School of Architecture

Roy F. Knight, Dean
William J. Lauer, Associate Dean, Administration

The School of Architecture offers a program of professional studies which prepares its graduates for the practice of Architecture. While emphasizing knowledge and skills required by architects in guiding the processes of building, the School is especially concerned that its students learn that kind of good judgment which particularly distinguishes the architect from all other professionals who serve the building industry. Therefore, the student is regularly called upon to pay attention to cultural, philosophical and ethical issues that appropriately concern the architect in performance of the arts of building. The student is also required to discover and understand the principles by which our physical universe appears to operate in order to know the sciences of building as fully as possible. It is important for the student to learn the characteristics of the natural environment while learning the physical behavior of materials in structures. Furthermore, the program of the School is concerned with preparing the student to be adaptable to changing circumstances of our world. How to learn about architecture is as important as we see it developing in sometimes surprising ways. This places special demands upon the professionals. Consequently the program of the School emphasizes the process of learning with the intent of enabling its graduates to adapt to the changing circumstances of our world. How to learn about architecture is as important a matter for the student as learning itself.

Facilities

In the Spring of 1981, a new building housing the School of Architecture and shared by the Art Department was completed. The Art and Architecture Building contains all the primary activities of the School. Expressly designed for the School in an open architectural competition, the building has already received widespread recognition and has become one of the models sought out by other schools. The building was designed by the Knoxville architectural firm of McCarty Bullock Holsaple, Inc. It contains as its major feature a large interior mall or street. Opening off this large gathering space with serves as a campus focal point, are amply designed classrooms, a reference library which contains extensive slide collections and other reference materials, computer rooms, faculty offices, lecture rooms, administrative offices, an elaborate darkroom, workshop, and a gallery in which architectural as well as art exhibits are mounted.

The principal library holdings of the school are located in the James D. Hoskins Library, and additional volumes in the Undergraduate Library.

Financial Assistance for Students

A number of $500 sponsorships are made available each year by architectural firms, manufacturers of building materials, and other construction related industries. These grants are used to cover tuition, books and equipment. Sponsorships are also available through the national headquarters of the American Institute of Architects. Honor students in all the upper four years are eligible for this aid, but it is primarily awarded to student's of third-and fourth-year standing.

Lecture Program

Throughout the academic year, the School organizes an extensive series of special lectures by experts in architecture and related subjects. Students are expected to attend regularly and benefit from this opportunity to hear the leading people of the field. The lectures are open to the University community and the public as well.

Included in the series is the ROBERT B. CHURCH MEMORIAL LECTURESHIP. Named for the School's second dean, it has become widely respected by the field as an honor to be appointed to this lecturership. The most prominent architects from around the world are brought to the School with income from the endowment.

Other important lectures are sponsored by the General Shale Corporation and the Architectural Branch of the Tennessee Valley Authority. Annually in the Spring Quarter a special program called TAAST is arranged.

Within a period of one week the entire School participates in special lectures, seminars, exhibits, and informal gatherings. Featured are discussions by a series of visiting experts. TAAST is a student organized event.

Publications

Students in the School each year publish a journal of architecture, Portfolio. Continuing several years of excellent publications covering work of the School and current thinking in the field, this journal has become a widely recognized part of the School's participation in the profession.

Foreign Studies Program

Each year the School offers at least two opportunities for foreign study to its students. In cooperation with the Danish International Student Committee a program is regularly offered in Copenhagen taught by outstanding Danish architects and educators. Within the School faculty, a person is assigned responsibility to lead a program in Europe each year at varied locations. These are designed to include visits to prominent new architectural sites and major historic locations.

Studies abroad are arranged to include a full quarter's credit for advanced students and includes design, history, and theory of architecture.

General Information

Students are advised to consult the University's general requirements as stated in the front section of this catalog as well as the requirements described in the School of Architecture's Student Handbook.

Self advising will not be permitted in the School of Architecture. Students must plan their schedule by consulting with an assigned adviser. Electives will be chosen with the concurrence of the adviser and with full consideration of the necessary prerequisites.

Freshman Admission

Requirements

The School of Architecture, being a professional program and having limited resources, has a restricted enrollment based on the following criteria:

75
(1) Admit applicants with an ACT composite score of 27 or above.

(2) Admit applicants with a total of 55 or above using the formula of the high school grade point average times 10 plus the ACT composite score. A minimum ACT composite score of 20 is required.

(3) Refuse all applicants with an ACT score of 16 or below.

(4) Refer applicants not falling into items 1, 2, or 3 to the Committee on Admissions. The Committee meets during the second week of March.

**Deadlines for Applications**
Applications for the School of Architecture must be received no later than March 1 for admission into the Summer or Fall Quarter. November 1 is the deadline for applications for the Spring Quarter; enrollment is closed for the Winter Quarter.

**Requirements for Admission to Second-Year Architecture**

(1) Satisfactory completion of first-year architecture program with grade point average at least 2.3; exceptions may be made by petition only;

(2) a personal interview and evaluation of applicant’s work by a designated member of the School of Architecture;

(3) application to the School of Architecture no later than June 15 preceding the start of the second year.

