COURSE OUTLINE

Architecture 101 Drafting and Basic Design

Catalog Statement

ARCH 101 is a study in the fundamentals of drafting techniques used in architectural drawing, and the basic design procedure relative to good residential planning. The course studies residential building codes, drafting of working drawings, scale drawing of construction details, framing concepts, and proper dimensioning techniques.

Total Laboratory Units: 1.5
Total Course Units: 3.0

Total Lecture Hours: 24.0 Total Laboratory Hours: 72.0

Total Laboratory Hours To Be Arranged: 0.0

Total Faculty Contact Hours: 96.0

Recommended Preparation: ART 130, Eligibility for ENGL 120 or ESL 151

Course Entry Expectations

While enrolled in the course, the student should be able to:

- apply the concepts of 2d and 3d design by the completion of projects on paper media;
- understand the critique process of evaluating design projects;
- recognize the importance and purpose of a portfolio;
- demonstrate a command of grammar, diction, syntax, and mechanics sufficient for college level work: control of standard English at the sentence level, with few major errors in grammar and punctuation;
- summarize, analyze, and synthesize information, express and apply standards for judgment, compare and contrast, and evaluate evidence in order to form and state reasoned opinions.

Course Exit Standards

Upon successful completion of the required coursework, the student should be able to:

- describe the meaning of basic architectural vocabulary terms;
- demonstrate proficiency in drawing on vellum and in the use of drawing instruments by the completion of various drawing assignments;
- describe limited examples of the use of the Uniform Building Code as it applies to

residential construction.

Course Content

Total Faculty Contact Hours = 96.0

Introduction to the Study of Architecture (lecture 4 hours, lab 1 hour)

Function and design of a residential structure

Basic purpose of shelter

Room sizes

Traffic patterns within the home

Building code requirements

Architectural terminology

Styles of architecture

Past/Historic styles

Present trends

Architectural practice

Drafter/designer

Architect

Engineer

Importance of Computer Aided Design (CAD)

Use of the Drafting Tools and Equipment (lecture 4 hours, lab 4 hours)

Reading the architectural scale

Use and care of drafting equipment

Personal tools

Drafting machine

Parallel straightedge

Drafting table surfaces

Architectural Symbols (lecture 1 hours, lab 4 hours)

Material symbols

Interior section symbology

Exterior materials

Electrical and plumbing symbols

Door and window types and symbols

Projection Methods (lecture 2 hour, lab 5 hours)

Visualization practice

Orthographic projection

Isometric projection

Discussion of perspective projection

Architectural Lettering (lecture 1 hour, lab 4 hours)

Lettering styles and practice

Dimensioning

Construction Techniques (lecture 3 hours, lab 4 hours)

Wood framing methods

Concrete foundation

Application of finish materials

Roughing in plumbing and electrical

fixtures

Building code requirements

Building Materials and Components (lecture 2 hours, lab 6 hours)

Wood, stone, steel, concrete, brick,

adobe

Uses

Limitations

Reference manufacturer sources

Sweet's catalog

Other manufacturer's sources

Use of the Internet foresearch

Orientation of the Home (lecture 1 hours, lab 4 hours)

Effects of weather and sunlight

Setback and size limitations

Zoning and economics

Architectural Working Drawings (lecture 4 hours, lab 34 hours)

Title sheet

Site plan

Floor plan

Foundation plan

Foundation details

Section views

Electric plan

Framing plan

Exterior elevations

Architectural Renderings (lecture 1 hours, lab 2 hours)

Proper use of pencils and other media used in architecture

Sketching and delineation of architectural forms

Landscape forms

Presentation of Final Project (lecture 1 hours, lab 4 hours)

Portfolio of completed drawings

Rendering of display drawings

Purpose of architectural models

Study models

Finished models

Computer models

Final critique

Methods of Instruction

The following instructional methodologies may be used in the course:

- lecture:
- multimedia;
- guest speakers;

• individual and group projects.

Out of Class Assignments

The following out of class assignments may be used in the course:

- individual research projects (e.g. write a description of job requirements for a drafter/designer and explain why these are necessary);
- group projects (e.g. complete a design project such a kitchen including cabinetry design).

Methods of Evaluation

The following methods of evaluation may be used in the course:

- vocabulary quizzes. (e.g. eight quizzes of 10 terms each);
- midterm examination and performance test. (e.g. timed drawing test of a basic architectural project);
- final individual project. (e.g. drawings of a two-bedroom project with eight sheets of working drawings);
- final examination and performance test. (e.g. timed drawing test of a small residential project consisting of a floor plan, elevation and foundation detail).

Textbook

Wakita, Osama, Richard M. Linde and Nagy R. Bakhoum *The Professional Practice of Architectural Working Drawings*.4th ed.New York: John Wiley, 2011. Print. 10th Grade Textbook Reading Level. ISBN: 0-470-61815-9.

Student Learning Outcomes

Upon successful completion of the required coursework, students will be able to:

- complete assignments in basic drafting fundamentals;
- complete basic residential working drawings;
- use limited technical vocabulary;
- demonstrate proficiency in an architectural style of lettering;
- demonstrate proficiency in drawing on vellum and in the use of drawing instruments;
- apply a limited portion of the uniform building code.