

ILLINOIS VALLEY COMMUNITY COLLEGE



Course Outline

DIVISION: Career and Technical Programs

Course: CAD 2202; Architectural Drafting

Date: October, 2009

Credit Hours: 3

Prerequisite(s):

Delivery Method:

<input checked="" type="checkbox"/> Lecture	2 Contact Hours
<input type="checkbox"/> Seminar	0 Contact Hours
<input checked="" type="checkbox"/> Lab	2 Contact Hours
<input type="checkbox"/> Clinical	0 Contact Hours
<input type="checkbox"/> Online	
<input type="checkbox"/> Blended	

Offered: Fall Spring Summer

IAI Equivalent –**Only for Transfer Courses**–go to <http://www.itransfer.org>:

CATALOG DESCRIPTION:

This course is designed to develop an understanding of drafting procedures in preparation of architectural, civil and construction drawings. Units of study will include graphic representation of residential and commercial buildings, site analysis, building codes, conventional symbols, spatial concepts, and the use of various materials related to construction. The basis of the course work will consist of the preparation of detail working drawings for construction purposes.

GENERAL EDUCATION GOALS ADDRESSED

[See the last page of this form for more information.]

Upon completion of the course, the student will be able:

[Choose those goals that apply to this course.]

- To apply analytical and problem solving skills to personal, social and professional issues and situations.
- To communicate orally and in writing, socially and interpersonally.
- To develop an awareness of the contributions made to civilization by the diverse cultures of the world.
- To understand and use contemporary technology effectively and to understand its impact on the individual and society.
- To work and study effectively both individually and in collaboration with others.
- To understand what it means to act ethically and responsibly as an individual in one's career and as a member of society.
- To develop and maintain a healthy lifestyle physically, mentally, and spiritually.
- To appreciate the ongoing values of learning, self-improvement, and career planning.

EXPECTED LEARNING OUTCOMES AND RELATED COMPETENCIES:

[Outcomes related to course specific goals.]

Upon completion of the course, the student will be able to:

1. Given a list of major civilizations responsible for architectural development, the student will sketch structural system used in construction.
2. Given a freehand sketch of architectural drawings the student will revise into a working drawing, using the proper techniques, symbols, specifications, and notes.
 - A. Plot plan: 1" = 20'. Show north direction, dimensions of lot, location of buildings, terraces, porches, fences, and easements. Indicate setback requirements. Show utilities and how they connect to the house.
 - B. Foundation plan: 1/4" = 1' - 0". Show the plan view of the foundation with all dimensions, notes and symbols.
 - C. Floor plan: 1/4" = 1' - 0". Show the plan view of the foundation with all dimensions, notes and symbols.
 - D. Elevation: 1/4" = 1' - 0". Show elevations of the four exterior views of the building. Show finish floor lines and finish grade in relationship to the building. Windows and building materials should be clearly indicated.
 - E. Wall section: 5/8" = 1' - 1". The wall section should be typical of the building and extend from bottom of the foundation through the roof section. Special framing details should be emphasized in this section, label all parts.
 - F. Window and door details: 3" = 1' - 0". Window and door section should be prepared that are coordinated with the floor plan to indicate the installation dimensions of the windows and doors to be used. details should be drawn to explain methods of framing, and label various parts.

G. Cabinet and built-in details: $3/8" = 1' - 0"$. Show details and sections to explain how kitchen and cabinets are to be constructed. Library shelves and closet should be detailed also.

3. Given a working drawing of an architectural floor plan, the student will apply correctly all necessary graphic symbols for materials, fixed equipment and dimensions.

4. Given $1/4"$ cross-section paper, the student will sketch neatly and from memory the following wall sections:

- A. Brick veneer wall with basement, box cornice
- B. Wood frame wall, with crawl space, flat roof
- C. $10"$ cavity brick wall, without basement, sloping soffit.

5. After completion of objective #4, the student will indicate the method of dimensioning and completely note all materials.

6. Given the books Architectural Graphic Standards and Sweet's Architectural Catalog File, the student will prepare a door and window schedule for objective #2; schedules must include mark, number required, size, description and remarks.

7. *Given a set of architectural working drawings for a residence, the student will prepare a two-point perspective rendering, complete with entourage and color.

8. The student will prepare a legend of the commonly used electrical and construction symbols for working drawing made in objective #2. List each type of requirement and show its conventionally used symbol.

9. The student will complete an electrical plan for his original house design.

10. Be able to incorporate essential workplace skills into their course work and lives

*If time permits.

COURSE TOPICS AND CONTENT REQUIREMENTS:

Introduction to Construction Drafting

- A. Structural Development
 - 1. Bearing Wall
 - 2. Skeleton Frame
 - 3. Cantilever
 - 4. Arch
 - 5. Dome
 - 6. Buttress
 - 7. Steel

8. Concrete

- II. Primary Considerations
 - A. The Site
 - B. Building Codes
 - C. Zoning
 - D. Construction Documents
 - E. The Program
 - F. Mechanical Requirements
 - G. Orientation

- III. Drawing Conventions
 - A. Technique
 - 1. Lines
 - B. Symbols
 - 1. Section
 - 2. Elevations
 - 3. Fixed Equipment
 - 4. Wall
 - a. Frame
 - b. Masonry
 - C. Lettering
 - 1. Size
 - D. Dimensions
 - 1. Plan
 - 2. Elevations
 - 3. Sections

- IV. Construction Documents
 - A. Individual Room Design
 - 1. Residential and Commercial
 - B. Preliminary Layout
 - 1. Circulation
 - 2. Efficiency
 - 3. Orientation
 - C. Working Drawings
 - 1. Site
 - 2. Floor
 - 3. Foundation
 - 4. Elevations
 - 5. Sections
 - 6. Details
 - 7. Specifications
 - 8. Schedules

- V. Design

- A. Fenestration
- B. Area Planning
- C. Styles
- D. Design Process
- E. Elements
 - 1. Form
 - 2. Space
 - 3. Texture
 - 4. Line

INSTRUCTIONAL METHODS:

Lecture
Lab
Assigned Projects
Group Projects
Field trips

INSTRUCTIONAL MATERIALS:

STUDENT REQUIREMENTS AND METHODS OF EVALUATION:

Completion of assigned problems, required reading of text.
Periodic tests.
Group Projects
Problem Based Learning

OTHER REFERENCES

Form Revised: 3/2/05