Students must maintain an overall 2.3 grade point average by the end of 48 hours (attempted) in order to maintain "full status" in the program. Delinquent students must be put on "temporary status" for one quarter. These students will have one quarter to raise the overall GPA to a 2.3 or have minimum 2.3 on each quarter's work until overall average is raised to 2.3. If the GPA is not brought up to a 2.3, the student will be dropped from the architecture program.

**Third-Year Prerequisites**
Students are required to have all first- and second-year courses satisfactorily completed before entering the third-year design courses, Architecture 3001-02-03. Students who register for a third-year design course holding first- or second-year deficiencies may be required to drop the course at any point during the quarter.

**Minor**
An undergraduate minor in architecture is offered in order to enable students in other colleges to pursue studies in architecture which are relevant to their major areas of concentration. The minor will consist of not less than 15 hours. Persons interested must obtain the consent of the School of Architecture Current Curriculum Committee and dean of the School of Architecture, who will approve specific programs of study proposed by students.

**Course Load**
The average course load in any quarter is 16 credit hours. The minimum which may be taken by full-time students is 12 hours; the maximum which may be taken without approval of the dean is 19 hours.

**Satisfactory/No Credit Courses**
These courses, if successfully completed, will count as hours for graduation, although neither S nor NC grades will be calculated in the student's grade point average. Satisfactory is defined as C or better work on the traditional grading scale, and no credit is defined as less than C. The following regulations apply: (1) S/NC courses may not count for required courses or approved electives; (2) a student who desires to take a course S/NC should indicate this intention at the start of registration. A change from S/NC grading to regular grading or from regular grading to S/NC will not be permitted beyond the add deadline for each quarter. Exception: students who register for a course S/NC in a restricted area will be required to change to regular grading when the error is discovered.

**Program Description**
The undergraduate curriculum leads to the Bachelor of Architecture degree. It provides for a balanced education consisting of liberal arts and science studies and a program of professional studies emphasizing design excellence through encouragement of imagination and creativity. Included are courses which prepare the student for leadership in the architecture profession. The student is also given opportunities to explore fields of knowledge beyond architecture through a program of elective areas and emphasis, some of which prepare the student for more advanced studies at the graduate level.

**General Studies**
General courses are required of all students. They provide the knowledge of fundamental principles required for the practice of architecture. Broad in scope and addressing non-technical matters, these courses are also suitable for enrollment of students from other departments of the University. Courses, in addition to English, mathematics, and physics, fall into the following areas:

- Basic Design and Visual Studies
- Analytical Studies
- Man-Environment Systems
- Physical Systems
- Historical Studies

**Professional Studies**
Professional studies constitute courses which cover subjects fundamental to the competent professional practice of architecture. These include courses in:

- Architecture Design
- Professional Practice
- Structural Analysis and Design
- Materials of Construction
- Energy and Environmental Design

Through careful selection of approved electives, students can express professional knowledge and skills useful in practice.

**ACCELERATED STUDIES**
Students demonstrating an exceptional proficiency in any of the professional subjects may be approved for selected accelerated studies, thereby reducing the time needed to complete study requirements and allowing more time for concentration in the student's chosen area. Formal review and approval by the school is required of all candidates for accelerated studies.

**Curricula for Architecture**
All students studying for a Bachelor of Architecture degree will include the following required courses in their first three years of study. During the fourth and fifth years, the student's work will be concentrated in one of the following options: design, history, criticism, restoration/preservation, management, production, development, structures, systems building, or environmental controls. Refer to numbers in the 4300 sequence for architecture design course electives. Any exceptions to the curriculum outline have been footnoted. For any additional specialized requirements, the student should refer to the Student Handbook of the School of Architecture and the student's adviser.

**SERVICE PRACTICUM REQUIREMENT**
A three-month, non-credit internship in an architect's, engineer's, or contractor's office or related work may be approved by the school. This must be evidenced by a letter from the employer indicating type and quality of student's work and time of employment prior to graduation. It must be completed before entry to senior standing, fifth year.

**HOURS CREDIT**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
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<tbody>
<tr>
<td>Architecture 1000, 1002, 1005</td>
<td>4 4 4</td>
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<tr>
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<tr>
<td>English 1012 or 1011, 1020, 1031, 1005, 1033</td>
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<td>Physics 2240, 2250, 2260</td>
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<tr>
<td>Math 1500-50-60 (for Design &amp; History/ Humanities)</td>
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<tr>
<td>Math 1840-50-60 (for Administration &amp; Technology)</td>
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<td>Architecture 2015, 2016, 2007</td>
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<td>Architecture 3013, 3014, 3015</td>
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<td>Architecture 3007</td>
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<tr>
<td>Approved electives or option courses</td>
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Total: 144 or 148 hours

**OPTIONS**

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<th>ARCHITECTURAL DESIGN Hours Credit</th>
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<tr>
<td>Fourth Year</td>
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<tr>
<td>Architecture design course electives</td>
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<td>Approved electives</td>
</tr>
<tr>
<td>Electives</td>
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| Fifth Year                      |
| Architecture design course electives | 8 8 8 |
| Approved electives               | 4 4 4   |
| Electives                        | 4 4 4   |

