

DIVISION OF ARCHITECTURE

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Faculty

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| Academic Programs | Credits |
|---------------------------------|---------|
| BArch: Bachelor of Architecture | 170-173 |
| BS: Architectural Studies | 37 |
| Minor in Architectural Studies | 22 |

ACADEMIC CALENDAR

In addition to the campus-wide calendar in the front of this bulletin, the following date is specific to the Division of Architecture.

2002

May

31 Tues Deadline for application to 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 conformance 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.

(The National Architectural Accrediting Board 1998 Conditions 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 (10 semesters) plus one summer. 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.

RESOURCES

The Architecture Resource Center (ARC) provides an extensive range of materials including over 22,500 books, 90 journals, and a growing video collection. An added dimension to resource materials are two special collections. The ARC maintains a relationship with the Environmental Design Research Association, and houses an internationally recognized collection of books and materials in the area of environmental psychology and design. In addition, the ARC holds the Senseman Rare Book Collection of over 800 rare and out of print books and photos.

Other Facilities. The architecture facilities include a well-equipped and staffed woodworking shop (2,500 sq. ft); a computer laboratory for word processing, spreadsheets, imaging manipulation, and CAD. The lab is equipped with a seven-station local area network with Ethernet connections, small and large format printing capabilities, and multiple scanners. The architecture building operates a wireless (Radio Frequency) network, introduced primarily for laptop use within the Division. Other buildings on campus share the same network for added computing flexibility. The Division also houses a print shop with direct access to large-sheet xerox and ammonia-based duplicating and an expanding slide collection of approximately 29,000 slides.

Analytical Summer Abroad. Each student is expected to attend the Analytical Summer Abroad Program offered every other summer. This program is usually eight weeks in duration, students completing Professional Year One or Professional Year Two should make plans accordingly. For further information, consult the Division of Architecture.

Student Handbook. A handbook for Division of Architecture students outlining policies, operational guidelines, and general information is available on the World Wide Web.

Bachelor of Architecture Degree Program (BArch)

ADMISSION PROCEDURE

Acceptance to Andrews University does not mean acceptance into The Division of Architecture or the Bachelor of Architecture degree program. Students must meet the minimum GPA requirements to proceed from Pre-Arch Year One to Pre-Arch Year Two. Upon the completion of the pre-architecture years in The Division of Architecture, students must apply for acceptance into the Bachelor of Architecture program. Application packets specifying standards for acceptance 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 one semester, 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—40-43

Religion—12

RELT100, plus three of the following: RELB210, RELP400, RELT250, 340

Arts & Humanities—5

HIST117, 118

Physical/Natural Science—3

PHYS115

Social Science—3

ARCH370

Language & Communication—8

Written Expression: ENGL115, 215

Communication: COMM104

Mathematics & Computer Science—4-7

MATH168, Computer Competency exam

Service—2

BHSC100 plus fieldwork;

AIAS Volunteer in Community Projects;

ADRA or Maranatha Projects

Wellness—3

HLED130, two activity courses

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 ARCH126, 241, 242, 321, 322, 441, 442, 521, and 522) A grade of C- or lower is not acceptable within the major

requirements. 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 have a laptop computer and software meeting guidelines available in the Division office. Because computer technology changes rapidly and frequently, a revised policy is drafted in the Fall semester outlining the specific requirements for each year. Consequently, the Division recommends awaiting each year’s minimum specifications prior to making purchases. Laptop purchases should be made by mid-Fall semester, Pre-Arch year two.

Fees are assessed each year for computer lab. Laptop network cards are purchased by the student.

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—21.5-24.5

HIST117, 118; ENGL115; COMM104; MATH168; BHSC100;

HLED130; RELT100, PE elective, Computer Competency Exam

Architecture Core—8

ARCH125, 126

Architecture Elective—2

Recommended ARCH150

PRE-ARCH YEAR TWO

General Education—6.5

PHYS115; Religion elective, PE elective

Architecture Core—26

ARCH201, 202, 205, 241, 242, 315, 316

THIRD THROUGH FIFTH YEARS

General Education—9

Religion electives, ENGL215

Architecture Core—68

ARCH305, 321, 322, 330, 335, 336, 370, 434, 441, 442, 449,

459, 521, 522, 535

Architecture Electives—29

Total credits for BArch degree—170-173

Non-professional Degree

BS: Architectural Studies

BS Core—37

General Education—54-57

See general education requirements for Bachelor of Science degree.

