

WASHTENAW COMMUNITY COLLEGE

PROGRAM ASSESSMENT PLAN CHANGE FORM

| | | |
|-----------------------------|--|--------------------------------------|
| Program Code: CTMTOT | Program Title: Advanced Manufacturing (CNC) – Operation Technician (CTMTOT) | Effective Term: Fall 2022 |
|-----------------------------|--|--------------------------------------|

List the outcome(s) to be revised, and identify changes (add rows as needed):

| Learning outcomes to be assessed | Assessment tool | When assessment will take place | Course/other populations | Number of students to be assessed |
|---|-------------------------------|---------------------------------|--------------------------|-----------------------------------|
| 1. Perform basic setup and operation of CNC machinery in the lab. | Student achievement checklist | Fall 2025 | NCT 121 | All |
| 2. Use inspection equipment to measure given parts. | Student achievement checklist | Fall 2025 | NCT 100 | All |
| 3. Interpret blueprint symbols and dimensions. | Departmental exam | Fall 2025 | MEC 101 | All |


Scoring and analysis of assessment:

1. Indicate how the above assessment(s) will be scored and evaluated (e.g. departmentally-developed rubric, answer key, checklist, other). Please attach rubric if available.

Achievement checklist and answer key.

2. Indicate the standard of success to be used for this assessment: **75% of students will score 70% or higher.**
3. Indicate who will score and analyze the data: **Departmental Faculty.**

Signatures:

| Reviewer | Print Name | Signature | Date |
|-----------------------------|------------------|--|------------|
| Initiator | Allan Coleman | Allan Coleman | 12/15/2021 |
| Department Chair | Allan Coleman | Allan Coleman | 01/17/2022 |
| Division Dean/Administrator | Jimmie Baber | Jimmie Baber | 1/21/2022 |
| Curriculum Committee Chair | Randy Van Wagnen | RVanWagnen | 2-15-2022 |
| Assessment Committee Chair | Shawn Deron |  | 3/10/2022 |

Do not write in shaded area. Entered in: Banner _____ C&A Database _____ Log File _____

Please return completed form to the Office of Curriculum & Assessment, SC 257

Received by C&A 1/21/22

or by e-mail to curriculum.assessment@wccnet.edu

Reviewed by C&A Committees 2/3/22

Office of Curriculum and Assessment

1 of 1

Revised 4/1/21

PROGRAM PROPOSAL FORM

- Preliminary Approval** – Check here when using this form for preliminary approval of a program proposal, and respond to the items in general terms.
- Final Approval** – Check here when completing this form after the Vice President for Instruction has given preliminary approval to a program proposal. For final approval, complete information must be provided for each item.

| | | |
|---|--|---|
| <p>Program Name:</p> <p>Division and Department:</p> <p>Type of Award:</p> <p>Effective Term/Year:</p> <p>Initiator:</p> | <p>Machine Tool Setup and Operation</p> <p><u>Advanced Technology and Public Services Careers/ Industrial Technology</u> Department</p> <p><input type="checkbox"/> AA <input type="checkbox"/> AS <input type="checkbox"/> AAS <input checked="" type="checkbox"/> Cert. <input type="checkbox"/> Adv. Cert. <input type="checkbox"/> Post-Assoc. Cert. <input type="checkbox"/> Cert. of Comp.</p> <p>Fall 2015</p> <p>Jeff Donahey/Thomas Penird</p> | <p>Program Code:</p> <p>CIP Code:</p> |
| <p>Program Features Program's purpose and its goals. Criteria for entry into the program, along with projected enrollment figures. Connection to other WCC programs, as well as accrediting agencies or professional organizations. Special features of the program.</p> | <p>In this certificate, students are taught how to read blueprints, visualize models in 3D space, understand materials processes and testing, and recognize the fundamentals of machine tools. In addition, measurement techniques and the setup and operation of CNC machine tools will be practiced. The student will be able to go into a local manufacturing company and operate a traditional or CNC machine tool, as well as do operations like heat treating, testing, and measurement of product.</p> | |
| <p>Need Need for the program with evidence to support the stated need.</p> | <p>Many of our students are only here to get specific training required by local industry. This is reflected in our completion numbers.</p> <p>Several students have asked for certification.</p> <p>Local employers would like the certification as in indication of the level of skill sets the potential employee has attained.</p> <p>We have eliminated the machine tool technology program from the Mechatronics (Formerly Automation) program. The MTT111 class needs to be associated with a program to aid in enrollment.</p> | |
| <p>Program Outcomes/Assessment State the knowledge to be gained, skills to be learned, and attitudes to be developed by students in the program. Include assessment methods that will be used to determine the effectiveness of the program.</p> | <p><u>Outcomes</u></p> <ol style="list-style-type: none"> 1. Setup and operate CNC mills and lathes. 2. Operate traditional mills, lathes, and saws. 3. Read and interpret blueprint abbreviations, symbols and dimensions. 4. Measure parts using core measurement devices such as micrometers, calipers, rules, go-no gages, protractors and optical comparators. | <p><u>Assessment method</u></p> <ol style="list-style-type: none"> 1. Capstone Projects 2. Capstone Projects 3. Test 4. Tests |