Total: 240 hours

**HISTORY Hours Credit**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
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<tbody>
<tr>
<td>Architecture design course electives</td>
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<tr>
<td>Architecture 4311</td>
<td>4 -</td>
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<tr>
<td>Architecture 3101, 3102, 3137</td>
<td>4 4 4</td>
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<tr>
<td>History 1519-20</td>
<td>4 4 4</td>
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<tr>
<td>Approved electives</td>
<td>4 4 4</td>
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<tr>
<td>Approved electives</td>
<td>4 4 4</td>
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</tbody>
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Total: 240 hours
Approved Electives 4 4 -

Architecture 4311 .................................................. 8 8
Architecture 4311 .................................................. 8 8
Architecture 3101, 3102, 3137 .................................. 4 4 4
History 4160-20 .................................................. 4 4 4
Approved electives ............................................. 4 4 4

Total: 240 hours

Fifth Year

Architecture design course electives .................................................. 8 8 8
Architecture 4115, 4180 .................................. 4 4 4
Approved electives ............................................. 4 4 4
Electives .................................................. 8 8

Total: 240 hours

ARCHITECTURAL DESIGN OPTIONS

ACCOUNTING 4200; Administration 2750; Philosophy 1510-20; Physical Education 3900; Political Science 4580-90; Psychology 2500, 2530, 3150, 3210, 4230; Real Estate 2610, 3610, 4120-4130; Sociology 3900, 3990, 3410, 4330; Statistics 2100, 3220, 3510.

HISTORY/CRITICISM, RESTORATION/PRESERVATION OPTIONS

Agricultural Economics 4330; Rural Sociology 3420; Anthropology 3575, 3580, 3610, 3640, 3660, 3716, 4740; Architecture-all seminars: Art 2774, 2775, 2776, 2777, 2793, 2794, 2795, 2796, 2797, 2798, 2799, 2811, Classics 3715, 3716, 3725, 3726, 3727, 3735, 3736, 3745, 3746, 3747, 3756, 3775, 3776, 3777, 3778, 3811; Classics 3210, 3220, 3230, 3310, 3320, 3330, 3340, 3350; Engineering Studies 4100, 4200, 4300; English—all courses 2000 level and above; Environmental Engineering 4820; Geography, 3000, 3430, 3450, 3490, 4240; Germanic and Slavic Languages—all German and Russian courses; History—all courses 2000 level and above; Philosophy 3330, 3740-50, 3910; Romance Languages—all Arabic, French, Italian, Portuguese and Spanish courses; Sociology 3410, 3420.

MANAGEMENT, PRODUCTION AND DEVELOPMENT OPTIONS

Accounting 2110-20, 5050-60; Architecture 4510, 4515, 4520, 4525, 4530, 4531, 4532, 4535, 4540, 4545, 4550, 4560, 4565; Business Administration 1110, Business law 4120, 4130, 5050; Economics 2110-20-30; Finance 3510, 3520-30, Journalism 3710; Management 3010, 5010, Marketing 3110, 3120, Office Administration 4510, 5010, 5050; Real Estate 2610, 3610, 3630, 4120, 4130, 4230; Statistics 2100.

STRUCTURE AND ENVIRONMENTAL CONTROLS, SYSTEMS BUILDING OPTIONS

Architecture 3712, 4710, 4711-12, 4715, 4721-22, 4725-26-27, 4734, 4735, 4736-37, 4739, 4771-72-73, 4775, 4780, 4785, 4900, 4910; Art 3735, 3736, 3737, 3745, 3765; Botany 1110-20, 3030, 3030; Broadcasting 3650, 4020, 4030, Business Law 4110; Child and Family Studies 2110, 3510, 3515, 3520, 4260, 4430, 4830; Chemistry 1110-20-30; Civil Engineering 4430; Interior Design and Housing 3125, 3126, 4155, 4156, 4130; Communications and Computer Science 3410; Educational Curriculum and Instruction 3310; Economics 2110-20-30, 3110, 3340, 4150; Electrical Engineering 4850; Environmental Engineering 4720, Industrial Engineering 4150; Mathematics 2610; Mechanical Engineering 4220; Statistics 3450, Theatre 3231-22, 3431-42.

Approved Electives Lists

ARCHITECTURAL DESIGN OPTIONS

Accounting 2110-20; Anthropology 2510, 2530, 3712, 3910, 4110, 4137, 4160, 4710, 4720, 4721-22, 4725-26-27, 4734, 4735, 4736-37, 4739, 4771-72-73, 4775, 4780, 4785, 4900, 4910; Art 3735, 3736, 3737, 3745, 3765; Botany 1110-20, 3030, 3030; Broadcasting 3650, 4020, 4030, Business Law 4110; Child and Family Studies 2110, 3510, 3515, 3520, 4260, 4430, 4830; Chemistry 1110-20-30; Civil Engineering 4430; Interior Design and Housing 3125, 3126, 4155, 4156, 4130; Communications and Computer Science 3410; Educational Curriculum and Instruction 3310; Economics 2110-20-30, 3110, 3340, 4150; Electrical Engineering 4850; Environmental Engineering 4720, Industrial Engineering 4150; Mathematics 2610; Mechanical Engineering 4220; Statistics 3450, Theatre 3231-22, 3431-42.

