

# ARCHITECTURE (ARCH)

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## ARCH 1100

### *Introduction to Architecture*

3 Credit Hours

Introductory study of the theory, history, and principles, and of architecture. Basic principles of architectural analysis, criticism, and aesthetic principles. Includes the relationship of architecture to the cultures that create it specifically in terms of the societies' economic, political and social organization, technological abilities, and spiritual values. Also discusses ethical responsibilities of design professionals especially as environmental stewards. (3 lecture hours)

## ARCH 1101

### *Basic Architectural Drafting*

3 Credit Hours

Fundamentals of hand drafting and architectural conventions. Includes use of tools, lettering, dimensioning, drafting techniques, and frame construction vocabulary and technology. (2 lecture hours, 2 lab hours)

## ARCH 1111

### *Building Materials*

4 Credit Hours

Characteristics, properties, and applicable standards of construction materials. Includes all major structural, enclosure and finish materials and standards for materials. Emphasis on the process of material selection and evaluation including sustainability concepts and criteria. (4 lecture hours)

**Prerequisite:** ARCH 1101 with a grade of C or better, or equivalent or ARCH 1121 with a grade of C or better, or equivalent or ARCH 1130 with a grade of C or better, or equivalent or consent of instructor.

## ARCH 1121

### *Architectural Design Communication*

4 Credit Hours

Introduction to 2-D and 3-D communication and presentation techniques as used in architecture. Includes orthographic, paraline, perspective and freehand drawing techniques and procedures. Covers basic model building and the use of drawing as a problem abstraction and diagramming technique. (1 lecture hour, 6 lab hours)

## ARCH 1130

### *Blueprint Reading*

2 Credit Hours

A survey of graphic construction drawings including paper and electronic mediums. Students learn to interpret construction drawings for residential, commercial and industrial structures. Includes architectural and engineering documents and graphic conventions. (1 lecture hour, 2 lab hours)

## ARCH 1131

### *Introduction to Architectural Design*

4 Credit Hours

Basic design theories and strategies related to the development of spatial concepts in architectural design, including composition, color, form, relationship of elements, and development of 2-D and 3-D design projects. Emphasis on concept generation and evaluation. (2 lecture, 4 lab hours)

**Prerequisite:** ARCH 1100 and ARCH 1121, both with a grade of C or better, or equivalent or consent of instructor.

## ARCH 1141

### *Construction Methods I*

2 Credit Hours

Survey of basic construction techniques and procedures through project applications. Topics include concrete, masonry, wood frame and lightweight steel construction methods and materials. Includes tool selection and use. Course is not designed to give students trade skills in these areas. (1 lecture hour, 2 lab hours)

## ARCH 1211

### *Basic Computer-Aided Drafting-AutoCAD*

3 Credit Hours

Fundamentals of Computer-Aided Drafting and Design (CADD). Introduces concepts, techniques and procedures necessary to facilitate a basic functional understanding of AutoCAD. (1 lecture hour, 4 lab hours)

**Prerequisite:** Basic technical drafting course, drafting experience or consent of instructor.

## ARCH 1240

### *Construction Safety Fundamentals*

2 Credit Hours

Exploration of appropriate techniques and strategic planning for safety in the construction process. Focus is on the responsibilities of managers and supervisors for ensuring construction site safety. Worker safety is addressed through the introduction and application of Occupational Health and Safety Administration (OSHA) construction safety and health standards. (2 lecture hours)

## ARCH 1301

### *Introduction to Construction Management*

3 Credit Hours

Construction management as a project delivery system emphasizing the roles and responsibilities of construction managers, contractors, sub-contractors, owners and design professionals, and how they relate to each other. Fundamentals of project administration from pre-construction planning to project close-out through the study and review of case studies. Includes an overview of cost estimating, meetings, project safety and scheduling. (3 lecture hours)

## ARCH 1411

### *Introduction to BIM-Revit*

3 Credit Hours

Fundamentals of Building Information Modeling (BIM) as a construction documentation system. Introduces concepts and features of BIM. Includes software structure and features, modeling and editing techniques, and sheet creation and organization. Recommended: ARCH 1101 and ARCH 1211 or architectural drafting class or experience or consent of instructor. (1 lecture hour, 4 lab hours)

## ARCH 1412

### *Advanced BIM-Revit*

3 Credit Hours

Advanced concepts of Building Information Modeling (BIM). Focuses on applying BIM software to develop a set of construction documents. Simulates project development and documentation. (1 lecture, 4 lab hours)

**Prerequisite:** ARCH 1411 with a grade of C or better, or equivalent or consent of instructor.

**ARCH 1820**

***Selected Topics in Architecture I***

3 Credit Hours

Introductory exploration and analysis of selected topics with a specific theme indicated by course title listed in college class schedule. This course may be taken four times for credit as long as different topics are selected. (3 lecture hours)

