

## Robotics, AAS

### School of Technology

A robotics graduate will function as a skilled technician who can work with modules and components in a complex automated system. This would include analysis of these systems as a whole. The program is designed to provide students with the knowledge they need to assist manufacturing, mechanical and electrical engineers in all phases of design, development, production, testing and operations. Graduates will have the knowledge and skills required to manage, investigate, repair and troubleshoot automated systems with the aim of operational efficiency. Robotics graduates would usually carry out their work at production facilities, workshops or service sites.

### Career Opportunities

Advanced manufacturing and robotics is a blend of mechanical, electrical, electronics and computerized technologies that together form complex automated systems. The need for skilled individuals to support these systems is ongoing. Graduates of the Robotics AAS may accept positions such as industrial technician, process specialist, and automation technician.

### Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Describe what an advanced manufacturing and robotics system is and the inter-relationships of components and modules within a system.
- Explain the role of mechanical components and electrical devices in automated systems, modules and subsystems.
- Describe the basic components and operation of a programmable logic controller.
- Describe the basic components and operation of industrial robotics.
- Apply various techniques to analyze and troubleshoot automated systems including industrial robotics.
- Explain the role of electronic devices in complex automated systems.
- Work effectively as part of a technology team.
- Perform as part of a team to complete a complex automated systems project.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Term Offered	Prereq(s)	Options Available
1st Fall	1	PDV 101	First Year Seminar	1	F, Sp, Su		
	2	ENG 161	College Writing	3	F, Sp, Su	ENG 085 or Placement	
	3	RBT 111	Electrical Components	4	F		
	4	RBT 121	Mechanical Components & Electric Motors	4	F		
	5	RBT 135	Industrial Robotics	4	F		
	6	RBT 140	Digital Fund & Programmable Logic Controllers	4	F	Corequisite: RBT 111	
1st Spring	7	RBT 130	Electro-Pneumatic & Hydraulic Control Circuits	4	Sp		
	8	RBT 225	Industrial Electronics for Advanced Manufacturing	4	Sp	RBT 111	
	9	RBT 235	Industrial Robotics III	4	Sp	RBT 135	
	10	RBT 245	Robotics Control Systems	4	Sp	RBT 135 & 140	
2nd Fall	11	MTH 108	Mathematics for Technologies I	4	F, Sp, Su	MTH 052, 052a, or Placement	
	12	RBT 230	Automated Systems	4	F	RBT 140	
	13	RBT 240	Motor Control	4	F	RBT 111 and RBT 121	
	14	ENG 162	Technical Communications	3	F, Sp, Su		
2nd Spring	15	RBT 221	Process Control Technology	4	SP	RBT 111	
	16	DFT 258	AutoCAD	4	F, SP		
	17	PSY 160	Psychology	3	F, Sp, Su		
	18	RBT 265	Robotics and Automation	4	Sp	RBT 135, RBT 235 & RBT 245	

Total Program Credits

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