Geology 3610, History 4670; Industrial Engineering 4150; Journalism 3710; Law 6849; Marketing 3110, 3120, 3210; Mechanical Engineering 4715.

School of Architecture
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### Lectures:
- A. Anderson, M.A. Missouri; M. F. Fowler, B. Arch.
- North Carolina; M. C. Martin; A. L. Wharton, B.S.
- Landscape Architecture, West Virginia.

#### 1001 Introduction to Human and Environmental Properties and Transactions (4)

#### 2006 Physical Systems (4)
- Introduction to properties of two- and three-dimensional visual organizations. Relationship of properties of visual elements and their ability to communicate information and create legible visual systems.

#### 2003 Basic Design and Analysis I (4)
- Analysis of human, behavioral, and environmental systems. Lectures in field of architecture with special emphasis on design methodologies and analytic techniques. Lectures may cover visual organizations, structures, environmental controls, behavioral and natural systems, design philosophy, history, and criticism. Presentations include lectures by faculty from this school and universities, visiting speakers, and multimedia programs. Held once a week. In addition, special lectures are announced each quarter.

#### Historical Studies I (4)
- Introduction to evolution of architectural periods with selected illustrations from local examples. Relationship of historical and development to the built environment from antiquity through Byzantine period. Applications to present-day design issues.

### 2000 Man-Environment Systems I (4)

### 2001 Basic Design and Analysis I (4)
- Environmental design analysis, decision making, and evaluation methodologies applied to problems of human scale; problem-solving application. Prereq: Second-year standing; coreq: 2000.

### 2002 Basic Design and Analysis II (4)
- Classification and properties of three-dimensional structural organizations. Relationship between geometry and ability to support loads and forces for human activities. Emphasis on design and problem-solving techniques developed through variety of methods. Prereq: Second-year standing and 2002; coreq: 2014.

### 2006 Physical Systems II (4)
- Examination of building materials applied to systems of construction: units, components, modules, building systems. Introduction to methods of construction, conventional and systems building. Prereq: 2011.

### 2007 Historical Studies II (4)
- Relationship of historical and cultural developments to the built environment from the Renaissance period through the present. Applications to present-day design issues. Study of historical methods and analysis. Prereq: 1007.

### 2011 Structural Materials I (4)
- Introduction to structural systems of construction: building materials, behavior and response under loading and stress, section properties. Prereq: 1006 and second-year standing.

### 2012 Structural Analysis I (4)

### 2013 Structural Analysis II (4)

### 2014 Analytical Studies II (4)
- Introduction to basic research methods and to environmental problem solving: information and skills necessary for collecting, ordering, manipulating, and displaying (communicating) a wealth of diverse data for research and evaluation purposes. Course objective is to qualify students with communication and data processing technologies as a research tool.

### 2015 Environmental Control Systems I (4)
- Principles and methods of environmental control analysis in heating, ventilation, air conditioning, lighting, acoustics, and sanitation. Prereq: 1006 and second-year standing.

### 2016 Environmental Control Systems II (4)
- Design and application of environmental control systems in buildings: space conditioning, electric service and wiring, lighting equipment, plumbing systems, and vertical transportation. Prereq: 2015.

### 2017 Pre-modern Survey I (4)
- Classical tradition in architecture-Greek and Roman architecture; Renaissance and neoclassical revivals. Prereq: 2012.

### 2021 Pre-modern Survey II (4)
- Medieval and Byzantine architecture.

### 3001 Architectural Design Lab I (4)
- Controlled exercises designed to demonstrate integration and application of design theory and methodologies into design process. Exercises directed to aspects of architectural issues such as site analysis and planning, facility programming and program analysis, and integration of multiple complex architectural systems in comprehensive architectural resolutions. Prereq: 2001.

### 3002 Architectural Design Lab II (4)
- Experimental exercises designed to demonstrate integration and application of design theory and methodologies into a creative design process. Exercises directed to aspects of architectural issues such as site analysis and planning, facility programming and program analysis, and integration of multiple complex architectural systems in comprehensive architectural resolutions. Prereq: 2002; coreq: 3016.

### 3003 Architectural Design Lab III (4)
- Advanced exercises designed to refine fundamental abilities in problem seeking, problem solving, and communication and to provide overview of comprehensive architectural design process. Emphasis on integration of complex systems in buildings and building groups. Exercises directed to issues from programming and schematic design through detailed analysis of specific building components. Prereq: 3002; coreq: 3016.

### 3007 Historical Studies III (4)
- Relationship of historical and cultural events from mid-eighteenth century to the present including a study of the roots of the modern movement. Applications to present-day issues, changing concepts of economics, aesthetics, and architectural theory. Prereq: 1007 and 2006.

### 3013 Professional Practice I (4)
- Survey of legal responsibilities of architect in servicing contractual arrangements; contract documents, contract administration, codes and zoning regulations, liability, and insurance factors in building delivery. Prereq: Third-year standing.

### 3014 Professional Practice II (4)
- Principles and methods of economics and management; project production and management, contracts, development, budgeting, programming, and construction management. Prereq: 3013.

### 3016 Structural/ Mechanical Applications to a Built Environment (4)
- Analysis of structural and mechanical systems: Analysis and selection of components with consideration of all the technical educational experiences into a unified design solution. Involves individual and group participation, technical analysis, and formal presentation. Prereq: 2006, 2013, 2016.

