Faculty members are 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. CMAE     COURSE NUMBER: 1526

NUMBER OF CREDITS: 2 Lecture: 2 Lab: 0

<table>
<thead>
<tr>
<th>Course Title:</th>
<th>Maintenance Awareness</th>
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| 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. |

FULFILLS MN TRANSFER CURRICULUM AREA(S)

Goal 1: Communication: ____ by meeting the following competencies:

Goal 2: Critical Thinking: ____ by meeting the following competencies:

Goal 3: Natural Sciences: ____ by meeting the following competencies:

Goal 4: Mathematics/Logical Reasoning: ____ by meeting the following competencies:

Goal 5: History and the Social and Behavioral Sciences: ____ by meeting the following competencies:

Goal 6: The Humanities and Fine Arts: ____ by meeting the following competencies:

Goal 7: Human Diversity: ____ by meeting the following competencies:

Goal 8: Global Perspective: ____ by meeting the following competencies:

Goal 9: Ethical and Civic Responsibility: ____ by meeting the following competencies:

Goal 10: People and the Environment: ____ by meeting the following competencies:

| Prerequisites or Necessary Entry Skills/Knowledge: | None |
### Topics to be Covered
1. Preventative maintenance and Total Productive Maintenance.
2. Predictive maintenance.
3. Fundamentals of lubrication, electrical systems, hydraulics, pneumatics, and power transmission systems.
5. Importance of production schedules.
6. Maintenance issues in different systems.

### Student Learning Outcomes
1. Explain concepts of preventative maintenance practices.
2. Apply predictive and preventative maintenance program skills for the following systems:
   - Electrical systems
   - Pneumatic systems
   - Hydraulic systems
   - Machine automation systems
   - Lubrication processes
   - Mechanical systems
3. Discuss Total Productive Maintenance.
4. Analyze potential maintenance issues with production equipment.
5. Explain documentation within a maintenance plan.

### Is this course part of a transfer pathway: Yes ☐ No ☒

Revised Date: 05/2020