public Schools (3)

5810-20-30 Problems in Home Economics Education (3, 3, 3)

5910 Seminar in Home Economics Education (3, 3)

Industrial Education (547)

Professors: J.L. Reed (Chairman), M.S. Oklahoma; R.W. Haskell, Ph.D. Purdue.

Associate Professors: G.D. Cheek, Ph.D. Kansas; D.V. Brown, P.E., Ed.D. Utah State.


UNDERGRADUATE

1240 Welding and Cutting Practices (3) Prereq: 1642.

1610 Engine Analysis (3) Designed to give experimental laboratory experience in automotive technology. Engine tune-up and engine overhaul techniques and procedures are studied and practiced.

1620 Graphic Communications (3) Drafting as a means of communication in technology. Orthographic and multi-view drawing, conventional practices, pictorial techniques and applications of photography.

1630 Basic and Applied Electricity (3) Operation and characteristics of electrical systems and devices. Construction of demonstration apparatus and various electrical devices in involving function of different types of circuits.

1642 General Metals (3) Basic course dealing with processes, equipment, materials, products, and organization of metal-working industries. Involves processes in machining, foundry, sheetmetal, and fabrication.

1661 General Woodworking (3) Basic course dealing with processes, tools, equipment, products, organization of woodworking industry. Stress on importance of safety and using hand tools and basic machinery.

2010-20-30 Basic Experiences in Trade and Industrial Education (3, 3, 3) Methods and materials of instruction, periods.

2611 Power Mechanics (3) Includes various prime movers, methods of utilization, distribution and transmission of power with internal combustion engines. Maintenance and repair of small engines is stressed.

2621 Architectural Graphics (3) Introduction to fundamen-tals of graphic representation and residential architecture. Light construction principles are stressed and working drawings for a residential building are developed. Prereq: 1620.

2631 Fundamentals of Applied Electronics (3) Semiconductors, electrical circuits, including amplifiers, oscillators, switching and timing circuits, applications including sounds in video systems, relays, control and industrial devices. Prereq: 1630.

2641 Machine Tool Processes (3) Introductory course of the function, care, set-up, operation and theory of basic metal cutting processes.

2652 General Plastics (3) Characteristics of thermoplastics and thermal setting materials, methods of determination and resin conversion to finished product.

2660 Furniture and Cabinet Construction (3) Comprehensive covered in parks and construction with emphasis placed upon furniture and built-ins. Prereq: 1661.

3010 Related Science, Mathematics, and Technology in Occupations (9) Credit may be earned only through examination. Applicants shall be limited to persons already holding a vocational teaching certificate.

3201 Manipulative Skills in Occupations (9) Credit may be earned only through examination. Applicants shall be limited to persons already holding a vocational teaching certificate.

3200 Knowledge of Related Subjects in Occupations and Personal Qualifications (9) Credit may be earned only through examination. Applicants shall be limited to persons already holding a vocational teaching certificate.

3400-41-42 Physical Testing Technology (3, 3, 3) Skills and techniques involved in radiography, metallography, tensile and compression testing, and other destructive and nondestructive testing methods. Undergraduate credit only.

3500-51-52 Welding, Brazing, Cutting, and Related Processes (3, 3, 3) Various types of welding equipment and fundamental techniques of welding. Undergraduate credit only.

3660-61-62 Electronic Technology (3, 3, 3) Basic principles and application of electronics. Undergraduate credit only.

3790-71-72 Industrial Mechanical Technology (3, 3, 3) Designing, testing, analyzing data, and preparing technical reports on a variety of mechanical systems and equipment. Undergraduate credit only.

3800-81-82 Machining of Metals (3, 3, 3) Introduction to machine shop theory and procedures which provides information and practice in using basic machine tools. Undergraduate credit only.

3900-91-92 Shop Operations (3, 3, 3) Various types of machine shop and applications. Undergraduate credit only.

3910 History and Philosophy of Industrial Education (3)

3920-20-30 Part-Time Programs in Cooperative Industrial Training (3, 3, 3) Principles of organization, methods, and materials.

3930 Shop Operation and Management (3)

3930-30-30 Materials and Methods for Teachers of Shop and Related Subjects Teachers (3, 3)

3940 School Shop Safety (3)

3950 Development and Utilization of Advisory Committees (3) Philosophy and rationale for use of craft advisory committees. Their selection, organization, implementation and utilization.

3962 Automotive Mechanics (3) Advanced laboratory experience in tune-up, overhaul, transmission, and the suspension system. Prereq: 1610.

3971 Industrial Graphic (3) Auxiliary views, sections, conventions, projection, dimensions, working drawings and machine drafting. Prereq: 1620.

