COURSE OUTLINE

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. MACH COURSE NUMBER: 1430

NUMBER OF CREDITS: 3 Lecture: 1 Lab: 2

<table>
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<th>Course Title:</th>
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<tr>
<td>CNC Lathe Programming &amp; Operation I</td>
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<th>Catalog Description:</th>
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<td>Introduces programming of 2-axis CNC lathes. It also includes selection of tooling and sequence of operations. Manual G-code programming will be done.</td>
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FULFILLS MN TRANSFER CURRICULUM AREA(S) (Leave blank if not applicable)

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:

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<th>Prerequisites or Necessary Entry Skills/ Knowledge:</th>
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<td>None</td>
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### Topics to be Covered (General)
- Machine tool safety
- 2-axis CNC lathe theory, setup and operation
- Program lathes using G-code
- CNC lathe maintenance
- Machinery’s handbook

### Student Learning Outcomes
1. Write CNC Lathe G-code programs
2. Select correct tooling for CNC Lathe
3. Calculate machining formulas
4. Program a 2-axis CNC Lathe
5. Setup a 2-axis CNC Lathe
6. Operate a 2-axis CNC Lathe
7. Utilize machinist’s handbook for setup and operation of a CNC Lathe

**Is this course part of a transfer pathway:** Yes [ ] No [X]

*If yes, please list the competencies below*

**All syllabi must include the following statement:**

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, high school students are encouraged to notify their counselor and 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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