Division of Architecture
DIVISION OF
ARCHITECTURE

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NOTE: April 15, 2000—Deadline for application to the professional program.

MISSION
The Division of Architecture seeks to identify, understand, and teach the nature and practice of architecture. Architecture commonly is understood to be the art of building. This art manifests specific architectural concerns (e.g., durability, convenience, beauty, and decorum) in ways that satisfy both the practical needs and the intellectual, aesthetic, and spiritual sensibilities of human beings. The division desires that its faculty and students pursue excellence in the lifelong vocation of architecture. The foremost purpose of this pursuit is the creation of a physical environment for the glory of God and the good of human beings. Toward this end, we structure both the substance and the manner of our curriculum.

Programs
The following statements are required by the National Architectural Accrediting Board to define program types. Andrews University offers the Professional Bachelor of Architecture degree.

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

Masters degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree which, when earned sequentially, comprise an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree.

(From The National Architectural Accrediting Board 1998 and Procedures for Professional Degree Programs in Architecture)

Professional Bachelor of Architecture Degree
The professional program in architecture leads to the Bachelor of Architecture degree. It is a five-year course of study (15 quarters) plus two summers. Following graduation, a three-year internship is generally required (depending on state requirements) prior to completing state licensing requirements.

Bachelor of Science Degree
Students taking the Bachelor of Science degree with a major in architectural studies may seek advanced degrees or employment in the construction industry, the arts, business, and other fields.

Academic Programs

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<tr>
<td>BS: Architectural Studies</td>
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<tr>
<td>Minor in Architectural Studies</td>
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RESOURCES
Architecture Library. The architectural library and resource center of over 22,500 volumes, 80 periodical titles, and a growing video collection is distinguished in part by its special relationship with the Environmental Design Research Association. It holds a comprehensive collection of books and materials in the area of environmental psychology and design.

Other Facilities. The architecture facilities include a well-equipped and staffed woodworking shop, a computer laboratory for word processing, CAD, and other drawing programs; a print shop with direct access to large sheet xerox and ammonia-based duplicating; and a growing slide library of approximately 17,400 slides.

Admission Procedure

Foundation Years (Pre-architecture). Acceptance to Andrews University does not mean acceptance into The Division of Architecture or the Bachelor of Architecture degree program. Following the completion of the foundation (or "pre-architecture") years in The Division of Architecture, students must apply for acceptance into the Bachelor of Architecture program. Application packets are available from the division office.

Transfer Students. Transfer applicants who have had no previous course work in architectural design must complete the foundation (or "pre-architecture") years and then make formal application to the professional program.

Advanced Standing. Transfer students from another architecture program may apply for advanced standing (third or fourth year) in the professional program. The Division of Architecture does not accept applications to the fifth year of study. Students desiring to apply for advanced standing should make formal application to the professional program.

Tentative placement into the design sequence is made after the Admissions Committee has evaluated the student's submissions. After two quarters, the student is given final placement in the design sequence and, on the basis of transfer-course evaluations, receives credit for previous academic work toward the Andrews University degree.

General Education Requirements

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<th>General Education Requirement</th>
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<td>Religion—2</td>
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<td>Physical/Natural Science—8</td>
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<td>Arts &amp; Humanities—6</td>
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<td>Social Science—4</td>
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<td>Language &amp; Communication—12</td>
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</table>

Mathematics & Computer Science—10

Service—2

BHSOC100 plus fieldwork:
AAAS Volunteer in Community Projects;
ADRA or Maranatha Projects

Wellness—3-6
Three 1-credit physical activity courses; plus personal fitness or activity course sophomore-senior years

Breadth—4
One approved choice from the listed areas outside architecture major. Choose from:
Arts/Humanities; Behavioral/Social Sciences; Physical/Natural Science; Second Language.

Suggested courses: ART104, MATH162

ACADEMIC STANDARDS
A grade of C- or higher is required in order to continue in the design studio sequence. A grade of less than C- requires a student to repeat that studio before advancing in the studio sequence. (This includes ARCH203, 271, 272, ARCH371, 372, 373, ARCH471, 472, 473, ARCH571, 572, and 573.) Students must maintain the minimum overall 2.50 cumulative required GPA for graduation.

COMPUTER POLICY
The Division of Architecture regards the computer as a tool helpful in achieving the purposes of the Program Mission, and to students in their professional development. Use of the computer in the curriculum varies by course.

Students are required to purchase a laptop computer and software according to guidelines published in the Student Handbook prior to pre-arch year two. Because computer technology changes rapidly and frequently, a revised policy is drafted for each new autumn quarter outlining the specific requirements for that year. Therefore, equipment purchases should be postponed until each year’s policy is available.

In addition to printing, plotting, and scanning capabilities, students of the Division of Architecture have access to the campus network, the
World Wide Web, and the Internet through various docking stations located in the architecture building.

OTHER POLICIES
Students are responsible for all policies outlined in the Division of Architecture Student Handbook.