3982 Industrial Electricity and Equipment Control (3) Includes construction and application of industrial electric equipment both single and polyphase: Production, use and control of electric current. Distribution and use of circuit tracing, installation, maintenance, and trouble controlling industrial equipment. Prereq: 1630.

3990 Advanced General Metals (3) Provides experiences in areas of hot and cold forming of metals, molding and melting finishing, tool grinding, heat treatment, fabrication and precision measurement. Prereq: 2641.
3651 Plastic Processing (3) Plastics production equipment and related product design and processing of plastics. Prereq: 2652 and 1661.
3662 Construction Methods and Materials (3) Materials, methods, and equipment used in residential construction, including location and excavation, foundation, framing, roofs, interior and exterior finishes, installation and acceptable practices in assembly. Prereq: 1661.
4073-74-75 Tool and Machine Design (3, 3, 3) Tool and machine design, calculations, design systems, and designing procedures. Undergraduate credit only.
4083-84-85 Precision Forming and Shaping of Metals (3, 3, 3) Advanced machine tool techniques related to the production of precision-made metal parts with emphasis on automatically controlled machine tools. Undergraduate credit only.
4090-91 Numerical Control (3, 3) Tooling, manual programming, automatic programming, automatic programming language and use of automatic programmer as a computer. Undergraduate credit only.
4110 Foremanship Training by the Conference Method (3)
4120-30 Job Analysis (3, 3) Principles, practice, instructional methods.
4210 Methods of Teaching Shop and Related Subjects (3) Undergraduate credit only.
4220 Vocational Technical Laboratory Equipment Maintenance (3) Understanding of preventive maintenance, maintenance and calibration of instruments and power equipment used in industrial education shops.
4310-20 Curriculum Building in Trade and Industrial Subjects (3, 3) Arranging course material in trade subjects, following up results of job analyses, preparing checking sheets and individual job sheets in both trade and related subjects. Prereq. or coreq: 4120.
4350-60-70 Problems in Industrial Education (3, 3, 3)
4410 Directed Teaching (6) Observation of all types of trade and industrial classes; preparation of lesson plans and supervised teaching in at least two types. Prereq: Senior standing in industrial education. Prereq or parallel: 4210. 1 hr and 5 periods. Undergraduate credit only. Satisfactory-No Credit.
4420 Directed Teaching (9) Guided observation and teaching in trade, industrial, and/or technical programs in secondary, area, adult, post secondary, and junior college industrial vocational and technical curricula. Undergraduate credit only. Satisfactory-No Credit.
4510-11-12 Seminar in Industrial Education (3, 3, 3) Educational innovations, current events, problems, and other topics associated with the field of industrial education.
4520-21-22 New Developments in Industrial Education (3, 3, 3) Developments, pressing problems, and recent trends in field of industrial education as presented by a coordinating instructor in conjunction with knowledgeable resource personnel.
4621 Special Topics in Drafting (3) Industrial practices in specialized areas of drafting selected for the individual student. Prereq: 6 hrs drafting.
4670 Manufacturing Processes (3) The manufacturing processes of industry and their relationship to careers. Prereq: 2621, 2641, 2660, 3651, or permission of instructor.
4671 Materials and Processes (3) Organic and inorganic materials and processes used to produce finished products. Content, curriculum and techniques of laboratory operation. Prereq: permission of instructor.
4682 Power and Energy (3) Development, control, transmission, conversion, interrelationship of power sources; content, curriculum, and techniques of laboratory operation. Prereq: permission of instructor.
4690 Visual Communications in Industrial Arts (3) Methods of developing and transmitting ideas and information as related to industry and society. Content, curriculum and techniques of laboratory operation. Prereq: permission of instructor.
4691 Course Construction in Industrial Arts (3) Advanced work in the selection and arrangement of course content. Emphasis upon instructional objectives, project selection and informational assignments and evaluation. Prereq: permission of instructor.
GRADUATE
5000 Thesis
5110-20-30 Administration and Supervision of Industrial Education (3, 3, 3)
5140 Organization and Operation of Area Vocational-Technical Schools (3)
5210-20-30 Special Problems in Industrial Education (3, 3, 3)
5310-20 Methods of Research in Industrial Education (3, 3)
5410 Improving Teachers in Service (3)
5420 Advisory Committees and Apprentice Training (3)
5430 Vocational School Administration and Management (3)
5440 Advanced Methods of Teaching Skills and Technical Information (3)
5510-20-30 Seminar in Industrial Technical Education (3, 3, 3)
5540 New Developments in Industrial Technical Education (3)