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Robotics Basics

Course No. 518

The Robotics Basics course introduces learners to the fundamental principles of robotics, covering mechanical design, electronics, sensors, actuators, and programming.

Course Benefits

Participants will explore how robots perceive their environment, make decisions, and perform tasks, while gaining hands-on experience with simple robotic systems.

Prerequisites

Basic understanding of math and science. Familiarity with computers and programming.

Duration

Four Days (28 hours)

Learning Objectives

At the end of this course, participants will be able to:

1. Understand the core components of a robot: sensors, actuators, controllers, and power systems.
2. Explain the fundamentals of robotic motion and kinematics
3. Apply basic electronics and programming concepts to control simple robots
4. Explore how robots use sensors to interact with their environment
5. Build and program basic robotic projects using microcontrollers
6. Recognize current trends and applications of robotics across industries

Topics Covered:

- Introduction to Robotics & Applications
- Mechanical Design Basics (motors, gears, chassis)
- Electronics for Robotics (circuits, microcontrollers)
- Sensors and Actuators
- Basics of Programming for Robotics (Arduino, Python, or C++)
- Robot Motion & Control
- Building Simple Robotic Projects
- Robotics in industry: Manufacturing, Healthcare, Service, and Beyond
- Future trends: AI & Robotics Integration

Who Should Attend?

This course is ideal for engineers, technicians, educators introducing robotics concepts in classrooms, or anyone interested in exploring automation and technology.

Instructor



Email: Training@qpsinc.com Website: www.qpsinc.com

The instructor is a professional with 10+ years of robotics experience in various industries.

For More Information:

Contact Training administrator: Training@qpsinc.com , Telephone: (508) 786-0777