MECHATRONICS - ROBOTICS AND AUTOMATED SYSTEMS (AAS)

Catalog Effective Term: Fall 2024
Program Code: APMRAS
Credential: Associate in Applied Science
High Skill Occupation

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.

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: http://www.wccnet.edu/learn/transfer-wcc-credits/articulation-agreements.php.

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

Minimum Credits Required for the Program: 63

Full-Time Students

Course	Title	Credits
First Semester		
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
Math Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#math)		3
	Credits	**17**
Second Semester		
ELE 211	Basic Electronics	4
NCT 100	Foundation Concepts for Manufacturing (CNC)	3
ROB 212	Robotics II	4
Writing Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#writing)		3
	Credits	**14**
Third Semester		
ELE 224	Programmable Controllers (PLCs) I	4
NCT 120	Introduction to 2D CAD CAM Programming and Applications	2
ROB 221	Robotics III	4
Arts/Human. Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#arthuma)		3
Speech/Comp. Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#writing)		3
	Credits	**16**
Fourth Semester		
ELE 254	Programmable Controllers (PLCs) II	4
MEC 201	Mechanisms and Introduction to Mechatronics	2
MEC 224	Mechatronics Capstone	4
Nat. Sci. Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#naturalsci)		3
Soc. Sci. Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#socbehavsci)		3
	Credits	**16**
	Total Credits	**63**

Part-Time Students

Course	Title	Credits
First Semester		
ELE 111	Electrical Fundamentals	4
ROB 101	Robotics I - I	2
ROB 110	Robotics I - II	2
	Credits	**8**
Second Semester		
MEC 101	Blueprint Reading for Manufacturing	2
ROB 212	Robotics II	4
	Credits	**6**
Third Semester		
Math Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#math)		3
Writing Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#writing)		3
	Credits	**6**
Fourth Semester		
ELE 224	Programmable Controllers (PLCs) I	4
MEC 201	Mechanisms and Introduction to Mechatronics	2
NCT 120	Introduction to 2D CAD CAM Programming and Applications	2
	Credits	**8**
Fifth Semester		
ELE 254	Programmable Controllers (PLCs) II	4
MEC 105	Pneumatics and Hydraulics in Fluid Power	4
	Credits	**8**

Sixth Semester		
Arts/Human. Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#arthuma)		3
Speech/Comp. Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#writing)		3
	Credits	**6**
Seventh Semester		
NCT 100	Foundation Concepts for Manufacturing (CNC)	3
ROB 221	Robotics III	4
	Credits	**7**
Eighth Semester		
ELE 211	Basic Electronics	4
MEC 224	Mechatronics Capstone	4
	Credits	**8**
Ninth Semester		
Nat. Sci. Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#naturalsci)		3
Soc. Sci. Elective(s) (https://coursecatalog.wccnet.edu/academics/general-education/#socbehavsci)		3
	Credits	**6**
	Total Credits	**63**