

TITLE PAGE

**Division of  
Architecture**

# DIVISION OF ARCHITECTURE

Architecture Building, Room 103  
(616) 471-6003; FAX: (616) 471-6261  
architecture@andrews.edu  
http://www.arch.andrews.edu

## Faculty

Llewellyn D. Seibold, *Division Administrator*  
Paula L. Dronen, *Program Administrator*  
Philip H. Bess, *Faculty Administrator*  
Carey C. Carscallen  
William W. Davidson, *Professor Emeritus*  
Kathleen M. Demsky, *Library Director*  
Thomas B. Lowing  
Mark A. Moreno  
Michael Newman  
Arpad D. Ronaszegi  
Rhonda G. Root

Academic Programs	Credits
BArch: Bachelor of Architecture	171-174
BS: Architectural Studies	124-127
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.

### 2001

#### May

25 Tues Deadline for applications 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 wood-working 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 a growing slide library of approximately 28,000 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

#### 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 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, ARCH241, 242, ARCH321, 322, ARCH441, 442, and ARCH521, 522) A grade of C- or lower is not acceptable within the major requirements. Students must maintain the minimum over-all 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 prior to the end of Fall semester, Pre-Arch year two.

Fees are assessed each year regarding computer lab and laptop network cards.

#### 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

ENGL215; PHYS115; PE elective

##### Architecture Core—26

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

#### THIRD THROUGH FIFTH YEARS

##### General Education—9

Religion electives

##### Architecture Core—68

ARCH305, 321, 322, 330, 335, 336, 370,  
434, 441, 442, 449, 459, 521, 522, 535

##### Architecture Electives—30

Total credits for BArch degree—171-174

### 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 back cover for symbol code.

#### ARCH108

(3)

##### *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 member of steel, wood, and reinforced concrete. Open to all students except engineering, mathematics, or physics majors. Prerequisite: high-school algebra. May not be offered each year.

#### ARCH125

(3)

##### (was ARCH171)

##### *Drawing & Graphics Studio*

Introduction to freehand drawing and architectural graphic conventions. Exercises include freehand and drafted drawings of building plans, sections, and elevations, and an introduction to three-dimensional representation. *Fall, Summer*

#### ARCH126

(5)

##### (was ARCH172)

##### *Introduction to Design Studio*

Introduction to formal composition, abstract architectural elements, and traditional architectural proportioning systems and presentation techniques. *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

(4,4)

##### (was ARCH110/210 & 310/410)

##### *Structures I, II*

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. *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)

##### (was ARCH271&272)

##### *Placemaking & Craft Studio*

Introduction to building design and the logic of craft

in construction. In simple program projects, emphasis will be placed upon qualities of space, materiality, and form as they relate to landscape and to human nature. Prerequisite: ARCH126. *Fall*

#### ARCH242

(5)

##### (was ARCH203)

##### *Construction Drawings Studio*

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

#### ARCH249

(2,3)

##### *Computer-aided Design*

Through tutorials, exercises, and projects the student expands working knowledge of the drafting and design capabilities of computer-aided design. Introduction to a three-dimensional program. Prerequisites: ARCH242 or permission of the instructor. May not be offered each year.

#### 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: ARCH125 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)

##### (was ARCH361 combined with half of ARCH362)

##### *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)

##### (was ARCH363 combined with half of ARCH362)

##### *History of Architecture II*

Chronological overview of the history of architecture from the 15<sup>th</sup> 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**

(was ARCH371)

**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 Professional Program. *Fall*

**ARCH322**(was ARCH372 combined with ARCH373)  
**Background Building/Foreground Building Studio**

Design of a commercial and/or residential building, followed by design of a civic or religious building; both in the physical and cultural setting of a traditional small town or urban neighborhood. Prerequisite: ARCH321. *Spring*

**ARCH330****Analytical Summer Abroad**

Eight week 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**

(was ARCH231 combined with half of ARCH232)

**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**

(was ARCH233 combined with half of ARCH232)

**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 overview of lighting and acoustics and their integration into the design of buildings with introductory quantitative methods. Prerequisite: PHYS115. *Spring*

**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. Prerequisites: ARCH201. May not be offered each year.

**ARCH350****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. Prerequisites:

ARCH126. May not be offered each year.

**ARCH365**(5) **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. Prerequisite: ARCH315 & 316. May not be offered each year.

**ARCH370**(5) **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. Prerequisites: ARCH241. *Spring*

**ARCH390****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****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****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.

**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: ARCH242 and acceptance to European Office Practicum. Graded on S/U basis.

**ARCH434****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**

(was ARCH471 combined with ARCH472)

(2) **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: ARCH322 Corequisite: ARCH449. *Fall*

**ARCH442**

(4) (was ARCH572 &amp; 573)

**Visiting Critic/Topic Studio**

Design project(s) to be determined by Visiting Critic and regular faculty. Topic of studio varies. Prerequisite: ARCH441. *Spring*

**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: ARCH441. *Fall*

**ARCH459****Design Theory**

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

**ARCH489****Independent Computer-Aided Design Applications**

Individual studies in computer applications relating to a design project or research topic of special interest. May not be offered each year.

**ARCH495****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****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****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**

(was ARCH571)

**Urban Design Studio**

Urban design proposal for a small town (or parts thereof), urban neighborhood, or college campus. Prerequisites: ARCH442. *Fall*

**ARCH522****Final Design Studio**

Design of a programmatically and symbolically complex building and/or public space, often on a site(s) determined by the immediately preceding urban design project (ARCH521). Prerequisite: ARCH521. *Spring*

**ARCH535**

(was ARCH545 combined with ARCH546)

**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. *Fall*