Major Requirements—16

ARCH125, 126, 150, 315, 316

Major Electives—21

A minimum of 9 upper division credits from courses with ARCH acronyms.

Cognate Requirements—6

ART104, 207.

Minor Requirements—22**General Electives—5****Total credits for the BS degree—124-127****Minor in Architectural Studies—22**

ARCH125, 126, 150; plus 12 additional credits with a minimum of 6 upper division credits from courses with ARCH acronyms.

Courses**(Credits)**

See inside front cover for symbol code.

ARCH125**(3)*****Introduction to Design Studio***Introduction to formal composition, abstract architectural elements, and traditional architectural proportioning systems and presentation techniques. *Fall, Summer***ARCH126****(5)*****Drawing and Graphics Studio***Introduction to freehand drawing and architectural drawing graphic conventions. Exercises include freehand and drafted drawings of building plans, sections, and elevations, and an introduction to 3-dimensional representation. *Spring, Summer***ARCH150****(2)*****Introduction to Architecture***Emphasis on design concepts, professional vocabulary, historical appreciation, contemporary issues, and values that are important to the mission of the Division of Architecture. Open to all students. *Fall***ARCH201****(3)*****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. *Fall***ARCH202****(3)*****Construction II***Weatherproofing, finish materials, and detailing in construction. System and component selection and introduction to cost estimating. Prerequisite: ARCH201. *Spring***ARCH205, 305, 405****(4, 2, 2)*****Structures I, II, III***Topics in statics, strength, of materials, structural analysis, and design in reinforced concrete, steel, and wood. Wind and seismic loading. Prerequisites: MATH168 & PHYS115; ARCH205 is a prerequisite to ARCH305; ARCH305 is a prerequisite to ARCH405. *Spring***ARCH230****(3)*****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.

ARCH241**(5)*****Placemaking Studio***Introduction to building design as it relates to landscape and to human nature, in simple program projects. Prerequisite: ARCH126. *Fall***ARCH242****(5)*****Architecture as Craft Studio***Design projects focusing on the materiality of architecture and the logic of construction. Prerequisites: ARCH241 & meet general education requirement for computer competence. *Spring***ARCH245****(4)*****Visual Studies in European Architecture***

Students in sketch and/or photographic format study the visual qualities of various buildings of architectural significance in Europe. The visual study is accompanied by historical and analytical examination of the buildings and architects. Prerequisites: ARCH242 and acceptance to the European Office Practicum.

ARCH284**(3)*****Architectural Rendering***

Demonstrations and exercises to deepen students' 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: ARCH126 and minimum junior standing or permission of the instructor. May not be offered each year.

ARCH299**(1-4)*****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. May be repeated for a total of 6 credits.

ARCH315**(3)*****History of Architecture I***Chronological overview of the history of architecture from pre-history through the 14th century (Gothic). Emphasis is on the vocabulary and design of buildings, their symbolic relationships, and their meaning in a cultural and human context. Prerequisites: HIST117, 118 & ENGL115. *Fall***ARCH316****(3)*****History of Architecture II***Chronological overview of the history of architecture from the 15th century (Renaissance) to today. Emphasis is on the vocabulary and design of buildings, their symbolic relationships, and their meaning in a cultural and human context. Prerequisites: HIST117, 118 & ENGL115. *Spring***ARCH321****(5)*****Sustainable Design Studio***Studio design projects based on the concept of sustainability, using building materials and construction methods to achieve resource-efficient buildings. Prerequisites: ARCH242 and acceptance to the Professional Degree Program. *Fall***ARCH322****(5)*****Background Building Studio***

Design of a commercial and/or residential building(s) of increased programmatic complexity, in the physical and cultural setting of a

traditional small town or urban neighborhood. Prerequisites: ARCH242 and acceptance to the Professional Degree program. *Spring*

ARCH330 (3-6)
Analytical Summer Abroad

A course focusing upon study, analysis, and documentation of buildings, spaces, and/or gardens in another country. Studies will occur in a "base" city, with day trips to other sites. Base venue may change from year to year. Prerequisite: ARCH242. *Summer*

ARCH335 (4)
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. Principles of water conservation, collection and supply, and the treatment and disposal of liquid and solid wastes. *Fall*

ARCH336 (4)
Environmental Technology II

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 and moving stairways and walks. A qualitative over-view of lighting and acoustics and their integration into the design of buildings with introductory quantitative methods. Prerequisite: PHYS115. *Spring*

ARCH350 (3-6)
Architectural Design

Studio with topics and projects appropriate to the major or minor in architectural studies. May be repeated up to total of 8 credits. Prerequisite: ARCH242. May not be offered each year.

