# University of Arkansas – Fort Smith
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## General Syllabus

## CGT 1302 - Graphics for Engineers

**Credit Hours:** 2 **Lecture Hours:** 1 **Lab Hours:** 2
**Prerequisite:** None
**Effective Semester:** Summer I 2013

## I. Course Information

### A. Catalog Description
Introduction to industry standards for graphical representation of objects, 2D presentations, and 3D modeling, utilizing the commands resident in current graphic software.

### B. Additional Information
Subjects covered will include the use of computerized equipment to produce drawings, geometric construction, section views, auxiliary views, elementary descriptive geometry, dimensioning and tolerancing, pictorial representation of objects, fastening devices and 3D modeling utilizing the commands resident in the AutoCAD software. An introduction to parametric modeling using Autodesk Inventor will also be included.

## II. Student Learning Outcomes

### A. Subject Matter

1. Engineering Drafting
2. Threads and fasteners
3. File commands
4. Coordinate systems
5. Inquiry commands
6. Beginning plotting
7. Beginning selection sets
8. Draw commands
9. Edit commands
10. Beginning grips
11. Beginning dimensioning/tolerancing
12. Block commands
13. Settings commands
14. Layers
15. Display commands
16. Text Commands
17. Hatching techniques
18. 3 dimensional drawings
19. Final project

B. **University Learning Outcomes**

**Technological Skills**
Students will use appropriate technology to analyze and evaluate data.

**Analytical Skills**
Students will access and evaluate appropriate information through written and electronic means. Students will think critically to reach viable solutions to a problem and to justify those solutions.

**Quantitative Reasoning**
Students will apply appropriate mathematical models to solve problems.

## III. Major Course Topics

A. **Professional Knowledge**

1. Identify common types of threads and fasteners and characteristics of threads given standard thread callouts.
2. Know basic dimensioning and tolerancing terminology and requirements.
3. Create common pictorial representations of objects used in industry (orthographic views, section views, and auxiliary views).
4. Plot drawings using a title block and appropriate scales.

B. **Visualization Skills**

1. Visualize and draw 3-dimensional objects in 2-dimensional space.
2. Identify typical abbreviations and terminology used in engineering drawings.
3. Use parametric modeling software to create 3-dimensional models of parts and assemblies.