**ARCH 1821**

***Selected Topics in Architecture II***

3 Credit Hours

Introductory exploration and analysis of selected topics with a specific theme indicated by course title listed in college class schedule. This course may be taken four times for credit as long as different topics are selected. (2 lecture hours, 2 lab hours)

**ARCH 1827**

***Selected Topics in Architecture***

1 Credit Hour

Introductory exploration and analysis of selected topics with a specific theme indicated by course title listed in college class schedule. This course may be taken four times for credit as long as different topics are selected. (1 lecture hour)

**ARCH 1840**

***Independent Study***

1-4 Credit Hours

Exploration and analysis of topics within the discipline to meet individual student-defined course description, goals, objectives, topical outline and methods of evaluation in coordination with and approved by the instructor. This course may be taken four times for credit as long as different topics are selected. (1 to 4 lecture hours, 2 to 8 lab hours)

**Prerequisite:** Consent of instructor is required.

**ARCH 2102**

***Detailing and Construction Documents***

4 Credit Hours

Study of commercial construction systems and techniques. Project based class which simulates the process of a project's development in an architectural office. Includes analysis and applications of codes, regulations, and standards, material review and selection, construction detailing and documentation, and office standards and procedures for computer aided drafting and design (CADD) application. (2 lecture hours, 4 lab hours)

**Prerequisite:** ARCH 1101, ARCH 1111, and ARCH 1211, all with a grade of C or better, or equivalent or consent of instructor.

**ARCH 2142**

***Construction Methods II***

2 Credit Hours

Survey of basic construction techniques and procedures through project applications. Topics include insulation, roofing, siding, installation of doors and windows, drywall, flooring and mechanical and electrical systems. Includes tool selection and use. Course is not designed to give students trade skills in these areas. (1 lecture hour, 2 lab hours)

**ARCH 2150**

***Basic Surveying***

2 Credit Hours

Basic procedures, calculations and field data recording techniques used in surveying. Correct procedures for the use of surveyor's tape, engineer's level, and transit and rod to establish locations and elevations. This is not an appropriate course for someone seeking to become a licensed surveyor. (1 lecture hour, 2 lab hours)

**ARCH 2201**

***Architectural Design I***

5 Credit Hours

Exploration of form and space of the built environment. Includes process of problem analysis and evaluation to generate concepts and develop solutions. (2 lecture hours, 6 lab hours)

**Prerequisite:** ARCH 1131 with grade of C or better, or equivalent or consent of instructor. Course requires Reading Placement Category One.

**ARCH 2202**

***Architectural Design II***

5 Credit Hours

Continuation of Architectural Design I. Problems involve larger scale, broader scope, and increased complexity. Advanced and digital presentation techniques will be used for presentations. (2 lecture, 6 lab hours)

**Prerequisite:** ARCH 2201 with a grade of C or better, or equivalent or consent of instructor.

**ARCH 2203**

***Introduction to Architectural Theory***

3 Credit Hours

Traces the history of architecture and architectural theory from the Renaissance to the contemporary period through built projects, theoretical designs, and original writings of architects and others. (3 lecture hours)

**Prerequisite:** ARCH 1100 with a grade of D or better, or equivalent and ENGLI 1101 with a grade of C or better, or equivalent or consent of instructor. Course requires Reading Placement Category One.

**ARCH 2210**

***Mechanical, Electrical, & Plumb Systems***

3 Credit Hours

An overview of mechanical, electrical and plumbing systems for buildings as used by architects and construction managers. Introduction to systems, equipment, design calculations, and drawings, standards, and conventions. (1 lecture hour, 4 lab hours)

**Prerequisite:** ARCH 1111 with a grade of C or better, or equivalent or consent of instructor.

**ARCH 2220**

***Architectural Computer Modeling***

2 Credit Hours

Computer graphics course using Computer-Aided Drafting (CAD) and other software to create computer architectural models and presentations. (1 lecture hour, 3 lab hours)

**Prerequisite:** ARCH 1211 with a grade of C or better, or equivalent or consent of instructor.

**ARCH 2230**

***Structural Systems***

3 Credit Hours

An overview of components and concepts of structural systems in steel, concrete, and wood as used by architects. Includes basic structural calculations and analysis of loads and forces. (3 lecture hours)

**Prerequisite:** ARCH 1111 with a grade of C or better, or equivalent or consent of instructor.

**ARCH 2240*****Codes, Specifications and Contracts***

3 Credit Hours

Introduction to the legal framework of construction. The scope and implications of codes, includes model codes and review of structure and organization of the International Building Code (IBC), the organization, structure, and role of specifications within construction documents, standard forms of contracts and contractual relationships. (3 lecture hours)

**Prerequisite:** ARCH 1111 or equivalent or consent of instructor. Course requires Reading Placement Category One.

**ARCH 2250*****Architectural Presentation and Portfolio***

3 Credit Hours

Advanced architectural presentation techniques. Covers both hardcopy and digital product formats. Uses various 3-D modeling, digital presentation, digital publication and image enhancement software. (1 lecture hour, 4 lab hours)

**Prerequisite:** ARCH 2201 with a grade of C or better, or equivalent or concurrent enrollment in ARCH 2201, and ARCH 1211 with a grade of C or better, or equivalent or consent of instructor.

