AUTOMATION AND ROBOTICS ENGINEERING TECHNOLOGY, B.S.

Students in the AURO degree are introduced to the fundamentals of power, electronic systems and formal programming techniques common in industry. The curriculum, supported jointly by the departments of Applied Engineering, Safety & Technology and Computer Science, includes in-depth technical content of electronics, control systems, mechanical systems, and computer programming and applications to prepare professionals equipped to design, improve, maintain, and manage robotic and automated process and control systems. Laboratory courses require students to design, program, develop and construct projects independently and in small teams.

The study of robotics and controls involves the design, modeling, optimization, documentation and automation of advanced control problems. This major is designed to produce graduates prepared to work with multiple types of technology to design and implement projects that have advanced programming needs. Typical entry-level professions include software engineers, research and development engineers, systems engineers, computer engineers, process engineers, control systems engineers, controls technicians, field engineers, manufacturing engineers, robotics programmers and robotics technicians.

Major in Automation & Robotics Engineering Tech

Code	Title	Hours
APPLIED ENGINEERING, SAFETY TECHNOLOGY COURSES		
OSEH 120	Fundamentals of Safety, Health, Environmental Issues	3
AENG 130	Production Materials & Processes	3
AENG 241	Drafting Communications	3
AENG 261	Electronic Systems	3
AENG 262	Semiconductor Electronics	3
AENG 325	Power Conversion and Control	3
AENG 326	Fluid Power	3
AENG 342	Computer-Aided Engineering Drawing	3
AENG 364	Digital Electronics	3
AENG 425	Industrial Robotic Systems	3
AENG 427	Programmable Logic Controllers	3
AENG 467	Mobile Robotics	3
AENG 468	Control Network Integration	3
AENG 494	Total Quality Management	3
Total Hours		**42**

Req Related for Automation & Robotics Engineering

Code	Title	Hours
CSCI 161	Introduction to Programming 1	4
MATH 130	Elements of Statistics 1	3
MATH 161	Calculus 1	4
CHEM 111	Introductory Chemistry 1	4
PHYS 231	Physics 1 with Calculus	5
OPTION (SELECT/COMPLETE ONE) - Choose 1 of the following options 1-2:		15-16
Option 1. COMPUTER SCIENCE		
CSCI 140	Discrete Structures	
CSCI 162	Introduction to Programming 2	
CSCI 362	Data Structures	
CSCI 450	Artificial Intelligence	
Option 2. TECHNOLOGY MANAGEMENT		
ECON 101	Principles of Macroeconomics	
ECON 102	Principles of Microeconomics	
BUAD 251	Principles of Management	
MGMT 452	Operations and Supply Chain Management	
AENG 492	Technical Entrepreneurship	
Total Hours		**35-36**