

# Level 1: Fundamentals Robotics



**Estimated Duration: 16 hours**

Level 1

Today, and in the future, Robotics are becoming more and more common. From repetitive tasks to highly complex interaction with humans, robots can be found. This course is designed expose students to the various types of robots and the various ways they can increase productivity in industrial applications. While these robots can replace low skilled human tasks, they require people with technical skills to program, operate and maintain them. Upon completion of this course, student will have worked with various types and brands of robots – learning how to program, teach positions, and work safely with these critical elements of modern industry

## Course Topics

- Introduction to industrial robotics
- Robotics and work place safety
- Familiarization with various robots
- Point-to-point and task programs
- Program editing
- Control overview
- Industrial applications.

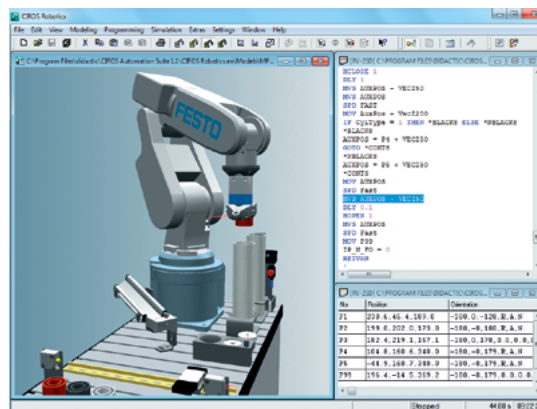
## Core Competencies

- Identify and explain the design and function of various types of robotic systems
- Safely operate and maintain robotic systems
- Program various robotic systems
- Commission and teach robotic programs and positions
- Understand and define control instructions
- Utilize conditional statements
- Incorporate sensors and other applications with a robot application

## Equipment

### CIROS Robotics Software

- Allows students to simulate and control the operation of various brands and types of robots
- Control the robot movements using “articular” and/or “Cartesian” coordinates
- Multi-seat licensing and transfer of files between computers
- Various application models to choose from for real-world applications
- Control/simulation software program simulates and controls with three-dimensional representations of the mechanical and electrical characteristics of the equipment



**At least one Industrial Robot is required.**

