#### **COURSE OUTLINE**

# Architecture 125 Architectural Design II

### I. Catalog Statement

Architecture 125 presents a study of the numerous considerations required to build a typical two story, four unit townhouse or apartment complex. Discussion will review fundamentals of design, building code considerations, techniques of construction, working drawings and construction details. Additional work will include structural considerations, heating, insulation, sound proofing, sanitary systems, foundation design, presentation techniques, and model building 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: Architecture 120 or equivalent

Recommended Preparation: Engineering 109, Architecture 250

#### **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 be able to:

- 1. understand the concepts of design for a two-story residential structure;
- 2. possess the skills required to complete a traditional or digital model of a two-story residential structure;
- 3. have continued experience in the creation of architectural working drawings using traditional and computer aided methods.

# III. Course Exit Standards

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

- 1. plan and design a group of two story structures;
- 2. draw a complete set of documentation or working drawings;
- 3. demonstrate familiarity with a body of technical vocabulary coinciding with the study of two story apartment or townhouse construction;
- 4. demonstrate a high level of understanding of the design of various types of residential structures;

### **IV.** Course Content

A. Introduction to the project

6 hours

- 1. Size and location limitations
- 2. Building department considerations
- 3. Presentation methods of finished project
- 4. Use of architectural materials
  - a. Reference material sources-Sweet's catalogs
  - b. Manufacturers' resources
  - c. Library and on-line resources
- B. Design considerations

24 hours

- 1. Scale and proportion
- 2. Weather and sunlight
- 3. Traffic flow in a two-story structure
- 4. Stairs
- 4. Code requirements
- 5. Client considerations
- 6. Other considerations
  - a. Sanitary
  - b. Heating and cooling
- 7. Site factors
  - a. Parking needs
  - b. City requirements
  - c. Landscaping
- 8. Preliminary Sketches
  - a. Instructor and peer critique

C. Working drawings 52 hours

- 1. Site plan
- 2. Floor plan
- 3. Foundation plan
- 4. Roof plan
- 5. Landscaping plan
- 6. Exterior elevations
- 7. Interior elevations notations
- 8. Schedules
  - a. Door
  - b. Windows
  - c. Room Finish
- 9. Structural sections
- D. Selected construction details
  - 1. Foundation details
  - 2. Door and window details
  - 3. Earthquake requirements
- E. Presentation of project

8 hours

6 hours

- 1. Portfolio review and critique
- 2. Creating a three dimensional study model of project
- 3. Verbal and written Final Presentation

#### 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. Midterm examination.
- 2. Final individual project. (eg. this will typically consist of a set of working drawings or architectural model of a two story, two or three bedroom, 4-unit residential structure.)
- 3. Final examination or presentation (eg. this will typically be a 5-10 minute presentation of the final project to the instructor and the rest of the class.)
- 4. Portfolio review and critique. (eg. this is typically a critique of all of the work that the student has accomplished during the course. The work is bound in a portfolio and evaluated by the instructor.)

# VII. Textbook

Wakita, O., <u>The Professional Practice of Architectural Working Drawings</u>, Third 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 plan and design a group of two story structures on a single property.
- 2. Students will draw a complete set of documentation or working drawings of a group of two story structures using either CAD (Computer Aided Design) software or Traditional (Manual) methods.
- 3. Students will describe the various technical vocabulary as it applies to the study of two story apartment or townhouse construction.