

Division of Architecture

DIVISION OF ARCHITECTURE

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Faculty

Llewellyn D. Seibold, *Director*
 Philip H. Bess, *Associate Director*
 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, *Assistant Director*

Academic Programs	Credits
Bachelor of Architecture	192
BS: Architectural Studies	61
Minor in Architectural Studies	28

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 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 (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.

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 (2,500 sq. ft); 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.

Abrad Programs. Summer tours are organized for study either internationally or in the United States. Each student is expected to attend at least one summer program. A minimum of 8 architecture elective credits must be obtained from summer study. One quarter abroad is required in addition to the summer program. For more information, consult the Division of Architecture.

Student Handbook. A handbook for Division of Architecture students outlining policies, operational guidelines, and general information is available from the office of the director or 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 have 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 65-68

Religion—16

RELB100, plus three of the following:
 RELB210, 225, RELP400, RELT250, 340

Arts & Humanities—6

HIST115,116

Physical/Natural Science—8

PHYS131 and 132

Social Science—4

ARCH370

Language & Communication—12

Written Expression: ENGL111,112, 306
 Communication: COMM104

Mathematics & Computer Science—10

MATH165; ARCH203

Service—2

BHSC100 plus fieldwork;
 AIAS 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, 260

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

ARCH231, 232, 233, 310, 371, 372, 373,
370, 410, 434, 449, 459, 471, 472, 473, 545,
546, 571, 572, 573

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

28

Minor

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

Minor

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

Courses

(Credits)

See inside back cover for symbol code.

ARCH108

(4)

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

(3,3,3,3)

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

(3)

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

(5)

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

(5)

Introduction to Design

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

ARCH201

(4)

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

(4)

Construction II

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

ARCH203

(6)

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

\$ (4)

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

(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.

ARCH232

(4)

Environmental Technology II

Principles of water conservation, collection and supply, and the treatment and disposal of liquid and solid wastes. 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.

ARCH233

(4)

Environmental Technology III

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

ARCH245

(4)

Visual Studies in European Architecture

Students in sketch and/or photographic formal 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: ARCH203 and acceptance to European Studio Abroad or European Office Practicum.

ARCH249

(2,4)

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

(4)

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

(6)

Placemaking Studio

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

ARCH272

(6)

Architecture as Craft Studio

Design projects focusing on the materiality of architecture and the logic of construction. Prerequisite: ARCH271.

ARCH284

(4)

Architectural Rendering

Demonstration and exercises to deepen the 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: ARCH171 and minimum junior standing or permission of 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. Repeatable to 8 credits.

ARCH345	(2)	ARCH371.	ing design to development of architectural detail, including integration of materials and structural and environmental systems. Prerequisite: ARCH471 and ARCH449.
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	(4)	ARCH373	(6)
Architectural Design		Foreground Building Studio	
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.		Design of a public and/or civic building in the physical and cultural setting of a traditional small town or urban neighborhood. Prerequisite: ARCH372.	
ARCH360	(3)	ARCH390	(1-6)
History of Architecture I		Special Topics in _____	
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.		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.	
ARCH362	(3)	ARCH395	(2-6)
History of Architecture II		Community Project in Architecture	
Chronological overview of architects and buildings from medieval times to nineteenth-century revival styles. Readings in architectural theory and history. Prerequisites: ARCH260, ENGL112, HIST115,116.		“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.	
ARCH363	(3)	ARCH396	(1-8)
History of Architecture III		Cooperative Work Experience	
Studies in the history of modern architecture from nineteenth-century experiments in iron to the development and culmination of the International style. Readings in architectural theory and history. Prerequisites: ARCH260, ENGL112, HIST115,116.		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.	
ARCH365	(4)	ARCH420	(4)
Issues in Contemporary Architecture		European Office Practicum	
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.		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.	
ARCH370	(3)	ARCH434	(3)
Person-Environment Theory		Urban Studies	
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.		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.	
ARCH371	(6)	ARCH449	(4)
Construction/Sustainable Design Studio		Integrative Design	
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.		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.	
ARCH372	(6)	ARCH459	(3)
Background Building Studio		Design Theory	
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:		A survey and analysis of architectural thought, including readings from both historical and contemporary sources. Prerequisites: ARCH363.	
ARCH471	(6)	ARCH471	(6)
Integrative Design Studio I		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. Prerequisite: ARCH373. Corequisite: ARCH449.		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. Prerequisite: ARCH473 and permission of the faculty.	
ARCH472	(6)	ARCH472	(6)
Integrative Design Studio II		Integrative Design Studio II	
Second quarter of two-quarter building-design sequence. Project to be taken from site and build-		Second quarter of two-quarter building-design sequence. Project to be taken from site and build-	
ARCH473	(6)	ARCH473	(6)
Abroad Studio		Abroad Studio	
Quarter abroad. Location and time may vary from year to year. Prerequisite: ARCH472.		Quarter abroad. Location and time may vary from year to year. Prerequisite: ARCH472.	
ARCH489	(1-4)	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	(1-4)	Inspection Field Trip	
		An organized trip to areas of significant architectural interest, and individual reports thereon. Repeatable to 6 credits. May not be offered each year.	
ARCH499	(1-6)	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. Repeatable to 8 credits. May not be offered each year.	
ARCH510	(4)	Advanced Structures Seminar	
		A consideration of topics in structural analysis and design as they relate to the Architecture Review Examination. Graded S/U. Prerequisite: ARCH310, 410, or equivalent. May not be offered each year.	
ARCH545	G (4)	Professional Practice I	
		Lectures and seminars on legal aspects of architectural practice. Studies include introduction to the legal system, torts, contract law, agency relationship, real estate law, zoning, and building codes. Prerequisite: fourth-year standing or permission of instructor.	
ARCH546	G (4)	Professional Practice II	
		Lectures and seminars dealing with issues of professional practice. Areas include The Role of the Architect, Organization and Management of the Firm, and Administration of the Project. Prerequisite: ARCH545.	
ARCH555	(4)	Thesis Project Research	
		Student isolates an architectural design problem for programming, design, and presentation. Emphasis on preparing a comprehensive statement of the problem and scope, a literature review of the building type, and current design approaches. Prerequisites: ARCH473 and permission of the faculty.	
ARCH556	(8)	Thesis Project	
		Emphasis on design of thesis project under supervision of faculty adviser. Enrollment in ARCH557 is dependent upon the thesis project design being accepted by architecture faculty. A minimum grade of B is required for enrollment in	

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.