

## ABET Course Syllabus

## Course Information, Textbook and Supplementary Materials

**Course Description:** Graphic communication and drawing; use of instruments, lettering, dimensioning, and detailing of engineering drawing; free-hand sketching, drafting, and modeling.

**Required for:** BSCE, BSCE Structural, and BSCE Building Science

**Prerequisites:** None

**Co-Requisite:** None

**Required Textbook:** *Engineering Drawing and Design* by David A. Madsen, 2012

**Reference:** AutoCAD 2006, Manual Mastering AutoCAD 2006, and AutoCAD LT 2006 by George Omura

Topics Covered	Learning Outcomes
Graphic communication skills used to enable better visualization, presentation and organization of ideas by means of pencil drawings.  Concurrently, the basic tools used for preparing presentation and construction drawings.	Beginning civil engineering students will have the skills to do the following: <ol style="list-style-type: none"> <li>1. Hand letter for drafting</li> <li>2. Visualize three-dimensional shapes</li> <li>3. Draw orthographic views of shapes</li> <li>4. Draw isometric view of shapes (3 views)</li> <li>5. Draw shades and shadows on isometric drawings</li> <li>6. Use line, tone and texture to prepare presentation drawings</li> <li>7. Understand and use basic AutoCAD 2000 to computer drawings</li> </ol>
Basic civil drawing skills for graphic communication in the real world of engineering.	<ol style="list-style-type: none"> <li>8. Compose and draw an orthographic drawing of an object</li> <li>9. Compose and draw an isometric view of an object</li> <li>10. Apply shades and shadows on an isometric illustration</li> <li>11. Prepare a graphic presentation using line, tone and/or texture</li> </ol>
Computer Assisted Drawing for use in graphic communications in the real world of engineering.	12. Understand and apply basic drawing skills using Computer Assisted Drafting, e.g., the AutoCAD 2000 program.

## Lecture and Lab Schedule

Lecture		Lab	
Sessions per Week	Duration per Session	Sessions per Week	Duration per Session
1	3 hours	n/a	

**Relation of Course  
Objectives to Program Outcomes**

The Civil Engineering program is designed to teach beyond the technical content of the curriculum and prepare the students to utilize what they learn in a professional setting.

This course contributes to the program outcomes as outlined in the adjacent table.

Course Contribution to Program Outcomes (a-k)	✓ Key
a. An ability to apply knowledge of mathematics, science, and engineering.	
b. An ability to design and conduct experiments, as well as to analyze and interpret data.	
e. An ability to identify, formulate and solve engineering problems.	
f. An understanding of professional and ethical responsibility.	
g. An ability to communicate effectively.	
i. Recognition of the need for, and an ability to engage in life-long learning.	
j. Knowledge of contemporary issues.	
k. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	✓

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**Date:** Fall 2014