

University of Arkansas – Fort Smith

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General Syllabus

CGT 1204 - Civil Drafting

Credit Hours: 4

Lecture Hours: 2

Lab Hours: 4

Effective Semester: Summer I 2014

I. Course Information

A. Catalog Description

The nature and theory of Civil Engineering and the means and methods used to design and develop Civil Engineering projects such as highways, bridges and subdivisions. Students demonstrate competencies by completing assigned projects.

B. Additional Course Information

The primary objective is to provide students with the foundation of work done by civil engineering companies and a broad education in the civil drafting field, which includes associated drawings, skills, and terminology. Most civil drafting and mapping is generated by specialized computer-aided design and drafting software using a variety of data collected by electronic surveying techniques. Regardless of the software used, the drafter must still have knowledge of how maps and civil drawings are created.

II. Student Learning Outcomes

A. Subject Matter

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

1. From lecture and class, exercises demonstrate national Computer Aided Drafting and Design standards.
2. From lectures and Internet searches, describe career options, identify educational experience and personal traits that benefit a drafter, and describe potential barriers to career advancement and strategies for removing them.
3. Participate in class assignment involved in location and direction.
4. Participate in class assignment involved in measuring distance and elevation.
5. From lectures and class demonstration, describe various types of scales, and how they relate to civil drafting.
6. Given a series of assignments, demonstrate capability in preparing plot plans and layouts.
7. Given a series of exercises, prepare profiles and other civil detailed drawings.
8. Given a series of examples, identify the typical abbreviations used in civil engineering and architectural drawings.

B. University Learning Outcomes

Communication Skills

Students will communicate effectively with a variety of audiences in any setting: compose coherent documents appropriate to the intended audience; communicating orally in a public setting.

Technological Skills

Students will use computerized tools to efficiently access, communicate, analyze, and evaluate electronic information.

Analytical Skills

Students will use analytical/critical thinking skills to draw conclusions and/or solve problems. They will access and evaluate appropriate information through written and electronic means and think critically to reach viable solutions to a problem and to justify those solutions.

Quantitative Reasoning

Students will assign and use numbers, read and analyze data, create models, draw inferences, and support conclusions based on sound mathematical reasoning. They will apply appropriate mathematical models to solve problems, represent mathematical information symbolically, visually, numerically and verbally and interpret models and data in order to draw inferences as well as recognize the limitations of quantitative analysis.

III. Major Course Topics

A. Professional Knowledge

1. Identify all of the leading professional organizations and association in civil drafting, architectural, and GPS/GIS.
2. Understand and explain ethical practices and expectations in civil drafting, CAD, and graphic communication professions.
3. Describe career options, identify educational experience and personal traits that benefit a civil drafter.

B. Visualization Skills

1. Describe various professional organization related to civil drafting and CAD.
2. Describe various types of civil drawings and determine the best production methods.
3. Given a series of assignments, demonstrate capability in preparing layouts, profiles, and/or site details.
4. Identify the typical abbreviations and terminology used in civil engineering and architectural drawings.
5. Analyze example drawings for the various functions.
6. Learn to read legal descriptions.