

Course Title: Robotic & Control System (with Microcontroller)

Course Code: EEA 131

Course Background / Summary:

Robotic systems can be viewed as a subset of Mechatronics that focuses on sophisticated control of moving devices. The aim of this course is to expose participants to the fundamentals of making a robot using microcontroller, feedback sensor/encoder, C programming, and interface/link with motor actuators.

Course Objectives:

- Define industrial robot & recognize other robotic devices.
- Microcontroller PIC as the robot brain.
- Microcontroller interface to sensors and actuator for a robot.
- C programming for robot.
- PID control algorithm with C programming.

Target Audience:

- Electricians, Technicians, Engineers, Instructors

Course Duration: 3 Days

Course Contents

1.0 Introduction to Robotics

2.0 Design robotic circuit

3.0 Microcontroller and interfacing for robotics

4.0 Robotic programming with sensors and encoder

5.0 PID control algorithm for robot control