### 3102 History of the City (4)
- Evolution of town planning theories; modern theory, city of today and tomorrow.

### 3103 American Architecture I (4)
- The development of North American architecture, from the arrival of the immigrants in 1607, until 1860. Architecture and settlement patterns will be discussed in relationship to the changing cultural conditions which emerged as America changed from a colony to a republic, and expanded westward to the Pacific Ocean.

### 3104 American Architecture II (4)
- Stylistic periods of the Victorian era from the Gothic Revival and the transition to the Grecian Revival, the National Renaissance Revival, and Beaux-Arts Classicism. In the twentieth century the Pioneers School, California School, and International Style will be emphasized.

### 3105 American Architecture III (4)
- The eastern expansion of the Fertile Crescent to the Indus Valley, Hindu, Buddhist, and Mughal architecture in India. Architecture in China and Japan from the earliest beginnings.

### 3113 Contemporary Architecture (4)
- Styles and theories from 1865 to present; design and technology; definition of architecture.

### 3115 Latin American Architecture (4)
- Native and colonial architecture in Central and South America.

### 3120 Indigenous Traditions (4)
- Study of worldwide "anonymous" architecture reliant upon climatic conditions, availability of materials, and economic level of the people. Prehistoric structures; residential, defensive, and provincial examples of architecture. The vernacular as a nineteenth century revival style and a twentieth century expression of the modern movement.

### 3125-26 History of Architectural Technology I, II (4, 4)
- History of construction techniques, hardware, materials, and systems: 1500 to 1850; 1850 to present.

### 3130 History of Architectural Theory (4)
- Philosophies of science, the emergence of technology, and theories of design since 1500.

### 3135 Tennessee Architecture (4)
- Immigrant traditions, regional developments, national styles, contemporary architecture.

### 3137 Architecture Since 1845 (4)
- New directions and visions of the future.

### 3140 Studies of Architectural Writing (4)
- Survey of European architectural writers from Pugin to the present; the relation between literature and design. May be repeated. Maximum credit 8 hrs.

### 3701-02 Application of Computer in Architecture (4, 4)
- Survey of computer applications in the architectural profession. Computer graphics; use of commercial programs and systems; program planning and implementation. Prereq: 3701 for 3702.

### 3712 Mathematical Models in Architecture (4)
- Illustration and development of mathematical models and methods in architectural science. Survey and classification of mathematical models of problems in architectural science, including numerical methods and use of digital computer.

### Architectural Graphic (4)
- Principles and techniques of orthographic, axonometric, and perspective drawing techniques in communication of architectural concepts and solutions. Introduction of techniques for delineation of form/space, materials/texture, light/shadow, and figurative interest. Both freehand and mechanical drawing techniques developed through variety of media. Problems of graphic and layout decisions in relation to audience and desired presentation impact and sophistication addressed.

### Research Methods for Designers (4)
- General introduction to basic user requirements during design process. Prereq: 2000.

### Environmental Design Education: Problems, Practice, and Structures (4)
- Focus directed at surveying, analyzing, and modeling models and methods of problem evaluation. Role of experimentation and interactive computer practice and its relationship to design education explored. Required for teaching assistants in architecture. Prereq: Consent of instructor.

### Behavioral Approaches to Environmental Design (4)
- Major concern in the lecture content of this
course is the effect of the built environment on human behavior. Particular emphasis will be placed upon the relationship of environmental factors in human development, learning, adaptation, stress and satisfaction, recreation behavior, and life-cycle functions. Studio problems will explore the design of environments for children and environmental supports for various types of physical disabilities. 3 for people of all ages. 2 credits for lecture and 4 credits for lab. Prereq: Consent of instructor.

3940 Behavioral Approaches to the Design of Prosthetic Environments (6) Many standard features of the built environment are unsuitable to the everyday functioning of various types of physical disability; study of architectural barriers in relation to the physically handicapped constitutes the course lecture content. Site design problems explore design of barrier-free environmental features and design of disability-specific environments and behavioral supports. 2 credits for lecture and 4 credits for lab. Prereq: 3930 for non-architecture students.

4110 Aesthetics in Architecture (4) Architecture among the arts, theory and philosophy of space, imagination, design, and materials.

4111 Special Topics in Architectural History, Criticism, and Preservation (1-4) Special topics offered under direction of History/Humanities faculty. Course content and grade varies. May be repeated. Maximum credit 8 hrs.

4115 Research Methods in Architectural History (4)

4120 Treatises (6) Vitruvius; Renaissance and neoclassical treatises.

4125 Eastern European Architecture (4) Twentieth-century architecture in Russia, Czechoslovakia, Poland, Hungary, East Germany, Rumania, Bulgaria, Yugoslavia, and others.

4130 Medieval Architecture (4)


4137 Forms of Utopia (4) Ideals, spaces, and places; proposals and programs which have formed Utopian tradition; successes and failures of its architectural forms.

4140 Criticism Seminar (4) Theories, function, and techniques of architectural criticism.

4150 Advanced Reading (4) Advanced studies in special topics of architectural history.

4160 Architects in Social Criticism (4) Writings which illustrate technological, political, and anthropological assumptions of some 19th- and 20th-century architects.