**ARCH 2260*****Construction Estimating***

3 Credit Hours

Basic procedures, calculations, and techniques used in construction cost estimating. Includes bidding procedures, different types of construction estimates and the appropriate procedures for each, and the process of quantity take-offs and cost calculations including equipment, overhead, and profit components. Computer applications to produce estimates and review of existing software titles. (3 lecture hours)

**Prerequisite:** ARCH 1111 or equivalent or consent of instructor.

**ARCH 2270*****Construction Scheduling***

3 Credit Hours

Construction scheduling as a tool for project delivery and documentation, from project conception to building occupancy. Emphasizing the interrelationship of the trades and sequencing of the work during the construction process. Includes schedule composition and schedule implementation for project success. (3 lecture hours)

**Prerequisite:** ARCH 1130 and ARCH 1301, or concurrent enrollment in ARCH 1130 and ARCH 1301, or consent of instructor.

**ARCH 2301*****Arch Design Competition***

3 Credit Hours

Students will evaluate, select, and participate in an architectural design competition. (3 lecture hours)

**Prerequisite:** ARCH 2202 with a grade of C or better, or equivalent or consent of instructor.

**ARCH 2302*****Architectural Design Build***

3 Credit Hours

Exploration of design and construction through the creation of a temporary architectural structure. Includes process of problem analysis and evaluation to generate concepts, develop solutions, and then build an architectural object. Some Saturday build days will be required. (1 lecture hour, 4 lab hours)

**Prerequisite:** ARCH 1311 with grade of C or better, or equivalent or consent of instructor.

**ARCH 2413*****BIM Management-Revit***

3 Credit Hours

Introduction to Building Information Modeling (BIM) applications for the construction industry. Recommended course: ARCH 2260 or concurrent enrollment in ARCH 2260. (2 lecture hours, 2 lab hours)

**Prerequisite:** ARCH 1130 with a grade of C or better, or equivalent and ARCH 1301 with a grade of C or better, or equivalent or consent of instructor.

**ARCH 2820*****Advanced Selected Topics Architecture I***

3 Credit Hours

Advanced exploration and analysis of selected topics with a specific theme indicated by course title listed in college class schedule. This course may be taken four times for credit as long as different topics are selected. (3 lecture hours)

**Prerequisite:** At least one course in the discipline or consent of instructor.

**ARCH 2823*****Advanced Selected Topics Architecture IV***

3 Credit Hours

Advanced exploration and analysis of selected topics with a specific theme indicated by course title listed in college class schedule. This course may be taken four times for credit as long as different topics are selected. (6 lab hours)

**Prerequisite:** At least one course in the discipline or consent of instructor.

**ARCH 2840*****Experimental/Pilot Class***

1-6 Credit Hours

Exploration and analysis of topics within the discipline. This course is used to pilot a proposal for a permanent discipline course. This course may be taken four times for credit as long as different topics are selected. (1 to 6 lecture hours, 1 to 12 lab hours)

**Prerequisite:** Consent of instructor is required.

**ARCH 2860*****Internship (Career & Technical Ed)***

1-4 Credit Hours

Course requires participation in Career and Technical Education work experience with onsite supervision. Internship learning objectives are developed by student and faculty member, with approval of employer, to provide appropriate work-based learning experiences. Credit is earned by working a minimum of 75 clock hours per semester credit hour, up to a maximum of four credits. (5 to 20 lab hours)

**Prerequisite:** Consent of instructor and 2.0 cumulative grade point average, 12 semester credits earned in a related field of study, students work with Career Services staff to obtain approval of the internship by the Dean from the academic discipline where the student is planning to earn credit.

**ARCH 2865 (ARCH-PE1)**

***Internship Advanced (Career & Tech Ed)***

1-4 Credit Hours

Continuation of Internship (Career and Technical Education). Course requires participation in Career & Technical Education work experience with onsite supervision. Internship learning objectives are developed by student and faculty member, with approval of employer, to provide appropriate work-based learning experiences. Credit is earned by working a minimum of 75 clock hours per semester credit hour, up to a maximum of four credits. (5 to 20 lab hours)

**Prerequisite:** Consent of instructor and 2.0 cumulative grade point average, 12 semester credits earned in a related field of study, students work with Career Services staff to obtain approval of the internship by the Dean from the academic discipline where the student is planning to earn credit.