

## COURSE OUTLINE

Revision: Loc Nguyen, February 2008

DEPARTMENT:	Academic Programs
CURRICULUM:	Engineering
COURSE TITLE:	Engineering Graphics II
COURSE NUMBER:	ENGR& 112
TYPE OF COURSE:	Academic Transfer
COURSE LENGTH:	1 quarter
CREDIT HOURS:	1
LECTURE HOURS:	22
LAB HOURS:	44
CLASS SIZE:	24
PREREQUISITES:	ENGR& 111 (Engineering Graphics I) or instructor's permission

## COURSE DESCRIPTION:

This course is a continuation of ENGR& 111 Engineering Graphics I. This is designed for students enrolled in Mechanical Engineering or Engineering Technology program who need to enhance the skills in traditional of engineering graphics, and lead to more complex graphic solutions. Including: Basic Dimensions and Tolerancing, Sectional Views, Auxiliary Views, Detail and Assembly Drawings. Emphasis on standard practices and variation permitted when required for clarity.

## STUDENT LEARNING OUTCOMES ADDRESSED:

1. Communication – Read and translate technical data relative to geometric spatial relationships into a graphical form easily understood by others with similar technical understanding.
2. Computation – Use basic mathematical operations as required to define geometrical spatial relationships.

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STUDENT LEARNING OUTCOMES ADDRESSED: (cont.)

3. Human Relations – Use social interactive skills to enhance learning through informal tutoring activities.
4. Critical Thinking and Problem Solving – Organize and evaluate technical data, as well as select and apply appropriate spatial relationship principles to determine problem solution.
5. Technology – Select and use appropriate technological tools to create technical graphics.
6. Personal Responsibility – Take pride and value in one’s own skill and work, and manage time to meet required schedules.
7. Information Literacy – Access, evaluate and apply information from technical texts.

GENERAL COURSE OBJECTIVES:

At the end of the course the student should be able to:

1. Recognize aligned and unidirectional dimensioning systems.
2. Create and read a drawing at a specified scale.
3. Apply basic dimensions on detail drawings by using proper techniques.
4. Understand the meaning of sections and cutting plane lines.
5. Draw a sectional view, given a two-view drawing.
6. Demonstrate the proper techniques for sectioning ribs, webs, and spokes.
7. Create an auxiliary view from any orthographic projections using drawing instruments or CAD.
8. Create auxiliary sectional or partial auxiliary views.
9. Draw and dimension auxiliary view when needed.
10. Identify the elements of a detail drawing and create a simple detail drawing.
11. List the common elements of a title block and record strip.
12. Describe the process for revising drawings.
13. List the parts of an assembly drawings.

TOPICAL OUTLINE:

APPROX. HOURS

I. Dimensioning and Tolerancing	24
II. Sections Views	12
III. Auxiliary Views	18
IV. Design and Working Drawings	12
Total hours	66

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DATE: February 2008

ENGR&amp; 112

Course Prefix and Number: ENGR&amp; 112

Course Title: Engineering Graphics II

SLO #	Included in Course Objective Number	SSCC Student Learning Outcomes
SLO 1.1	1-13	Communication - Read and listen actively
SLO 1.2		Communication - Speak and write effectively
SLO 2.1	1-3	Computation - Use mathematical operations
SLO 2.2	1-3	Computation - Apply quantitative skills
SLO 2.3		Computation - Identify, interpret, and utilize higher level mathematical and cognitive skills
SLO 3.1		Human Relations - Use social interactive skills to work in groups effectively
SLO 3.2		Human Relations - Recognize the diversity of cultural influences and values
SLO 4.1	1-13	Critical Thinking and Problem Solving -
SLO 5.1		Technology - Select and use appropriate technological tools
SLO 6.1		Personal Responsibility - Be motivated and able to continue learning and adapt to change
SLO 6.2		Personal Responsibility - Value one's own skills, abilities, ideas and art
SLO 6.3		Personal Responsibility - Take pride in one's work
SLO 6.4		Personal Responsibility - Manage personal health and safety
SLO 6.5		Personal Responsibility - Be aware of civic and environmental issues
SLO 7.1	1-13	Information Literacy - Access and evaluate information
SLO 7.2	1-13	Information Literacy - Use information to achieve personal, academic, and career goals, as well as to participate in a democratic society

PREPARED BY: Mike Steffancin  
DATE: May 2008