

## Washtenaw Community College

## Program Discontinuation Form

Program Code: <b>CVMPA</b>	Program Name: <b>Advanced Machine Tool Programming</b>	Effective Term: <b>Fall 2022</b>
Division Code: <b>ATP</b>	Department: <b>Advanced Manufacturing</b>	

**Directions:** Complete all information below.

**Rationale for discontinuation:**

Courses have never run due to staffing. Students cannot complete this certificate.

**Describe the discontinuation, transition and course phase-out plan. Please include the number of currently enrolled students.**

No students are in this program.

**List departments using this program and the date they were notified of the planned discontinuation.**

Advanced Manufacturing

**Signatures:**

Reviewer	Print Name	Signature	Date
Initiator	Allan Coleman	~Al Coleman	12/31/2021
Department Chair	Allan Coleman	~Al Coleman	12/31/2021
Division Dean/Administrator	Jimmie Baber	Jimmie Baber	12/31/2021

**Please submit completed form to the Office of Curriculum and Assessment (SC 257) or by e-mail to curriculum.assessment@wccnet.edu**

**Once reviewed by the appropriate faculty committees we will secure the signature of the VPI and President.**

Reviewer	Print Name	Signature	Date
Curriculum Committee Chair	Randy Van Wagnen	R Van Wagnen	1-26-22
Vice President for Instruction	Kimberly Hurns	Kimberly Hurns	1/28/2022
President	Rose B. Bellanca	Rose B. Bellanca	2/15/22

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

Reviewed by C&A Committees 1/13/22

**Program Information Report**

**Advanced Machine Tool Programming (CVMTPA)**

**Advanced Certificate**

**Program Effective Term: Fall 2016**

In this program, students will learn advanced CNC programming skills. Students will practice the fundamentals of Intuitive Probing Systems (IPS) and Visual Quick Code (VQC) needed to create machine tool programs. Starting with 2D and 3D CAM programming and advancing to 4th and 5th axis machining, students will learn the proper methods for creating tool paths.

**Program Admission Requirements:**

Completion of the Machine Tool Programming (CNC) certificate.

<b>Major/Area Requirements</b>		<b>(16 credits)</b>
MEC 120	3D-Printing: Machine, Process and Innovation	4
NCT 255	Probes, Macros and Conversational Programming for CNC	4
NCT 259	MasterCam 2D and 3D CAM CNC Programming for Mills	4
NCT 269	4 and 5 Axis Machining for the CNC Vertical Mills	4

**Minimum Credits Required for the Program:**

**16**

**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><b>Program Name:</b></p> <p><b>Division and Department:</b></p> <p><b>Type of Award:</b></p> <p><b>Effective Term/Year:</b></p> <p><b>Initiator:</b></p>	<p><u>Advanced Machine Tool Programming</u></p> <p><u>ATP/INTD</u></p> <p> <input type="checkbox"/> AA   <input type="checkbox"/> AS   <input type="checkbox"/> AAS  <input type="checkbox"/> Cert.   <input checked="" type="checkbox"/> Adv. Cert.   <input type="checkbox"/> Post-Assoc. Cert.   <input type="checkbox"/> Cert. of Comp.         </p> <p><u>Fall 2016</u></p> <p><u>Tom Penird</u></p>	<p><b>Program Code:</b></p> <p><u>CV MTPA</u></p> <p><b>CIP Code:</b></p> <p><u>48.0501</u></p>
<p><b>Program Features</b>            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>This program builds on the Machine Tool Setup and Operations certificate (CTMTSO) and the Machine Tool Programming (CNC) certificate (CTMTP) to train students in the advanced skill sets needed by industry. In order to enroll in the program, students must have completed both of these certificate programs.</p> <p>In this program, students will learn the knowledge and skills to write 2D and 3D CAM CNC programs. Students will create parts using a 3D printer. Advanced courses will teach 4<sup>th</sup> and 5<sup>th</sup> axis machining programs.</p> <p>This program utilizes the equipment that is being purchased using the CC-Step grant and is the next step in preparing students for advanced work in Machine Tool (CNC) programming.</p>	
<p><b>Need</b>            Need for the program with evidence to support the stated need.</p>	<p>We have been asked to create an advanced machine tool programming certificate based on conversations with local manufacturing establishments. These companies plan to provide additional training to their current CNC machine tool operators or hire students with this training.</p> <p>WCC is collaborating with the University of Michigan Engineering program in the development of MEC 120 3D Printing which will be used in the U of M program.</p> <p>Since September 1, 2015, over 200 jobs have been posted for CNC and machine tooling on MonsterJobs.com.</p>	
<p><b>Program Outcomes/Assessment</b>            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"> <li>1. Set up and program CNC milling machines for operation on 4<sup>th</sup> and 5<sup>th</sup> axis.</li> <li>2. Machine 4 and 5 axis parts using the CNC milling machines.</li> </ol>	<p><u>Assessment method</u></p> <ol style="list-style-type: none"> <li>1. Capstone project</li> <li>2. Capstone project</li> </ol>

