

COURSE OUTLINE

Revision: Loc Nguyen - Date: February 2009

DEPARTMENT:	Engineering & Engineering Technology
CURRICULUM:	Computer-Aided Drafting/Design Technology
COURSE TITLE:	CAD – Architectural I
COURSE NUMBER:	TDR 127
TYPE OF COURSE:	Vocational Preparatory
COURSE LENGTH:	1 quarter
CREDIT HOURS:	4
LECTURE HOURS:	22
LAB HOURS:	44
CLASS SIZE:	18
PREREQUISITES:	EGR 124 / TDR 123 and TDR 230

COURSE DESCRIPTION:

This course explores the architectural/structural drafter's responsibility to convert architects', engineers', and designers' sketches and ideas into formal drawings using CAD software. Emphasis is placed on providing realistic drafting problems. The student will progress through the same planning and decision making activities that are required in the workplace of a professional drafter. Consideration is given to scale, drawing size selection, view layout, detail placement and many other drafting and related organizational problems.

STUDENT LEARNING OUTCOMES ADDRESSED:

- 1) Computation – Apply basic math operations to construct architectural / structural drawings.
- 2) Critical thinking and Problem Solving – Identify problems and evaluate alternative solutions, and apply appropriate analytical methods to develop optional solutions.

STUDENT LEARNING OUTCOMES ADDRESSED: (cont.)

- 3) Technology – Demonstrate basic understanding of computer systems and use of AutoCAD software to create professional architectural/structural drawings.
- 4) Information Literacy – Access and use information from a variety of technical resources.
- 5) Personal Responsibility – Take pride and value in one's own work, and manage personal time to meet required schedules.

PROGRAM OUTCOMES ADDRESSED

- 1 Ability to apply knowledge of mathematics and scientific principles to technical engineering/drafting problems.
- 2 Ability to analyze and interpret data.
- 3 Ability to think critically in evaluating information, solving problems, and making decisions.
- 4 Ability to function on diverse, multi-disciplinary teams.
- 5 Ability to access and evaluate information from a variety of sources, including the Internet.
- 6 Understand professional and ethical responsibility.
- 7 Ability to communicate effectively with written, oral, and visual means.
- 8 Recognize the need for and ability to engage in life-long learning.
- 9 Ability to use modern technical engineering techniques, skills, and technology, including computing tools necessary for technical engineering/drafting practice.

GENERAL COURSE OBJECTIVES:

At the successful completion of the course the student will be able to:

- 1) Understand the design process and the functions of the drafter in the design sequence for residential and commercial building construction.
- 2) Describe the various factors involved in drafting floor plans, foundation systems, building elevations, framing details and utility installations.
- 3) Distinguish between the types of structural drawings: engineering and shop drawings.
- 4) Understand and construct basic structural steel drawings, concrete construction, both poured in place and precast, and common connection methods.

TOPICAL OUTLINE:	APPROX. HOURS
I. An introduction to Architectural/Structural drafting	6
II. Building construction design factors	4
III. Floor plans	6
IV. Foundation Plans and Flooring systems	6
V. Elevations	6
VI. Sections, framing and structural components	8
VII. Structural drafting – drawing types	6
VIII. Structural steel framing	6
IX. Structural steel connections	6
X. Poured in place concrete	6
XI. Precast concrete construction	6
Total	<u>66</u>

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