4170 Introduction to Preservation and Restoration (4) History and theory of restoration and preservation.

4175 Technology of Preservation (4) History of technology and materials, analysis and dating, techniques of preservation.

4180 Descriptive Analysis of Historic Buildings (4) Identification and analysis of characteristic elements of buildings from various architectural periods, with emphasis on American architecture. Survey techniques.

4185 Contemporary Preservation Practice (4) History and theory of contemporary practice, preservation law.

4311 Historic Preservation Laboratory (4) Directed studies for buildings of historic significance. Techniques of preservation: research of historic methods of construction, and studies of viable uses. Rehabilitation, restoration, preservation, and adaptive uses. May be repeated. 4 credits.

4312 Foreign Studies Laboratory (16) Travel, research, and laboratory projects conducted in various location abroad. The programs may include service to less-developed countries; research and design projects related to program locations; lectures, seminars, and critiques by distinguished individuals in the host country. Programs will vary.

4313 Media Laboratory (8) Special projects related to professional issues: sensory, visual, and other media and media applications under the direction of faculty members. May be repeated. Maximum credit 16 hrs.

4320 Introduction to Site Planning (4) Analysis of site form and ecology, environmental assessment, social and psychological aspects of site locations and development, study of movement systems, program development, site design, including locations and layout of streets and utilities; earthwork, site management and development.

4330 Architecture Research Lab (4) Research projects on specific architecture subjects under the direction of faculty members.

4331-33-35 Micro Studies Laboratory I, II, III (4, 8, 8) Series of design exercises to demonstrate range of human response to varied composition of micro environmental elements and systems. Prereq: 3003.

4340 Independent Studies Lab (1-6) Individual architectural or related projects under direction of faculty members. Credit adjusted to nature of problems and level of effort. May be repeated. Maximum credit 24 hrs.

4350 Visiting Lecturers Laboratory (8) Architectural or related projects under the direction of visiting lecturers. Nature of project to be determined by visiting lecturer in charge. May be repeated. Maximum credit 16 hrs.

4351 Build Laboratory (8) Design and construction under the direction of faculty member of small scale building project for a public service agency or organization. Work with client includes programming, budgeting, cost and analysis, material specification and ordering, subcontracting, and onsite construction.

4352 Architectural Service Laboratory (8) Off-campus studies conducted under direction of architect or related professional on the staff, member or public service organization or agencies of government. Subject of study varies but is directly related to problem-solving process.

4353 Development Laboratory (8) Directed studies in development of real property. Studies of use feasibility, economics, finance and marketability, environmental impact, social considerations and consequences.

4356 Remote Centers Laboratory (8) Program extension in remote locations of various tenure.

4370 Architecture-Engineering Laboratory (8) Directed research application in new structural concepts. Architectural projects of large scale and complex nature with emphasis on reinforcing application of architectural design process and introducing principles and techniques used in urban and regional design and planning process. Prereq: 3007.

4381-82-83 Macro Studies Laboratory I, II, III (8, 8, 8) Design studies of a large scale and complex nature with emphasis on reinforcing application of architectural design process and introducing principles and techniques used in urban and regional design and planning process. Prereq: 3007.

4390 Interdisciplinary Laboratory (8) Action-oriented joint studies laboratory in environment-related problems utilizing interdisciplinary resources and undertaken by students and faculty both in and out of the School of Architecture.

4501 Management Design I (8) Using the lab situation and project simulation, study aspects of project management and construction management, the process of making decisions, the understanding of their ramifications; the concept of decisions, design, and the process of delivery.

4502 Administrative Design I (8) Lab simulation of office experience in project planning and control, programming, and preparation of contract documents.

4503 Management Design II (8) Advanced work in lab situation of the management aspects of architecture. Use of computer as a management tool and simulation of an office situation is conducted in the lab. Prereq: 4501.

4504 Administrative Design II (8) Lab simulation of project with emphasis on production, specifications, estimating, materials, and codes. Prereq: 4502.

4510 Project Management (4) Principles, methods, and application of project management to the total building process. Project manager, his function, responsibilities, and activities investigated through case studies, job history reviews, and project simulation.

4515 Construction Management (4) Principles, methods, and techniques of specification, procurement, and management of the total building process. Project manager function, responsibilities, and activities investigated through case studies, job history reviews, and project simulation.

4520 Professional Services (4) Marketing of architectural practice by study of cases, theories, public relations procedures, and understanding sales of architectural services, techniques, forms and comprehensiveness.

4525 Personnel Relations (4) History of practice of architectural personnel management and the development of personnel relations, benefits, and unionization.


4531 Architectural Practice I (4) Analysis, survey, and study of the practice of architecture. Organization of practices and financial management of office structure.

4532 Architectural Practice II (4) Analysis and study of contracts, insurances, and the legal position and liabilities of architect.

4535 Advanced Contracts (4) Study of contractual problems relating to architect, owner, contractor, and subcontractor.

4540 Design Process, Decision Determination (4) Principles and theories of making decisions in relation to scheduling of architectural activities during building process.

4545 Architectural Programming (4) A study of architectural problem definition and its relationship to the design process, covering current techniques and practices.

