MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE
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: 1435

NUMBER OF CREDITS: 4   Lecture: 2   Lab: 2

<table>
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<th>Course Title:</th>
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<tr>
<td>CNC Lathe Programming &amp; Operation II</td>
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<th>Catalog Description:</th>
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<tr>
<td>Perform advanced CNC programming and operation of CNC lathes. Write, edit and interpret G &amp; M code. Conduct complex setups and hold tighter tolerances on parts.</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>MACH 1430 with a grade of 2.0 or higher. Or permission by instructor for prior industry experience.</td>
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Topics to be Covered (General)

Machine tool safety.
Advanced 2 axis CNC lathe theory, setup and operation.
Program lathes using G & M codes.
CNC lathe maintenance
Machinist’s Handbook

Student Learning Outcomes

1. Write advanced programs for a 2 axis CNC lathe.
2. Perform advanced setups of a 2 axis CNC lathe.
3. Perform advanced operation of a 2 axis CNC lathe.
4. Demonstrate safe operation of CNC equipment.
5. Complete machine maintenance
6. Demonstrate complex setups involving a CNC lathe
7. Apply the use of G & M codes to program a CMC lathe
8. Conduct complex setups and hold tighter tolerances on parts
9. Write G & M code
10. Interpret G & M code
11. Edit G & M code
12. Utilize machinist’s handbook for advanced 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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Revised 8/19