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. Industrial Technology COURSE NUMBER: CMAE 1526

NUMBER OF CREDITS: 2 Credits (2 lecture)

COURSE TITLE: Maintenance Awareness

CATALOG DESCRIPTION:
Introduces the concepts of Total Productive Maintenance and preventative maintenance. This course is designed to align with the National Skills assessment and certification system for Maintenance Awareness. The course curriculum is based upon federally-endorsed national standards for production workers.

AUDIENCE:

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: 2 credits (2 lecture)

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: This course will help students achieve basic knowledge of:
   a. Preventative and predictive maintenance
   b. System troubleshooting
   c. Documentation in a maintenance system

2) THINKING SKILLS: This course will help students improve the effectiveness of their thinking skills through:
   a. Completing homework (reading, reports, and worksheets)
   b. Participating in classroom discussions
   c. Taking open and closed book quizzes and tests
   d. Complete assigned lab projects
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 labs
   c. Working with students from other cultures

TOPICS TO BE COVERED:
1. Preventative maintenance
2. Predictive maintenance
3. System monitors
4. Importance of production schedules
5. Maintenance issues in different systems

LIST OF EXPECTED COURSE OUTCOMES:
1. Explain performance of preventative maintenance.
2. Discuss the concepts of routine repair
3. Discuss monitoring indicators to ensure correct operations
4. Describe performance of housekeeping to maintain production schedule.
5. Recognize potential maintenance issues with basic production systems.
6. Recognize the importance of documentation within a maintenance system.

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)
EXPECTED STUDENT LEARNING OUTCOMES:

1. Demonstrate an understanding of preventative maintenance programs.
2. Apply predictive and preventative maintenance program skills in dealing with the following systems:
   - Electrical systems
   - Pneumatic systems
   - Hydraulic systems
   - Machine automation systems
   - Lubrication processes
   - Mechanical systems

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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7/30/13