MECHATRONICS AND AUTOMATION FUNDAMENTALS CERTIFICATE

Division: Technology and Engineering

PROGRAM CODE: 1C43723

The **Mechatronics and Automation Fundamentals Certificate** is designed to prepare the students for a career in automation by exposing them to the fundamentals embedded systems,instrumentation and measurement techniques and devices and the basics of electricity and electronics. The program prepares students for careers in the design, operation, and maintenance of industrial automation systems focusing on the local industries that utilize these technologies, such as food production, petroleum production, fabrication, and logistics. This program focuses on the application of electronics and computer technology to industrial automation systems, including instrumentation and control, industrial robotics, and process control systems. Significant emphasis is placed on project-based learning facilitated by significant laboratory work. This certificate requires a total of 16 units.

Code	Title	Units
Required Courses (16 units)		
Courses are listed in suggested sequence:		
ENGT 103 C	Introduction to Embedded Systems	3
ENGT 105 C	Instrumentation and Process Control	3
ENGT 107 C	Electricity and Electronics	3
ENGT 109 C	Industrial Design and Graphics	4
ENGT 115 C	Electric Motors and Controls	3
Total Units		**16**

Program Student Learning Outcomes:

OUTCOME 1: Understand an automated system's structure and the role of different components in a fully integrated system.

OUTCOME 2: Demonstrate a deep understanding of an automated manufacturing platform and automation industry, including design, operation, preventative maintenance, troubleshooting, repair, and integration.

OUTCOME 3: Apply problem-solving skills in designing an automated system and product development.

https://www.curricunet.com/Cypress/reports/program_report.cfm?programs_id=1430