

Program Information Report

Manufacturing & Automotive

Automation Specialist (CVAMSP)

Advanced Certificate

Program Effective Term: Fall 2023

High Demand Occupation High Skill Occupation High Wage Occupation

The Automation Specialist certificate builds on skills obtained in the Robotics Technician certificate for those with the desire to enter the field of automation and robotics. Students will learn how robots are programmed and wired into larger systems. Technicians work in industrial settings to operate, maintain, and program robots.

Students with technology interests who enjoy working with their hands like gaming, manipulating code, robotics, 3D printing are suited for this line of work.

Major/Area Requirements		(17 credits)
ELE 254	Programmable Controllers (PLCs) II	4
MEC 105	Pneumatics and Hydraulics in Fluid Power	4
NCT 100	Foundation Concepts for Manufacturing (CNC)	3
NCT 120	Introduction to 2D CAD CAM Programming and Applications	2
ROB 221	Robotics III	4

Minimum Credits Required for the Program: 17

PROGRAM CHANGE FORM

Program Code: CVAMSP	Current Program Name: Automation Specialist	Effective Term: Fall 2023
Division Code: ATP	Department: Advanced Manufacturing Technology (AMTD)	

Directions:

1. Attach the current program listing from the WCC catalog or website and indicate any changes to be made.
2. Draw lines through any text that should be deleted and write in additions. Extensive narrative changes can be included on a separate sheet.
3. Check the boxes below for each type of change being proposed. Changes to courses, discontinuing a course, or adding new courses as part of the proposed program change, must be approved separately using CurricUNET, but should be submitted at the same time as the program change form.
4. If changes affect the program assessment plan or if program outcomes are updated, please submit a [Program Assessment Plan Change](#) form. These changes must be approved separately from the program change form and should be submitted at the same time. Current program assessment plans can be found on the [Curriculum and Assessment Program Information page](#).

Requested Changes:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Remove course(s): <u>NCT 101 & NCT 110</u>
<input checked="" type="checkbox"/> Add course(s): <u>NCT 120</u>
<input type="checkbox"/> Program title (new title is _____)
<input type="checkbox"/> Description
<input type="checkbox"/> Advisors
<input type="checkbox"/> Program admission requirements
<input type="checkbox"/> Continuing eligibility requirements | <input type="checkbox"/> Program outcomes (may also result from removing or adding a course)*
<input type="checkbox"/> Program assessment plan*
<input type="checkbox"/> Accreditation information
<input type="checkbox"/> Other _____ |
|--|--|

Note: A change to the Award Type requires the submission of a new program proposal form and a separate program inactivation form. Contact the Director of Curriculum & Assessment for more information.

Show all changes on the catalog page you attach.

* Please submit a [Program Assessment Plan Change](#) form.

Rationale for proposed changes:

The Advanced Certificate was meant to be embedded within the Associates: Mechatronics – Robotics and Automated Systems, and during the program updates last year this change was missed.

Financial/staffing/equipment/space implications:

None



List departments that have been consulted regarding their use of this program.

Signatures:

Reviewer	Print Name	Signature	Date
Initiator	Sean Martin	/s/ Sean Martin	12/13/2022
Department Chair	Al Coleman	/s/ Al Coleman	01/01/2023
Division Dean/Administrator	Dr. Jimmie Baber	/s/ Jimmie Baber	1/3/2023

**Please return completed form to the Office of Curriculum & 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.**

PROGRAM CHANGE FORM

Reviewer	Print Name	Signature	Date
Curriculum Committee Chair	Randy Van Wagnen	RVanWagnen	2-6-23
Assessment Committee Chair	Shawn Deron		2/06/2023
Interim Vice President for Instruction	Victor Vega		2/08/2023

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

Reviewed by C&A Committees 1/19/23

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NCT 110	Introduction to Computerized Machining (CNC) - II	2
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Program Information Report