Professional Degree
Bachelor of Architecture

PRE-ARCH YEAR ONE
General Education—29
HIST 115, 116; ENGL111,112; COMM104; MATH165; BHSC100; Breadth: RELB100

Architecture Core—14
ARCH171, 172, 200

Architecture Elective—3
ARCH150

PRE-ARCH YEAR TWO
General Education—4
Religion elective

Architecture Core—41
ARCH110, 201, 202, 203, 210, 271, 272, 361, 362, 363

Architecture Elective—3
Choice - 3 credits

THIRD THROUGH FIFTH YEARS
General Education—22
ENGL306, PHYS131, 132, 3 credits-physical education, 8 credits-religion

Architecture Core—93

Architecture Electives—38
Total credits for BArch degree—247

Non-professional Degree
BS: Architectural Studies

BS Core—53
General Education—81-84
See general education requirements for Bachelor of Science degree.

Major Requirements—26
ARCH150, 171, 172, 260, 361, 362, 363.

Major electives—27
A minimum of 12 upper division credits from courses with ARCH acronyms.

Cognate Requirements—8
ART104, 207.

Minor requirements—15-29
General Electives—29-19
Total credits for the BS degree 190

Minor in Architectural Studies

Minor—28
ARCH150, 171, 172; plus 15 additional credits with a minimum of 8 upper division credits from courses with ARCH acronyms.

Courses

ARCH108 Introduction to Structural Mechanics
Laws of static equilibrium, centroids, and moment of inertia. Concepts of stress, strain, flexure, shear, and torsion. Basic design of simple structural members for steel, wood, and reinforced concrete. Open to all students except engineering, mathematics, or physics majors. Prerequisite: high-school algebra.

ARCH110, 210, 310, 410 Structures I, II, III, IV
Topics in statics, strength of materials, structural analysis, and design in reinforced concrete, steel, and wood. Wind and seismic loading. Prerequisite: MATH165 or approval of instructor.

ARCH150 Introduction to Architecture
Emphasis on design concepts, professional vocabulary, historical appreciation, contemporary issues, and values important to the mission of the Division of Architecture. Open to all students.

ARCH171 Graphics
Introduction to architectural graphics, media, documentation, and conventions. Exercises include freehand and drafted drawings of building plans, sections, and elevations, and an introduction to three-dimensional representations.

ARCH172 Introduction to Design
Introduction to formal composition and abstract architectural elements. Prerequisite: ARCH171.

ARCH201 Construction I
An overview of structural systems and a qualitative analysis of the flow of forces in buildings. Construction materials and assemblies, detailing, and material selection. Includes soil, concrete, masonry, metals, and wood.

ARCH202 Construction II
Weatherproofing, finish materials, and detailing in construction. System and component selection and introduction to cost estimating. Prerequisite: ARCH201.

ARCH203 Construction Drawings
Introduction to contract document conventions and production of construction drawings. Computer-based applications are used as the primary drawing tool. Prerequisite: ARCH202.

ARCH230 Surveying
Introduction to measurement and error theory. Plane and topographic surveys, horizontal and vertical control, earthwork computations. Basic principles of photo-grammetry. Prerequisite: secondary-school trigonometry. May not be offered each year.

ARCH231 Environmental Technology I
Introduction to environmentally, energy-conscious design concepts with the primary focus on climate and site analysis. An overview of standard evaluation methods for thermal performance in both design development and qualitative building evaluations covers Heat Loss/Gain, Thermal and Solar Envelope, HVAC System Selection, and Layout.

ARCH232 (3,3,3)

ARCH233 Environmental Technology III
A qualitative overview of lighting and acoustics and their integration into the design of buildings with introductory quantitative methods.

ARCH245 Visual Studies in European Architecture
Students in sketch and/or photographic formal study the visual qualities of various buildings of architectural signficance in Europe. The visual study is accompanied by historical and analytical examination of the buildings and architects. Prerequisites: ARCH203 and acceptance to European Studio Abroad or European Office Practicum.

ARCH249 Computer-aided Design in Architecture
Through tutorials, exercises, and projects the student gains working knowledge of the drafting and design capabilities of computer-aided design. Introduction to a three-dimensional program. Prerequisites: MECT120 or permission of instructor.

ARCH260 Survey of the History of Architecture
Covers the history of architecture from Prehistoric times to the present. Includes understanding architectural vocabulary. Focus is on understanding the chronological order of architectural periods, including people, buildings, and places that are important to the development of architecture. Open to all students.

ARCH271 Placing Studio
Introduction to building design as it relates to landscape and to human nature, in simple program projects. Prerequisite: ARCH172.

ARCH272 Architecture as Craft Studio
Design projects focusing on the materiality of architecture and the logic of construction. Prerequisite: ARCH271.

ARCH284 Architectural Rendering
Demonstration and exercises to deepen the student's understanding of the communication process, increase familiarity with different expressive forms of graphic art, and further advance skills in the use of different media. Prerequisites: ARCH171 and minimum junior standing or permission of instructor. May not be offered each year.

ARCH299 Independent Study
Study of special topics not currently offered by the Division of Architecture. In consultation with a professor, the student researches a selected area, filing a copy of the completed project report in the Division of Architecture office. A minimum of 30 hours of work required for each credit. Repeatable to 8 credits.