4550 Codes and Zoning (4) Theory, review, and research of city, county, state, regional, and national codes and zoning. History and development of fire safety and building codes; history and development of zoning emphasizing architect's responsibility as related to specific project application.

4555 Cost Analysis (4) Methods and theories of estimating project cost and control, with reference to present techniques. Research in new techniques of cost analysis.

4550 Specifications (4) Theory, analysis, and methods of specifications. Emphasis placed on development and research of specifications.

4555 Supervision (4) Theories, methods, and site study of job inspection during construction phase and construction administration.

4701-02 Contract Documents/Working Drawings (8, 8) Central role of the architect in the process of architecture of engineering. Preparation and presentation of detailed working drawings, specifications, and other documents for typical project. Prereq: Consent of instructor.

4710 Architectural Models (4) Introduction to use of models in architectural studies. Display models; materials and scales. Presentation and special effects; structural models; laws of similitude, special materials, fabrication, Load and deflection measurements. Dynamic and wind tunnel testing. Lighting studies using models. Air circulation tests. Prereq: Consent of instructor.

4711-12 Structural Design I, II (4, 4) Provides understanding of behavior, analysis, and design of basic building structures. Structural and constructional aspects of building, including the structural design of building, in steel, concrete, masonry, and timber to satisfy load-carrying, building code requirements. Prereq: 2013 or equivalent.

4715 Construction Economics (4) Economics of small, medium, and large projects. Interest, annuities, sinking funds; depreciation and replacement consideration; mortgage and amortization schedules; real estate investment and speculation; syndicate loans, purchasing power, and liquidity.

4721-22 Advanced Architectural Structures (4, 4) Philosophy of structural design in relation to material
4725-26-27 Structural Innovation and Design Research I, II, III (4, 4, 4) Comprehensive examination of emerging themes and concepts, design and construction of building utilizing innovative structural configuration and techniques. Basic structural concepts, space and environmental properties, and economic factors such as costs, systems and materials and process optimization are emphasized. Students' activities will involve prototyping of innovative systems. Acceptable for design credit in 4th and 5th year or last quarter of 3rd year with consent of instructor.


4734 Advanced Design of Steel Buildings (4) Conceptual design considerations of steel systems and span and special structures. Composite construction. Fireproofing; building costs. Prereq: 3702 or equivalent.

4735 Advanced Design of Concrete Buildings (4) Precast and on-site concrete construction and maintenance; foundations, floor and wall systems. Domes and shell roofs. Prereq: 3702 or equivalent.


4739 Aesthetics of Engineering Structures (4) Architecture in engineering; the use and utilization of space, design, and materials in large structures. Bridges, exhibition halls, power plants.

4741 System Theory, History, and Methodology (4) General system theory and system theory as method; development of system models, analysis of systems on an international historic basis.

4742 Types of Systems (4) Comprehensive examination of systems types; concepts, and approaches. Concepts of network, cybernetic concepts, panels, boxes and self-help systems. Exploration of all building types, housing, schools, garages, hotels, dormitories, hospitals, etc., and their cultural ramifications. Prereq: 4741.


4751 Structural and Architectural Innovations (4) Explores of mechanical components at factory, and mechanical connections at the site, their application and use. Coreq: 4751.

4752 Mechanical Innovations (4) New technological concepts and techniques for heating, ventilating, air conditioning, plumbing, and electrical systems. Concepts of mechanical components at factory, and mechanical connections at the site, their application and use. Coreq: 4751.

4753 Construction and Manufacturing Innovations (4) Comprehensive analysis of new technology and innovations in manufacturing and construction with emphasis on production, transportation, erection, distribution, precasting equipment; unions, codes, construction work. Technological and regulatory agencies. Design of factory layout and design. Factory systems. Site design configurations. Prereq: Consent of instructor. Prereq: 4751 and 4752.

4761-62 Systems Design Laboratory I, II, III (8, 8, 8) A vertical mill-disciplinary design and research system laboratory and studio. Integrating simultaneously undergraduates, professionals, intra-professionals, and extra-professionals. Total systems ("software" and "hardware") approach to individual and group problems. 4761: Designing, researching, probing, and analyzing the problem and the system process. Application of new ideas, new products, new design and systems. 4762: Experimenting with new prototype forms, architecturally and with design systems, three dimensionally and in mock-ups, using new materials and techniques. Coordination of the total systems process.

4765 Thesis/Systems Laboratory (16) Independent problem undertaken by individual or group which makes a significant contribution to the art and/or science of systems design, building, and architecture. Prereq: Approval of the systems building coordinator and the consent of the systems building core.


4780 Fire Protection in Structures (4) Fire protection aspects of buildings and their occupants. Characteristics of fires; fire codes; building evacuation. Sprinkler and other fire suppression systems; smoke and gas control; fire resistant materials and construction.

4785 Sound, Noise, and Vibration Control in Buildings (4) Vibration control techniques in buildings and mechanical and electrical systems. Prereq: 4780 and/or experience.