Science, Computer Technology, Engineering & Math

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Washtenaw Community College

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><u>Automation Specialist</u></p> <p><u>ATP – Advanced Manufacturing</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 2022</u></p> <p><u>Allan Coleman</u></p>	<p>Program Code: CVAMSP</p> <p>CIP Code: <u>15.0406</u></p>
<p>Program Features Program's purpose and its goals.</p> <p>Criteria for entry into the program, along with projected enrollment figures.</p> <p>Connection to other WCC programs, as well as accrediting agencies or professional organizations.</p> <p>Special features of the program.</p>	<p>This embedded certificate will allow students to obtain WCC credentials on the way to obtaining an AAS Mechatronics degree. This certificate supplements the skills to those obtained through the robotic technician certificate. There were no certificates specific to automation.</p>	
<p>Need</p> <p>Need for the program with evidence to support the stated need.</p>	<p>Our program did not have any robotics certificates other than the AAS. This certificate allows students to obtain more skills with a WCC credential for entering into the field as an automation specialist working on automated systems and robotics.</p>	
<p>Program Outcomes/Assessment</p> <p>State the knowledge to be gained, skills to be learned, and attitudes to be developed by students in the program.</p> <p>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"> Install and troubleshoot PLC communication. Set up and operate lathe and mill machining centers. Build a circuit from a schematic. 	<p><u>Assessment method</u></p> <ol style="list-style-type: none"> Outcome-related departmental exam questions Outcome-related projects Lab exercise

<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>Associate degree programs must provide a semester by semester program layout.</p>	<table> <tr> <td>ROB 221</td> <td>Robotics III</td> <td>4 credits</td> </tr> <tr> <td>NCT 100</td> <td>Fundamentals of Manufacturing (CNC)</td> <td>3 credits</td> </tr> <tr> <td>NCT 101</td> <td>Introduction to Computerized Machining (CNC) I</td> <td>2 credits</td> </tr> <tr> <td>NCT 110</td> <td>Introduction to Computerized Machining (CNC) II</td> <td>2 credits</td> </tr> <tr> <td>MEC 105</td> <td>Fundamentals of Fluid Power</td> <td>4 credits</td> </tr> <tr> <td>ELE 254</td> <td>Programmable Controllers (PLCs) II</td> <td>4 credits</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: right;">Total: 19 credits</td> </tr> </table>			ROB 221	Robotics III	4 credits	NCT 100	Fundamentals of Manufacturing (CNC)	3 credits	NCT 101	Introduction to Computerized Machining (CNC) I	2 credits	NCT 110	Introduction to Computerized Machining (CNC) II	2 credits	MEC 105	Fundamentals of Fluid Power	4 credits	ELE 254	Programmable Controllers (PLCs) II	4 credits			Total: 19 credits
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<p>Program Information</p>	<p>Accreditation/Licensure – None required</p> <p>Advisors – Niki Lee</p> <p>Advisory Committee -</p> <p>Admission requirements - None</p> <p>Articulation agreements -</p> <p>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. Install and troubleshoot PLC communication.	1. Outcome-related departmental exam questions 2. Outcome-related lab quizzes	Fall 2025	ELE 254	All students
2. Set up and operate vertical machining centers and turning centers.	Outcome-related project	Fall 2025	NCT 110	All students
3. Build a circuit from a schematic.	Lab exercise	Fall 2025	MEC 105	All students

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.


Outcome-related questions on departmental exams will be scored using an answer key.
 Outcome-related lab quizzes will be scored using a rubric.
 Lab exercise and outcome-related projects will be scored using a rubric.

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

Outcome #1: 70 % of students will score 70% or higher.
 Outcome #2: 75% of students will score 75% or higher.
 Outcome #3: 70% of the students will score 70% (7 of 10) or higher.

3. Indicate who will score and analyze the data.

Departmental faculty

REVIEWER	PRINT NAME	SIGNATURE	DATE
Department Chair/Area Director	Allan Coleman	Allan Coleman	01/17/2022
Dean	Jimmie Baber	Jimmie Baber	1/25/2022
Curriculum Committee Chair	Randy Van Wagnen	R Van Wagnen	3-15-22
Assessment Committee Chair	Shawn Deron		3/16/2022
<p>Please submit completed form to the Office of Curriculum and Assessment (SC 257). Once reviewed by the appropriate faculty committees, we will secure the signature of the VPI and President.</p>			
Vice President for Instruction <input type="checkbox"/> Approved for Development <input type="checkbox"/> Final Approval	Kimberly Hurns	Kim M.H.	3-17-22
President	Rose Bellanca	Rose Bellanca	3-23-22

Board Approval	N/A	N/A	4/26/22
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Reviewed by C&A Committees 2/10/22

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President	Rose Bellanca	Rose Bellanca	3-23-22

Board Approval	N/A	N/A	4/26/22
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