

Introduction to Robotics for Kids

Explore components, design a robot and assemble a prepared kit

FA-0789 · 1 hour

Embedded Systems and Hardware

Introduction

Explore what robots do and how sensors, actuators and controllers work together. Sketch a robot idea, assemble a simple prepared kit with guidance and share what you discovered. The one-hour workshop emphasises curiosity and collaboration, not building a fully autonomous robot from loose parts.

Learning outcomes

- Recognise common robot components and real-world applications.
- Sketch and explain a simple robot idea.
- Follow supervised kit assembly and describe the roles of motors, sensors and control.
- Share observations and collaborate during group activities.

Prerequisites

No prior robotics or programming knowledge is required. The prepared activity uses paper, markers, craft materials and a suitable beginner robot kit with compatible power/control components. Available sensors and functions depend on the selected kit.

Training outline

1. Introduction — 5 minutes

Discuss robotics and examples of how robots are used.

2. What is a robot? — 10 minutes

- Share familiar robot examples from real life or stories.
- Identify sensors, actuators and a controller.
- Observe a toy robot or prepared demonstration.

3. Design your robot — 10 minutes

- Sketch or describe a robot idea using paper and craft materials.
- Explain what the robot should do and which components it might need.

4. Build a simple prepared robot — 20 minutes

- Follow the facilitator's kit-specific assembly instructions.
- Explore motors/wheels and, where available, sensor-based behaviour.
- Discuss how parts work together; craft-only designs are models, not automatically functioning robots.

5. Show and tell — 10 minutes

Show the design or assembled robot and explain its features and what was learned.

6. Wrap-up and questions — 5 minutes

Review key concepts, ask questions and identify further supervised projects.