



Wayne
County
Community
College
District

Mechatronics Technology/ Robotics and Automation Technology

PAY

The median annual wage for electro-mechanical and mechatronics technologists and technicians was \$60,570 in May 2022.

JOB OUTLOOK

Employment for electro-mechanical and mechatronics technologists and technicians is anticipated to decrease by 3% from 2022 to 2032. Despite this decline, an average of 1,300 annual job openings is expected over the decade, primarily due to the replacement of workers entering other occupations or retiring. Electromechanical technicians with training in mechatronics, covering mechanical, electronic, control, and computer systems, are likely to have the best job prospects.

Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, December 11, 2023, Electro-mechanical and Mechatronics Technologists and Technicians, on the Internet at <http://www.bls.gov/ooh/architecture-and-engineering/electro-mechanical-technicians.htm>



ABOUT THE PROGRAM

Embark on an exciting journey through our Mechatronics Technology Associate of Applied Science (AAS) and Robotics and Automation Technology Associate of Applied Science programs, where the dynamic fields of mechatronics and robotics converge! These programs are meticulously designed to introduce newcomers to the captivating world of manufacturing, offering a comprehensive foundation for thriving careers in cutting-edge industries.

Dive into the innovative curriculum of the Mechatronics Technology AAS program, where mechanical systems, electrical components, fluid power control systems, and computer control technology seamlessly merge. Gain a diverse skill set that spans across multiple disciplines, preparing you for success in the ever-evolving manufacturing landscape.



In the Robotics and Automation Technology AAS program, focus intensively on Robotics maintenance and Robotics Vision and Communications. Immerse yourself in hands-on experiences with robot sensors, conveyor systems, and advanced software, witnessing the transformative power of Computer Integrated Manufacturing (CIM). Develop expertise not only in manufacturing but also in maintaining and optimizing robotic systems, harnessing the power of Robotics Vision and Communications for enhanced efficiency and precision.

Your journey into the dynamic world where mechatronics, robotics, and automation technologies shape the future of industry begins here. Discover, learn, and thrive as you prepare for multifaceted careers at the forefront of technological innovation!

WHAT DO ELECTRO-MECHANICAL TECHNICIANS DO?

Electro-mechanical technicians seamlessly integrate mechanical expertise with a deep understanding of electrical and electronic circuits. Their roles encompass the installation, troubleshooting, repair, and enhancement of sophisticated electronic and computer-controlled mechanical systems, exemplified by the likes of robotic assembly machines. In essence, these professionals bridge the gap between mechanical ingenuity and electronic precision, ensuring the seamless operation and optimization of cutting-edge technological systems.

WHERE DO THEY WORK?

Electro-mechanical and mechatronics technologists and technicians collaborate with electrical and mechanical engineers, typically working full-time schedules, often exceeding 40 hours per week. Their close collaboration with engineers is prominent in manufacturing, utilities, and research and development settings.

Recommended Sequence of Courses

Mechatronics Technology: Associate of Applied Science (A.A.S)

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
CT 203	Digital Logic I	4
EE 101	Survey of Electrical and Electronics Technology	4
EE 107	Mathematics for Electrical/ Electronics I	4
ENG 119	English I	3
SEMESTER TOTAL		15

SEMESTER 2

EE 102	Circuit Analysis II	4
EE 111	Solid State Fundamentals	4
EE 115	Mathematics for Electrical/ Electronics II	4
ROB 202	Introduction to Robotics	3
SEMESTER TOTAL		15

SEMESTER 3

CT 205	Introduction to Microprocessors and Applications	4
MCT 203	Electrical Machinery and Controls	3
MCT 207	Introduction to Hydraulics and Pneumatics	2
MCT 208	Programmable Logic Controllers	3
PS 101	American Government	3
SEMESTER TOTAL		15

SEMESTER 4

ROB 212	Industrial Robotics Application I	3
MCT 215	Advanced Programmable Logic Controllers	3
MCT 210	Programmable Logic Controllers -Siemens	3
ENG 120	English II	3
SEMESTER TOTAL		12

SEMESTER 5

PHY 235	General Physics I	4
Elective:	Humanities	3
SEMESTER TOTAL		7
A.A.S. PROGRAM TOTAL		64

Note: Program total hours may not include prerequisites.

Robotics and Automation Technology: Associate of Applied Science (A.A.S)

CR. No.	COURSE TITLE	CREDITS
SEMESTER 1		
EE 101	Survey of Electrical and Electronics Technology	4
EE 107	Mathematics for Electrical/ Electronics I	4
ROB 202	Introduction to Robotics	3
ENG 119	English I	3
SEMESTER TOTAL		14

SEMESTER 2

MCT 207	Introduction to Hydraulics and Pneumatics	2
MCT 208	Programmable Logic Controllers	3
EE 115	Mathematics for Electrical/ Electronics II	4
ENG 120	English II	3
EE 102	Circuit Analysis II	4
SEMESTER TOTAL		16

SEMESTER 3

ROB 212	Industrial Robotics Application I	3
MCT 203	Electrical Machinery and Controls	3
MCT 210	Programmable Logic Controllers -Siemens	3
MCT 215	Advanced Programmable Logic Controllers	3
PS 101	American Government	3
SEMESTER TOTAL		15

SEMESTER 4

ROB 216	Robotics Vision and Communications	3
ROB 218	Robotics Maintenance and Calibration	3
ROB 220	Industrial Robotics Application II	3
PHY 235	General Physics I	4
Elective:	Humanities	3
SEMESTER TOTAL		16

A.A.S. PROGRAM TOTAL **61**

**Technical Electives must be from EE or CAD disciplines,
or CIS 112*