4790 Accelerated Visual Studies (4) Identification and application of theories and methodologies of graphic analysis and communication principles, i.e., principles of visual coding and ordering applicable to behavioral analysis. Development and behavioral properties of elements of visual environment. Selected exercises simulate manipulation of both static and dynamic properties to produce visual elements of form and/or experiences. Prereq: Admission to accelerated core program; coreq: 4022.

4800 Accelerated Basic Design and Analysis I (4) Investigation of elements of behavior and effect of complex physical systems. Thorough understanding of an optimization applied to design decision-making process and problem solving are investigated through controlled and experimental environments. Prereq: Consent of instructor. Prereq: Admission to the accelerated program; coreq: 4020.

4801-4802 Accelerated Analytical Studies I and II (4, 4) General systems theory and scientific methods of analysis applicable to design decision-making processes and design methodologies. Contextually, studies trace emergence of modern architectural and urban design and humanization and interface of early design theory, building technology, and processes of developmental change. Prereq: Admission to the accelerated program; coreq: 4020.

4803-4804 Advanced Analytical Studies I and II (4, 4) Investigations of human responses of varied configurations of built environments. Knowledge of human behavior and activity patterns applied through design process to create new environmental forms subjected to performance evaluation measured to architectural and human response.实验设计 and behavior process through controlled environmental variables in an analytical process in the study of human behavior and activity patterns applied through design process to create new environmental forms subjected to performance evaluation measured to architectural and human response. Prereq: Admission to the accelerated program; coreq: 4020.

4990 Senior Thesis (8-12) Independent problem under direction of thesis committee. Aim of thesis is to demonstrate competence in dealing with conceptual and theoretical issues. Expected through design process for quarter and ability to develop program at scale of major projects and policy at solving and documenting process and resolution. Prereq: 4990.

4990 Senior Thesis (8-12) Independent problem under direction of thesis committee. Aim of thesis is to demonstrate competence in dealing with conceptual and theoretical issues. Expected through design process for quarter and ability to develop program at scale of major projects and policy at solving and documenting process and resolution. Prereq: 4990.

ACCELERATED CORE COURSES

4200 Accelerated Visual Studies (4) Identification and application of theories and methodologies of graphic analysis and communication principles, i.e., principles of visual coding and ordering applicable to behavioral analysis. Development and behavioral properties of elements of visual environment. Selected exercises simulate manipulation of both static and dynamic properties to produce visual elements of form and/or experiences. Prereq: Admission to accelerated core program; coreq: 4022.

4201 Accelerated Basic Design and Analysis I (4) Investigation of elements of behavior and effect of complex physical systems. Thorough understanding of an optimization applied to design decision-making process and problem solving are investigated through controlled and experimental environments. Prereq: Consent of instructor. Prereq: Admission to the accelerated program; coreq: 4020.

4202 Accelerated Analytical Studies I and II (4, 4) General systems theory and scientific methods of analysis applicable to design decision-making processes and design methodologies. Contextually, studies trace emergence of modern architectural and urban design and humanization and interface of early design theory, building technology, and processes of developmental change. Prereq: Admission to the accelerated program; coreq: 4020.

4203 Accelerated Basic Design and Analysis II (4) Investigation of human responses of varied configurations of built environments. Knowledge of human behavior and activity patterns applied through design process to create new environmental forms subjected to performance evaluation measured to architectural and human response. Prereq: Admission to the accelerated program; coreq: 4020.

4204 Accelerated Analytical Studies II (4) Basic research methods and application of theories and methodologies to research and evaluation purposes. Objective is to be qualified with fundamental concepts and techniques to utilize potential of digital data processing technologies as a research tool. In addition to the regular lecture series of 2014, students are required independently to research aspects of study area for presentation to an accelerated seminar supplement. Prereq: 4022; coreq: 4023.

4207 Accelerated Man-Environment Systems (4) Study of causal, descriptive, behavioral, and predictive properties of human interaction of man and environment, and their transactions. Selected examination of cultural response variations of eco/socio/physical change illustrates the dependence of human systems, activity systems, and physical systems. In addition to the regular lecture series of 2000, students are required independently to research aspects of study area for presentation to an accelerated seminar supplement. Prereq: Admission to the accelerated core program.

4209 Accelerated Professional Practice (4) Examination of social responsibility roles of architect in engineering contractual agreements; contract documents, construction administration, codes and zoning, liability and insurance. Principles of professional ethics and management; project production and management, costs analysis, budgeting, programming, and construction management. Prereq: Admission to accelerated core program.
4031 Accelerated Historical Studies I (4) Introduction to evolution of architectural periods with selected illustrations from local examples. Advanced examination of relationships of historical and cultural developments to the built environment from antiquity through Byzantine period with applications to present-day design issues. Independent student projects on topics related to course materials. Prereq: Admission to accelerated core program.

4032 Accelerated Historical Studies II (4) Advanced examination of relationship of historical and cultural developments to the built environment from Romanesque period through neoclassicism with applications to present-day design issues. Study of historical research methods and analysis. Independent student projects on topics related to course material. Prereq: 4031.

4033 Accelerated Historical Studies III (4) Advanced examination of historical and cultural events of Industrial Revolution which gave rise to modern movement in architecture and design with applications to present-day design issues. Changing concepts of ethics, aesthetics, and architectural theory. Independent student projects on topics related to course materials. Prereq: 4031 and 4032.