

Certificate of Achievement in Mechatronics

Division of Mathematics, Engineering Technologies and Computer Sciences — Curriculum Code: 3316

Will Earn Upon Program Completion: Academic Certificate

The Mechatronics certificate program is designed to provide students with a background in advanced manufacturing systems, robotics, programmable logic controllers (PLC) and engineering graphics and also includes general education courses. These courses include a complimentary combination of mechanical and electrical engineering courses so that a student will be able to seek employment in automation-related industries. The student will gain lab experience in programming computer numerical control (CNC) cutting tools and robotics as well as programming PLC machine controllers and integrating them, along with sensor inputs and mechanical outputs into systems.

Program Requirements

GENERAL EDUCATION REQUIREMENTS (11 CREDITS)

Written & Oral Communication (3 credits)

[ENG 101](#) (3 credits)

Quantitative Knowledge & Reasoning (3 credits)

[MTH 114](#) (3 credits)

Scientific Reasoning & Knowledge (4 credits)

[PHY 101](#) College Physics I (4 credits)

MAJOR COURSE REQUIREMENTS

[ELC 115](#) Electric Circuits: DC and AC (4 credits)

[ENR 103](#) Engineering Graphics (2 credits)

[MET 202](#) Modern Manufacturing Systems & Robotics (4 credits)

[MET 211](#) Machines and Controls (3 credits)

[MET 215](#) Fluid Mechanics (3 credits)

[MET 221](#) Programmable Logic Controllers (PLC) (3 credits)

RECOMMENDED SEQUENCE OF COURSES

Total Credits Required for Academic Certificate: 28

Summer Session

[ENG 101](#) College Composition I (3 credits)

[ENR 100](#) Intro. to Engineering (2 credits)

First Semester

[MTH 114](#) Unified Calculus I (3 credits)

ENR 103 Engineering Graphics (2 credits)

[PHY 101](#) College Physics I (4 credits)

[ELC 115](#) Electric Circuits: DC and AC (4 credits)

Second Semester

[MET 202](#) Modern Manufacturing Systems & Robotics (4 credits)

[MET 211](#) Machines and Controls (3 credits)

[MET 215](#) Fluid Mechanics (3 credits)

NOTES:

(1) This plan assumes the completion of all required developmental courses in Reading, English, and Mathematics as well as other [pre-requisites](#) and [co-requisites](#) for some of the courses, as listed in the Course Descriptions section.