

2024-25 ACADEMIC PROGRAMS

MECHATRONICS – ROBOTICS AND AUTOMATED SYSTEMS (APMRAS)

Associate in Applied Science

This technology-driven program prepares students for entry-level positions within the mechatronics field as an automated equipment technicians. These technicians assemble, install, program, troubleshoot and maintain robotic systems and other automated equipment. This evolving field is suited towards people who enjoy working with technology to solve problems. Students will gain understanding of all systems involved with automation including: Digital and electromechanical systems and programming them (PLC), control of mechanical systems, computer aided design (CAD), robotics with vision and other systems. It is highly recommended that beginning students take at least one technical class during their first semester. See an advisor for assistance in planning your path.

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

This is a **high skill** program as defined by the [Michigan Community College Network](#).

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Description

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Articulation

Eastern Michigan University, several BS degrees;
Wayne State University, several BS degrees.

Copies can be obtained from the Counseling Office, a program advisor, or from the Curriculum and Assessment Office Web site: <https://www.wccnet.edu/learn/transfer-wcc-credits/articulation-agreements.php>.

Course Requirements

First Semester

Class	Title	Minimum Credits
ELE 111	Electrical Fundamentals	4
MEC 101	Blueprint Reading for Manufacturing	2
MEC 105	Pneumatics and Hydraulics in Fluid Power	4
ROB 101	Robotics I - I	2
ROB 110	Robotics I - II	2
Elective	Math Elective(s)	3
Total		17

Second Semester

Class	Title	Minimum Credits
ELE 211	Basic Electronics	4
NCT 100	Foundation Concepts for Manufacturing (CNC)	3
ROB 212	Robotics II	4
Elective	Writing Elective(s)	3
Total		14

Third Semester

Class	Title	Minimum Credits
ELE 224	Programmable Controllers (PLCs) I	4
NCT 120	Introduction to 2D CAD CAM Programming and Applications	2
ROB 221	Robotics III	4
Elective	Speech/Comp. Elective(s)	3
Elective	Arts/Human. Elective(s)	3
Total		16

Fourth Semester

Class	Title	Minimum Credits
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ELE 254	Programmable Controllers (PLCs) II	4
MEC 201	Mechanisms and Introduction to Mechatronics	2
MEC 224	Mechatronics Capstone	4
Elective	Nat. Sci. Elective(s)	3
Elective	Soc. Sci. Elective(s)	3
Total		16

Total Credits Required: 63

Footnotes

See an advisor to assist in scheduling and planning for each semester as some classes have limited offering.

Accurate as of 07/12/2024 Information is subject to change without notice.