

COURSE OUTLINE

**Architecture 101  
Drafting and Basic Design**

**I. Catalog Statement**

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

Units – 3.0

Lecture Hours – 2.0

Total Laboratory Hours – 4.0

(Faculty Laboratory Hours – 4.0 + Student Laboratory Hours – 0.0 = 4.0 Total Laboratory Hours)

Prerequisite: Eligibility for English 120 or ESL 165

Co-requisite: Art 130

Note: Required for architecture majors. Recommended for art majors.

**II. Course Entry Expectations**

Skills Level Ranges: Reading 5; Writing 5; Listening/Speaking 5; Math 3.

Prior to enrolling in the course, the student should:

1. have the ability to understand concepts related to the design, construction and presentation of residential building projects;
2. understand written and verbal instructions for the completion of various drafting projects;
3. understand the concepts of 2d and 3d design by the completion of projects on paper media;
4. understand the critique process of evaluating design projects;
5. understand the importance and purpose of a portfolio;
6. possess basic computer skills.

### **III. Course Exit Standards**

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

1. successfully complete assignments in basic drafting fundamentals;
2. complete basic residential working drawings;
3. have an understanding of limited technical vocabulary;
4. demonstrate proficiency in an architectural style of lettering;
5. demonstrate proficiency in drawing on vellum and in the use of drawing instruments;
6. understand a limited portion of the uniform building code.

### **IV. Course Content**

- |    |   |          |
|----|---|----------|
| A. | Introduction to the study of architecture         | 6 hours  |
|    | 1. Function and design of a residential structure |          |
|    | a. Basic purpose of shelter                       |          |
|    | b. Room sizes                                     |          |
|    | c. Traffic patterns within the home               |          |
|    | d. Building code requirements                     |          |
|    | 2. Architectural Terminology                      |          |
|    | 3. Styles of architecture                         |          |
|    | a. Past/Historic Styles                           |          |
|    | b. Present Trends                                 |          |
|    | 4. Architectural Practice                         |          |
|    | a. Drafter/Designer                               |          |
|    | b. Architect                                      |          |
|    | c. Engineer                                       |          |
|    | d. Importance of Computer Aided Design (CAD)      |          |
| B. | Use of the drafting tools and equipment           | 13 hours |
|    | 1. Reading the architectural scale                |          |
|    | 2. Use and care of drafting equipment             |          |
|    | a. Personal Tools                                 |          |
|    | b. Drafting Machine                               |          |
|    | c. Parallel Straightedge                          |          |
|    | d. Drafting Table Surfaces                        |          |
| C. | Architectural Symbols                             | 6 hours  |
|    | 1. Material Symbols                               |          |
|    | a. Interior Section Symbology                     |          |
|    | b. Exterior Materials                             |          |
|    | 2. Electrical and plumbing symbols                |          |
|    | 3. Door and window types and symbols              |          |

D.	Projection methods	10 hours
	1. Visualization practice	
	2. Orthographic projection	
	3. Isometric projection	
	4. Discussion of perspective projection	
E.	Architectural lettering	6 hours
	1. Lettering Styles and Practice	
	2. Dimensioning	
F.	Construction Techniques	4 hours
	1. Wood framing methods	
	2. Concrete foundation	
	3. Application of finish materials	
	4. Roughing in plumbing and electrical fixtures	
	5. Building Code requirements	
G.	Building Materials and Components	8 hours
	1. Wood, stone, steel, concrete, brick, adobe	
	a. Uses	
	b. Limitations	
	2. Reference manufacturer sources	
	a. Sweet's catalog	
	b. Other manufacturer's sources	
	c. Use of the Internet for research	
H.	Orientation of the home	4 hours
	1. Effects of weather and sunlight	
	2. Setback and size limitations	
	3. Zoning and economics	
I.	Architectural Working Drawings	32 hours
	1. Title Sheet	
	2. Site Plan	
	3. Floor Plan	
	4. Foundation Plan	
	5. Foundation Details	
	6. Section Views	
	7. Electric Plan	
	8. Framing Plan	
	9. Exterior Elevations	
J.	Architectural renderings	3 hours
	1. Proper use of pencils and other media used in architecture	
	2. Sketching and delineation of architectural forms	
	3. Landscape forms	

- K. Presentation of final project 4 hours
1. Portfolio of completed drawings
  2. Rendering of display drawings
  3. Purpose of Architectural Models
    - a. Study Models
    - b. Finished Models
    - c. Computer Models
  4. Final critique

**V. Methods of Presentation**

The following instructional methodologies may be used in the course:

- a. lecture;
- b. multimedia;
- c. guest speakers;
- d. individual and group projects;
- e. field trips.

**VI. Assignments and Methods of Evaluation**

1. Eight vocabulary quizzes.
2. Midterm examination and performance test. (eg. timed drawing test of a basic architectural project.)
3. Final individual project. (eg. this will consist of a two-bedroom project with 8 sheets of working drawings.)
4. Final examination and performance test. (eg. timed drawing test of a small residential project consisting of a floor plan, elevation and foundation detail.)

**VII. Textbook**

Wakita, O., The Professional Practice of Architectural Working Drawings, Current Edition, New York: John Wiley and Sons, 2003.

10<sup>th</sup> Grade Textbook Reading Level. ISBN: 0-471-39540-4

**VIII. Student Learning Outcomes**

1. Students will describe the meaning of basic architectural vocabulary terms.
2. Student will demonstrate proficiency in drawing on vellum and in the use of drawing instruments by the completion of various drawing assignments.
3. Students will describe limited examples of the use of the Uniform Building Code as it applied to residential construction.