Environmental Technology II

Environmental Technology III
Principles of design for fire safety and code compliance. Principles of electricity and a brief survey of electrical systems and wiring design. The design and location requirements of elevators, moving stairways, and walks.
ARCH345  
*Safety and Accessibility*  
Lectures, seminars, and exercises on safety systems and barrier-free requirements. Includes principles for the accommodation of human disabilities and present code requirements within the practice of architecture. Prerequisite: ARCH201. May not be offered each year.

ARCH350  
**Architectural Design**  
Studio with topics and projects appropriate to the major or minor in architectural studies. Repeatable to 12 credits. Prerequisite: ARCH172. May not be offered each year.

ARCH361  
**History of Architecture I**  
Chronological overview of Western architecture from Egypt to the Middle Ages. Emphasis on the vocabulary and arrangements of buildings and their symbolic relationships to a cultural and human context. Prerequisites: ARCH260, ENGL112, HIST115,116.

ARCH362  
**History of Architecture II**  

ARCH363  
**History of Architecture III**  

ARCH365  
**Issues in Contemporary Architecture**  
Lectures, readings, visits with architects and to architectural sites. Topics include current architectural developments in North America, Europe, Scandinavia, and Australia. May be offered as part of European Architecture Tour or off-campus summer quarter. Prerequisite: ARCH363. May not be offered each year.

ARCH370  
**Person-Environment Theory**  
Studies in the relationship between people and the environment, including a consideration of artifacts, buildings, gardens, towns, and cities, as well as the cultural and natural landscape. Prerequisite: ARCH271.

ARCH371  
**Construction/Sustainable Design Studio**  
Design projects based on the concept of sustainability, using building materials and construction methods to achieve resource-efficient buildings. Prerequisites: ARCH272 and acceptance to Professional Program.

ARCH372  
**Background Building Studio**  
Design of commercial and/or residential building(s) of increased programmatic complexity, in the physical and cultural setting of a traditional small town or urban neighborhood. Prerequisite: ARCH371.

ARCH373  
**Foreground Building Studio**  
Design of a public and/or civic building in the physical and cultural setting of a traditional small town or urban neighborhood. Prerequisite: ARCH372.

ARCH390  
**Special Topics in _____________**  
Based on selected topics of current interest in architecture offered by the Division of Architecture. Repeatable in different topic areas. May not be offered each year.

ARCH395  
**Community Project in Architecture**  
“Hands-on” involvement in humanitarian and/or service-oriented projects. Work initiated by students requires prior approval of faculty. Graded S/U. Repeatable to 6 credits.

ARCH396  
**Cooperative Work Experience**  
Supervised work with an architecture or construction firm with 120 hours of work required for each credit. Repeatable to 8 credits. Prerequisites: Third-year standing and application one quarter in advance of the planned work. Graded S/U.

ARCH420  
**European Office Practicum**  
Offered during summers in Berlin, Germany, or other European locations. Students spend at least four weeks in architectural offices where they participate on actual projects. Prerequisites: ARCH273 and acceptance to European Office Practicum. Graded S/U.

ARCH434  
**Urban Studies**  
A broad survey, both typological and historical, of the physical characteristics of cities and their development, with emphasis upon urban form as a cooperative human artifact embodying particular cultural values and ideals. Prerequisites: ARCH260; ENGL112; HIST115,116.

ARCH449  
**Integrative Design**  
Preliminary design of the structure and environmental control systems for a concurrent studio project. Building codes, accessibility standards, and zoning ordinances are reviewed for design implications. Corequisite: ARCH471.

ARCH459  
**Design Theory**  
A survey and analysis of architectural thought, including readings from both historical and contemporary sources. Prerequisites: ARCH363.

ARCH471  
**Integrative Design Studio I**  
First quarter of two-quarter building-design sequence. Project to be taken from site and building design to development of architectural detail, including integration of materials, and structural and environmental systems. Prerequisites: ARCH373. Corequisite: ARCH449.

ARCH472  
**Integrative Design Studio II**  
Second quarter of two-quarter building-design sequence. Project to be taken from site and building...
ARCH557. Grade is recorded as DG until completion of ARCH557. Prerequisite: ARCH555.

ARCH557 (8)
Thesis Project
Student must demonstrate ability to apply and integrate skills in design and presentation of a building. In addition to the written thesis, presentation may include drawings, renderings, models, films, video, computer programs, and other documentation. Final presentation is announced and open to the university. Prerequisite: ARCH556.

ARCH558 (6 max)
Thesis Project Development
Continuation of design project. Emphasis on completion and presentation of thesis or final design project. Prerequisite: ARCH557.

ARCH571 (6)
Urban Design Studio
Urban design proposal for a small town, urban neighborhood, or college campus. Prerequisite: ARCH473.

ARCH572 (6)
Topic Studio in __________
Topic of studio varies. Prerequisite: ARCH571.

ARCH573 (6)
Visiting Critic Studio
Design project(s) to be determined by visiting critic. Prerequisite: ARCH572.