

046-CMC-10-02 MECHATRONICS AND AUTOMATION

Significance of the Program

Mechatronics engineering technologists use a combination of mechanical, electrical, computer and software skills to work with smart technologies, such as robots, automated guided systems and computer-integrated manufacturing equipment. Being a multidisciplinary program, Mechatronics Engineering is important in industry 4.0 and 5.0. Modern engineering solutions require deeper integration of all these engineering fields, creating the huge need for engineers with mechatronics skills.

Career Options

- Robotics Engineer
- Automation or Instrumentation Engineer
- Control system design/troubleshooting Engineer
- Electronics and Mechanical design Engineer
- Data scientist/big data analyst or Software engineer
- Own startup with electro mech devices

Program Objectives

- Develop a strong foundation in core principles of mechatronics and automation.
- Enable students to apply mechatronics and automation concepts to find solutions to the real-world applications incorporating multi-disciplinary approach.
- Help to develop industry 4.0 ready skilled engineers.

Outcomes of the Program

- Understand the fundamentals of mechanical, electrical, electronic and computing systems and their application in the different fields of automation.
- Design and develop Mechatronics systems by synergistic combination of precision mechanical engineering, electronic controls and computing systems.
- Incorporate multi-disciplinary approach to solve real world automation problems.

Major Course Outline

- Sensors and Instrumentation
- Fluid Power Automation
- Machining and Manufacturing Processes

- Modelling and Control of Mechatronic Systems
- Design engineering.