AUTOMATION, ROBOTICS AND MECHATRONICS AAS 24ZD

ASSOCIATE IN APPLIED SCIENCE A.A.S.

Description

The automation, robotics, and mechatronics field combines mechanics, electronics and computer technologies to create “smart” products that improve lives in countless ways. Mechatronics technicians help design, install, maintain and repair industrial equipment and a wide variety of appliances used in businesses and at home. These range from personal and industrial robots to artificial limbs, automatic teller machines (ATMs) and hybrid cars—just to name a few. A holder of an associate degree in Mechatronics can manage, investigate, repair and troubleshoot mechatronic and process control systems along with optimizing systems for efficiency and cost effectiveness. A mechatronics technician can work in workshops, design labs, production facilities, and in field service locations. Graduates of this program are hired in various settings as Mechatronics Technicians, Robotics Technicians, Electro-mechanical Technicians, Automation Technicians, Maintenance and Repair Technicians and Mechanical Engineering Technicians. Job skills include, but are not limited to: assembling and installing mechatronic tools and hardware systems; installing, implementing and modifying software tools used in mechatronics systems; using troubleshooting skills to identify, foresee, and prevent possible problems with a system; programming mechatronic modules and systems, especially Programmable Logic Controllers (PLCs); implementing PLC networks, including configuration and data transfer using bus systems; applying knowledge of process control technology to automated systems; and managing and influencing cost control and process efficiency procedures for automated systems.

Degree Requirements:

Required General Education Coursework		**Credit Hours:** (17 - 18 Required)
MTH117 and	Technical Mathematics I	3
MTH123 or	Trigonometry	3
MTH144 or	Precalculus	5
MTH145	Calculus & Analytic Geometry I	5
ENG121	English Composition I	3
CMM121	Fundamentals of Speech	3
Social Sciences IAI approved General Education Elective		3
Humanities or Fine Arts IAI approved General Education Elective		3

Required Automation, Robotics and Mechatronics Coursework		**Credit Hours:** (43 Required)
ARM111	Fundamentals of High Tech Manufacturing I	1
ARM112	Fundamentals of High Tech Manufacturing II	1
ARM113	Fundamentals of High Tech Manufacturing III	1
ARM131	Robot Design and Construction I	1
ARM132	Robot Design and Construction II	1
ARM133	Robot Design and Construction III	1
ARM151	Mechanical Systems I	1
ARM152	Mechanical Systems II	1
ARM153	Mechanical Systems III	1
ARM156	Electrical Systems I	1
ARM157	Electrical Systems II	1
ARM158	Electrical Systems III	1
ARM171	Automation I	1

ARM172	Automation II	1
ARM173	Automation III	1
ARM174	Automation IV	1
ARM175	Automation V	1
ARM176	Automation VI	1
ARM191	Pneumatics and Hydraulics I	1
ARM192	Pneumatics and Hydraulics II	1
ARM193	Pneumatics and Hydraulics III	1
ARM196	Electrical Systems Capstone	1
ARM197	Pneumatic & Hydraulic Systems Capsto	1
ARM198	Complete Systems Integration	1
ARM155	STEM Workplace Professional Skills	1
ARM222	Manufacturing Process Design	3
ARM226	Programmable Automation Technologies	3
ARM242	Reverse Engineering of Mechanical Systems	3
ARM266	Advanced Motor Control	3
ARM286	Automation Pyramid	3
ARM288	Process Control Technologies	3

Total: 60.00 - 61.00

Generated on: 7/5/2017 3:08:04 PM