Faculty is required to have the outline submitted to the Academic Affairs Office. The course outline is the form used for approval of new courses by the Academic Affairs and Standards Council.

DEPT. MECH  COURSE NUMBER: 1115

NUMBER OF CREDITS: 2 (1lect, 1lab)

COURSE TITLE: Computer Aided Design

CATALOG DESCRIPTION:
Introduces the skills needed to design, draw, edit, and publish various industrial schematics using CAD software. Students will demonstrate the ability to edit and design mechanical, electrical, and structural schematics. Course time will include instruction on drawing setup and commands along with hands-on lab time working with and creating drawings.

AUDIENCE: Mechatronics and Precision Machining students

FULFILLS MN TRANSFER CURRICULUM AREA(S) (Leave blank if not applicable)
Area: by meeting the following competencies:
Area: by meeting the following competencies:
Area: by meeting the following competencies:

PREREQUISITES OR NECESSARY ENTRY SKILLS/KNOWLEDGE:

LENGTH OF COURSE: Semester

THIS COURSE IS USUALLY OFFERED:
Every other year ☐ fall ☒ spring ☐ summer ☐ undetermined ☐

Four goals are emphasized in course at Minnesota West Community & Technical College:

1) ACADEMIC CONTENT: The academic objectives of this course are:

The student will acquire the knowledge and skills needed to design, draw, edit, and publish various industrial schematics and drawings in an AutoCAD environment.
2) THINKING SKILLS: This course will help students improve the effectiveness of their thinking skills through:
   a. Completing homework (reading, drawings, and worksheets)
   b. Participating in classroom discussions and activities
   c. Taking open and closed book quizzes and tests
   d. Design, draw, edit and publish AutoCAD drawings.

3) COMMUNICATIONS SKILLS: This course will help students improve their oral and written communication skills through:
   a. Participating in class discussions and reports
   b. Participating in assignments, worksheets, and reports

4) HUMAN DIVERSITY: This course will help students recognize, understand, and appreciate human diversity through:
   a. Participating in classroom discussions
   b. Working with other students on research and lab activities
   c. Working with students from other cultures

TOPICS TO BE COVERED:
1. Understanding the workspace
2. Basic drawing setup
3. Create and edit drawings
4. Basic drawing commands
5. Drawing units and scales
6. Models and layouts
7. Linetypes and layers
8. Dimensioning
9. Coordinate systems
10. Grid and snap controls
11. Templates
12. Print and plot drawings

COURSE LEARNING OUTCOMES (GENERAL):
1. Identify various mechanical, electrical, fluid power, and structural schematics.
2. Understanding of setup, drawing commands, and editing features.
3. Apply skills in designing, drawing, and publishing AutoCAD drawings.

STUDENT LEARNING OUTCOMES (SPECIFIC):
1. Demonstrate knowledge of the workspace
2. Perform drawing setup
3. Create and use drawing templates
4. Use various drawing tools to create industrial schematics and prints
5. Modify drawing features, objects, and drawings
6. Annotate critical information for drawings (dimensions, attributes, notes, etc.)
7. Publish industrial schematics and prints

LEARNING/TEACHING TECHNIQUES used in the course are:
- Collaborative Learning
- Problem Solving
- Student Presentations
- Interactive Lectures
- Creative Projects
- Individual Coaching
- Lecture
- Films/Videos/Slides
- Demonstrations
- Other (describe below)
- Lab

ASSIGNMENTS AND ASSESSMENTS FOR THIS CLASS INCLUDE:
- Reading
- Tests
- Individual Projects
- Oral Presentations
- Worksheets
- Collaborative Projects
- Textbook Problems
- Papers
- Portfolio
- Group Problems
- Term Paper
- Other (describe below)

Veteran Services: Minnesota West is dedicated to assisting veterans and eligible family members in achieving their educational goals efficiently. Active duty and reserve/guard military members should advise their instructor of all regularly scheduled military appointments and duties that conflict with scheduled course requirements. Instructors will make every effort to work with the student to identify adjusted timelines. If you are a veteran, please contact the Minnesota West Veterans Service Office.

The information in this course outline is subject to revision

To receive reasonable accommodations for a documented disability, please contact the campus Student Services Advisor or campus Disability Coordinator as arrangements must be made in advance. In addition, students are encouraged to notify their instructor.

This document is available in alternative formats to individuals with disabilities by contacting the Student Services Advisor or by calling 800-658-2330 or via your preferred Telecommunications Relay Service.

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Revised 10/1/16