

**University of Arkansas – Fort Smith**

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**General Syllabus**

**CGT 2744 – CAD Level I**

**Credit Hours:** 4

**Lecture Hours:** 2

**Lab Hours:** 4

**Prerequisite:** CGT 1001 CAD Concepts and Applications and CGT 1234 Engineering Graphics I

**Effective Semester:** Summer I 2014

**I. Course Information**

**A. Catalog Description**

Introduction to CAD software and its uses for geometric construction, orthographic projection, section and auxiliary views, dimensioning, and drawing annotation. Students will also learn how to create and use title blocks along with the importance of plotting drawings to specific scales.

**B. Additional Information**

This course is designed for all disciplines: architects, engineers, designers or anyone who needs a thorough understanding of AutoCAD. Beginning with layout of the graphics screen and progress through drawing simple graphics, using drawing aids, organizing drawings into layers, editing drawings, dimensioning drawings, plotting drawings and setting up drawing prototypes.

**II. Student Learning Outcomes**

**A. Subject Matter**

Student will be able to properly use the following commands:

1. File Commands
2. Coordinate Systems
3. Inquiry Commands
4. Beginning Plotting
5. Beginning Selection Sets
6. Draw Commands
7. Edit Commands
8. Beginning Grips
9. Beginning Dimensioning
10. Block Command
11. Setting Commands
12. Layers
13. Display Commands
14. Beginning Utility Commands
15. Text Commands

## **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; be able to sketch or describe an object so that the object can be modeled correctly or viewed by an observer.

### **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. Create drawings using the following American National Standards Institute (ANSI) Documents:
  - a. Line Conventions and Lettering
  - b. Multi and Section View Drawing
  - c. Abbreviations
  - d. Dimensions for all types of drawings
  - e. Select appropriate types of projections
2. Print drawings to scale.
3. Dimension drawings correctly using national standards.

### **B. Visualization Skills**

1. Demonstrate the ability to draw multiple views using the principle of orthographic projection..
2. Demonstrate the use of various CAD methods for drawing geometric objects.