

University of Arkansas - Fort Smith
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General Syllabus

DFTG 2484 Applied CAD Techniques

Credit Hours: 4 Lecture Hours: 4 Lab Hours: 0

Prerequisite: DFTG 1234 Engineering Graphics and DFTG 2474 2D Computer-Aided Design (CAD) Fundamentals

Effective Catalog: 2023-2024

I. Course Information

A. Catalog Description

Covers advanced techniques in 2D CAD such as external references, dynamic blocks, and parametric drafting as well as projection, representation of fasteners, electrical wiring and welding, surface development, geometric relationship of lines and planes, and architectural and pictorial drawings including isometric, oblique, and perspective views. Also includes a brief introduction to 3D models using AutoCAD.

B. Additional Information

This course continues developing the drafting skills covered in the prerequisite course. The students' skills in drafting/CAD are broadened by an introduction to:

1. Graphic analysis and presentation of data using charts and graphs
2. Surface developments, using the concepts of parallel line, radial line and triangulation methods.
3. Study of typical industrial fasteners and practice in applying the data available for standardized parts and specifications.

II. Student Learning Outcomes

A. Subject Matter

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

1. Select appropriate graphical presentation of objects with all required views.
2. Develop sheet-metal surfaces using parallel-line, radial-line, and triangulation methods, given a series of drawing assignments.
3. Create a variety of drawings using American National Standards Institute standards.

B. University Learning Outcomes

This course enhances student abilities in the following areas:

Analytical Skills

Critical Thinking - Students will analyze 3D objects to determine proper flat pattern development processes.

Quantitative Reasoning - Students will mathematically determine proper representation of pictorial drawings in Axonometric, Oblique, and Perspective formats.

Communication Skills (written and oral)

Students will choose from a list of topics provided and create a tutorial covering that topic, then present the tutorial to the class.

Global and Cultural Perspectives

Students will compare and contrast drawings dimensioned in English and metric formats and demonstrate the ability to create drawings in both.

III. Major Course Topics

A. Professional Knowledge

1. CAD drawings in Architectural, Electronic, Piping, Civil, and Structural applications
2. Specifications for and representations of Fasteners and threads
3. Weld Symbols
4. 3D models in AutoCAD

B. Visualization Skills

1. Flat pattern developments
2. Standard drafting industry symbols for different industries
3. Pictorial representations of objects