Mechanical Drafting and CAD I
Outline of Instruction

Course Information
Organization  Monroe County Community College, Applied Science and Engineering Technology
Course Number  MDTC 160
Instructional Level  Associate Degree
Division  Industrial Technology Division
Potential Hours of Instruction  90
Total Credits  4

Description
This course is a first exposure to the drafting and design field. Orthographic projection, dimensioning, sectioning, tolerancing, threads and fasteners, and assembly drawings will be taught using both sketching techniques and Computer Aided Drafting (CAD) software. A major emphasis will be placed on current drafting standards and procedures.

Major Units
1. Drawing in AutoCAD
2. Orthographic Projection
3. Dimensioning
4. Sectioning
5. Tolerancing
6. Threads and Fasteners
7. Assembly Drawings

Prerequisites
none

Exit Learning Outcomes

General Education Objectives
A. 1. Demonstrate an understanding of the functionality and terminology associated with information technology tools and resources.
B. 2. Demonstrate the ability to use document processing software.
C. 3. Demonstrates the ability to use presentation software to communicate information and ideas.
D. 4. Demonstrate the ability to use information technology to conduct online research to locate and retrieve relevant information or raw data from credible sources.
E. 5. Demonstrate the ability to utilize current and appropriate information technology and communication software, like email, to communicate information.

Course Outcomes
1. Navigate through and create drawings within AutoCAD’s 2D drawing workspace.

Linked General Education Objectives
1. Demonstrate an understanding of the functionality and terminology associated with information technology tools and resources.
2. Demonstrate the ability to use document processing software.
3. Demonstrates the ability to use presentation software to communicate information and ideas.
4. Demonstrate the ability to use information technology to conduct online research to locate and retrieve relevant information or raw data from credible sources.
5. Demonstrate the ability to utilize current and appropriate information technology and communication software, like email, to communicate information.

2. **Demonstrate how to create an orthographic projection.**

**Linked General Education Objectives**
1. Demonstrate an understanding of the functionality and terminology associated with information technology tools and resources.
3. Demonstrates the ability to use presentation software to communicate information and ideas.
2. Demonstrate the ability to use document processing software.

3. **Demonstrate how to dimension an orthographic projection using proper dimensioning techniques.**

**Linked General Education Objectives**
1. Demonstrate an understanding of the functionality and terminology associated with information technology tools and resources.
3. Demonstrates the ability to use presentation software to communicate information and ideas.
2. Demonstrate the ability to use document processing software.

4. **Demonstrate how to create various types of sectional views.**

**Linked General Education Objectives**
1. Demonstrate an understanding of the functionality and terminology associated with information technology tools and resources.
3. Demonstrates the ability to use presentation software to communicate information and ideas.
2. Demonstrate the ability to use document processing software.

5. **Understand tolerancing and how important this technique is to mass production.**

**Linked General Education Objectives**
3. Demonstrates the ability to use presentation software to communicate information and ideas.
4. Demonstrate the ability to use information technology to conduct online research to locate and retrieve relevant information or raw data from credible sources.
5. Demonstrate the ability to utilize current and appropriate information technology and communication software, like email, to communicate information.
1. Demonstrate an understanding of the functionality and terminology associated with information technology tools and resources.
2. Demonstrate the ability to use document processing software.

6. **Understand thread notation and fasteners.**

**Linked General Education Objectives**
1. Demonstrate an understanding of the functionality and terminology associated with information technology tools and resources.
2. Demonstrate the ability to use document processing software.
3. Demonstrates the ability to use presentation software to communicate information and ideas.
4. Demonstrate the ability to use information technology to conduct online research to locate
and retrieve relevant information or raw data from credible sources.

7. **Demonstrate how to create an assembly drawing.**

**Linked General Education Objectives**

1. Demonstrate an understanding of the functionality and terminology associated with information technology tools and resources.
2. Demonstrate the ability to use document processing software.
3. Demonstrates the ability to use presentation software to communicate information and ideas.
4. Demonstrate the ability to use information technology to conduct online research to locate and retrieve relevant information or raw data from credible sources.
5. Demonstrate the ability to utilize current and appropriate information technology and communication software, like email, to communicate information.