ARCH360/560 (2-3)
Islamic Architecture

A focused view on the period of architectural history known as Islamic Architecture. Covers the beginnings of Islamic period from 600 CE down to the present time, looking at Islamic buildings from all parts of the world. Prerequisite: ARCH315 & 316.

ARCH365 (2-3)
Issues in Contemporary Architecture

Lectures, readings, visits with architects and to architectural sites. Topics include current architectural developments in the western world. May be offered as part of European Architecture tour or off-campus summer session. Prerequisites: ARCH315 & 316. May not be offered each year.

ARCH370 (3)
Person-Environment Theory

Studies in the relationship between people and the environment, including a consideration of towns, cities, gardens, buildings, and artifacts, as well as the cultural and natural landscape. Prerequisite: ARCH241.

ARCH390/590 (1-4)
Special Topics in _____

Based on selected topics of current interest in architecture offered by the Division of Architecture. May be repeated in different topic areas. May not be offered each year.

ARCH395 (2-6)
Community Project in Architecture

"Hands-on" involvement in humanitarian and/ or service oriented projects. Work initiated by students requires prior approval of faculty. Graded on S/U basis. May be repeated for up to 6 credits.

ARCH396 (1-6)
Cooperative Work Experience

Supervised work with an architecture or construction firm. 120 hours of work is required for each credit. May be repeated up to 6 credits. Prerequisites: 3rd year standing and application one semester in advance of the planned work. Graded on S/U basis.

ARCH415/515 (1-4)
Design Studio Practicum

Students assist studio teachers in design courses as critics. The course is open to students interested in teaching and architectural criticism and who are chosen by the Division faculty for demonstrable potential in this area.

ARCH420 (2-4)
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: ARCH242 and acceptance to European Office Practicum. Graded on S/U basis.

ARCH434 (4)
Urban Studies

A broad survey, both typological and historical, of the physical characteristics of cities and their development, with an emphasis upon urban form as a cooperative human artifact embodying particular cultural values and ideas. Prerequisites: ENGL115; HIST117, 118. *Fall*

ARCH441 (6)
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: ARCH322; Corequisite: ARCH449. *Fall*

ARCH442 (6)
Integrative Design Studio

Comprehensive building design project: site design, building design, and development of architectural detail (including integration of materials and structural and environmental systems). Prerequisite: ARCH441. *Spring*

ARCH449 (3)
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: ARCH441. *Fall*

ARCH459 (3)
Design Theory

A survey and analysis of architectural thought, including readings from both historical and contemporary sources. Prerequisite: ARCH315.

ARCH495 (1-4)
Inspection Field Trip

An organized trip to areas of significant architectural interest and

individual reports thereon. May be repeated for up to 6 credits.
May not be offered each year.

ARCH499/599 (1-4)

Independent Research

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. May be repeated for a total of 6 credits. May not be offered each year.

ARCH510 (3)

Advanced Structures Seminar

A consideration of topics in structural analysis and design as they relate to the Architecture Review Examination. Graded on S/U basis. Prerequisite: ARCH305 or equivalent. May not be offered each year.

ARCH521 (6)

Urban Design Studio

Urban design proposal for a small town (or parts thereof), urban neighborhood, or college campus. Prerequisites: ARCH350 and 442. *Fall*

ARCH522 (6)

Visiting Critic/Topic Studio

Design project(s) to be determined by Visiting Critic and regular faculty. Topic of studio varies. Prerequisite: ARCH521. *Spring*

ARCH535 (4)

Professional Practice

Lectures and seminars focusing on Judeo-Christian values and social responsibilities in the profession. Studies introduce conventional practice methods and career planning for present and future. Topical areas include the role of the architect, organization and management of the firm, and project administration.