MECHATRONICS ENGINEERING TECHNOLOGY

The Certificate of Achievement in Mechatronics Engineering Technology prepares students to work in an engineering industry to design, create, build, troubleshoot, repair, maintain, and enhance any electromechanical systems which use automation including robotics. Students completing this program will be well versed in the principles of operation of integrated electronic, electrical, and mechanical components and systems through the use of computer controls. This mastery will be accomplished by engaging the students in contextualized and experiential learning where the foundational principles in mechatronics engineering will be linked to concrete, real-world applications through practicums and industry internships. To earn a Certificate of Achievement in Mechatronics Engineering Technology students must complete 26-29 specified units and will be encouraged to participate in a one semester paid or unpaid internship with a Moorpark College affiliated industry.

Course ID	Title	Units/ Hours
To earn a Certificate of Achievement in Mechatronics Engineering Technology, students must complete 26-29 specified units.		
ENGR M04	Engineering Design/CAD	3
ENGT M02	Digital Circuits	3
ENGT M04	Basic Electronics	3
ENGT M06	Introduction to Microprocessors and Microcontrollers	3
ENGT M30	Programmable Logic Controllers	3
ENGT M32	Electrical and Mechanical Devices	3
ENGT M38	Capstone Project in Mechatronics Engineering Technology	2
Select and complete one of the following math courses (3 to 6 units):		
MATH M06	Trigonometry	3
Or		
MATH M07	Precalculus and Trigonometry	6
Electives: Select and complete 3 units from the following courses		
ENGT M10	Introduction to Unmanned Aerial Vehicle Technology	3
Or		
ENGT M12	Radar Fundamentals	3

Course ID	Title	Units/ Hours
Year 1: Fall Semester		
MATH M06	Trigonometry	3
Or		
MATH M07	Precalculus and Trigonometry	6
ENGT M02	Digital Circuits	3
ENGT M04	Basic Electronics	3
Year 1: Spring Semester		
ENGR M04	Engineering Design/CAD	3
ENGT M06	Introduction to Microprocessors and Microcontrollers	3
Internship - Paid or Unpaid is strongly encouraged and recommended		
Year 2: Fall Semester		
ENGT M30	Programmable Logic Controllers	3
ENGT M32	Electrical and Mechanical Devices	3
Internship - Paid or Unpaid is strongly encouraged and recommended		
Year 2: Spring Semester		
ENGT M38	Capstone Project in Mechatronics Engineering Technology	2
ENGT M10	Introduction to Unmanned Aerial Vehicle Technology	3
Or		
ENGT M12	Radar Fundamentals	3
Internship - Paid or Unpaid is strongly encouraged and recommended		

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

- demonstrate the skills and the knowledge necessary to apply deductive and inductive reasoning to analyze problems and synthesize solutions to automated integrated electromechanical systems issues.
- demonstrate the ability to work as a team member, to communicate effectively with others, and to show individual judgement in determining potential issues and problems.