logged 11/11/15 sj vmo Done 10/4/16MP

<b>Curriculum</b> 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.	<b>MEC 120 3D Printing: Machine, Process and Innovation</b> <b>4 credits</b> <b>NCT 255 Probes, Macros and Conversational Programming for CNC</b> <b>4 credits</b> <b>NCT 259 MasterCam 2D and 3D CAM CNC Programming for Mills</b> <b>4 credits</b> <b>NCT 269 4&amp;5 Axis Machining for the CNC Vertical Mills</b> <b>4 credits</b>  <b>Total Certificate</b> <b>16 credits</b>																							
<b>Budget</b> Specify program costs in the following areas, per academic year:	<table border="1"> <thead> <tr> <th></th> <th>START-UP COSTS</th> <th>ONGOING COSTS</th> </tr> </thead> <tbody> <tr> <td>Faculty</td> <td>\$ .</td> <td>\$ .</td> </tr> <tr> <td>Training/Travel</td> <td>.</td> <td>.</td> </tr> <tr> <td>Materials/Resources</td> <td>.</td> <td>.</td> </tr> <tr> <td>Facilities/Equipment</td> <td>CC – Step Grant</td> <td>.</td> </tr> <tr> <td>Other</td> <td>.</td> <td>.</td> </tr> <tr> <td><b>TOTALS:</b></td> <td><b>\$ .</b></td> <td><b>\$ .</b></td> </tr> </tbody> </table>		START-UP COSTS	ONGOING COSTS	Faculty	\$ .	\$ .	Training/Travel	.	.	Materials/Resources	.	.	Facilities/Equipment	CC – Step Grant	.	Other	.	.	<b>TOTALS:</b>	<b>\$ .</b>	<b>\$ .</b>		
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<b>Program Description for Catalog and Web site</b>	In this program, students will learn advanced CNC programming skills. Students will practice the fundamentals of Intuitive Probing Systems (IPS) and Visual Quick Code (VQC) needed to create machine tool programs. Starting with 2D and 3D CAM programming and advancing to 4 <sup>th</sup> and 5 <sup>th</sup> axis machining, students will learn the proper methods for creating tool paths.																							
<b>Program Information</b>	<b>Accreditation/Licensure - None</b>  <b>Advisors – Tom Penird</b>  <b>Advisory Committee - None</b>  <b>Admission requirements – Completion of the Machine Tool Programming Certificate</b>  <b>Articulation agreements - None</b>  <b>Continuing eligibility requirements - None</b>																							

**Assessment plan:**

Program outcomes to be assessed	Assessment tool	When assessment will take place	Courses/other populations	Number students to be assessed
<b>Setup and program CNC milling machines for operation on 4<sup>th</sup> and 5<sup>th</sup> axis.</b>	Capstone Project	Fall 2019	All Graduates	All
<b>Machine 4 and 5 axis parts using the CNC milling machines.</b>	Capstone Project	Fall 2019	All Graduates	All

Scoring and analysis plan:

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

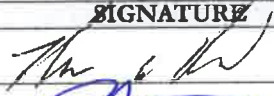

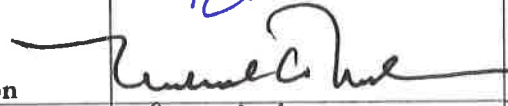
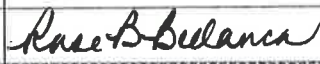
The Capstone Project will be scored using a departmentally-developed rubric.

2. Indicate the standard of success to be used for this assessment.

75% of the students will score 75% or higher.

3. Indicate who will score and analyze the data.

Departmental Faculty

REVIEWER	PRINT NAME	SIGNATURE	DATE
Department Chair/Area Director	Tom Penird		10/22/2015
Dean	Brandon Tucker		11/10/15
Vice President for Instruction <input type="checkbox"/> Approved for Development <input type="checkbox"/> Final Approval	Michael Nealon		4/25/15
President	Rose Bellanca		1/11/16
Board Approval			2/25/16