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| <p>Curriculum</p> <p>List the courses in the program as they should appear in the catalog. List minimum credits required. Include any notes that should appear below the course list.</p> | <p style="text-align: center;">29</p> <p>MEC100 3 credits Materials and Processes X MEC101 2 credits 3D Modeling and Blueprint Reading X MEC 201 2 credits Mechanisms MTT 102 2 credits Machining for Automotive applications MTT 111 4 credits Machine Shop Theory and Practice NCT 101 2 credits Introduction to Computerized Machining (CNC I) NCT 110 <u>2 credits</u> Introduction to Computerized Machining (CNC II) 17 credits</p> <p>Note: These are all existing courses</p> | | | | | | | | | | | | | | | | | | | | | |
|--|--|---------------|----------------|---------------|----------------|--------|------|------------------------|-----|---|----------------------------|---|---|-----------------------------|---|---|--------------|---|---|----------------|------|------|
| <p>Budget</p> <p>Specify program costs in the following areas, per academic year:</p> | <table border="1"> <thead> <tr> <th></th> <th>START-UP COSTS</th> <th>ONGOING COSTS</th> </tr> </thead> <tbody> <tr> <td>Faculty</td> <td>\$ 0.0</td> <td>\$.</td> </tr> <tr> <td>Training/Travel</td> <td>0.0</td> <td>.</td> </tr> <tr> <td>Materials/Resources</td> <td>.</td> <td>.</td> </tr> <tr> <td>Facilities/Equipment</td> <td>.</td> <td>.</td> </tr> <tr> <td>Other</td> <td>.</td> <td>.</td> </tr> <tr> <td style="text-align: right;">TOTALS:</td> <td>\$.</td> <td>\$.</td> </tr> </tbody> </table> | | START-UP COSTS | ONGOING COSTS | Faculty | \$ 0.0 | \$. | Training/Travel | 0.0 | . | Materials/Resources | . | . | Facilities/Equipment | . | . | Other | . | . | TOTALS: | \$. | \$. |
| | START-UP COSTS | ONGOING COSTS | | | | | | | | | | | | | | | | | | | | |
| Faculty | \$ 0.0 | \$. | | | | | | | | | | | | | | | | | | | | |
| Training/Travel | 0.0 | . | | | | | | | | | | | | | | | | | | | | |
| Materials/Resources | . | . | | | | | | | | | | | | | | | | | | | | |
| Facilities/Equipment | . | . | | | | | | | | | | | | | | | | | | | | |
| Other | . | . | | | | | | | | | | | | | | | | | | | | |
| TOTALS: | \$. | \$. | | | | | | | | | | | | | | | | | | | | |
| <p>Program Description for Catalog and Web site</p> | <p>In this program, students learn to setup and operate CNC machine tools, traditional mills, lathes and saws. They learn how to use basic measurement tools and read blueprints. This certificate will highlight the fundamentals of materials and processes including mechanical and physical testing and heat treatment of ferrous and non-ferrous metals. Students completing this certificate will be able to perform many of the fundamental tasks within a fabrication shop, including simple part manufacturing, set-up and operation of CNC machine tools as well as inspection using simple measurement tools.</p> | | | | | | | | | | | | | | | | | | | | | |
| <p>Program Information</p> | <p>Accreditation/Licensure - Advisors - Advisory Committee - Norgren: Mike Rodocker, Josh Jeffers Zero Hour Parts: Brandon Hoag, Debra Adams, MS PHR Faurecia: Wes Nichols Mechanized Numerics LLC: Andrew Dubuc L&W Engineering: David Braun Jacobs Technologies: Ed Grabow Heller Precision Machining: Jason Barnhart, Chris Wehrle</p> <p>Admission requirements - Articulation agreements - Continuing eligibility requirements -</p> | | | | | | | | | | | | | | | | | | | | | |

Assessment plan:

| Program outcomes to be assessed | Assessment tool | When assessment will take place | Courses/other populations | Number students to be assessed |
|---|-------------------|---------------------------------|---------------------------|--------------------------------|
| 1. Setup and operate CNC mills and lathes. | Capstone Project | Fall 2015 | NCT 110 | All |
| 2. Operate traditional mills, lathes, and saws. | Capstone Projects | Fall 2015 | MTT 111 | All |
| 3. Read and interpret blueprint abbreviations, symbols and dimensions. | Test | Fall 2015 | MEC101 | All |
| 4. Measure parts using core measurement devices such as micrometers, calipers, rules, go-no gages, protractors and optical comparators. | Test | Fall 2015 | MTT 111 | All |

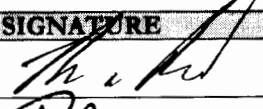

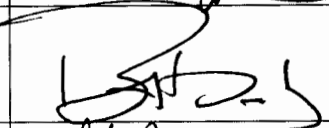


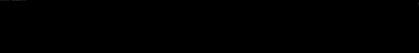
Scoring and analysis plan:

- Indicate how the above assessment(s) will be scored and evaluated (e.g. departmentally-developed rubric, external evaluation, other). Attach the rubric.

Outcomes 1 and 2: Department-developed rubric
 Outcomes 3 and 4: Answer Key

- Indicate the standard of success to be used for this assessment.
 75% of the students will score 70% or better on each outcome.

- Indicate who will score and analyze the data.
 Department Faculty

| REVIEWER | PRINT NAME | SIGNATURE | DATE |
|--|---|--|----------|
| Department Chair/Area Director | Thomas | Penird  | 1/6/2015 |
| Dean | Brandon | Tucker  | 1/6/15 |
| Vice President for Instruction <input type="checkbox"/> Approved for Development <input type="checkbox"/> Final Approval | William Abernethy |  | 2/5/15 |
| President | Rose Bellanca |  | 2/23/15 |
| Board Approval |  |  | 3/24/15 |