

Robotics for Every One - Build Your First **ROBOT WITH AI**



Course Objective

The Robotics For All course by eHack Academy is a beginner-friendly program that introduces you to the fundamentals of robotics, basic electronics, and programming to help you build real robots. Through hands-on projects, you'll learn how to assemble and control wheeled robots such as line-follower, obstacle-avoiding, and Bluetooth-controlled robots while understanding sensors, actuators, control systems and basic IoT concepts. Designed for absolute beginners with no prior experience, the course focuses on practical learning with live sessions, project building, and a certificate of completion.

Earn Global Certification



ROBOTICS eHack Academy Robotics Certificate

60 DAYS

Duration

120+

Training Hours

LIFETIME ACCESS

to LMS

Course Syllabus

Module 01

Introduction to Robotics -

Get introduced to the exciting world of robotics. Learn about different types of robots and their applications in real-world scenarios.

What you'll learn:

- Course Overview
- Robotics Fundamentals
- Types of Robots
- Applications
- Safety Guidelines

Module 02

Basic Electronics & Circuit Simulation -

Build a strong foundation in electronics. Learn to identify components, understand circuit diagrams, and simulate circuits.

What you'll learn:

- Electronic Components
- Circuit Theory
- Simulation Software
- Breadboard Basics
- Multimeter Usage

Module 03

Introduction to Robotics Kit -

Get familiar with your robotics kit components including motors, sensors, microcontrollers, and chassis.

What you'll learn:

- Kit Components
- Arduino/Microcontroller
- Motors & Drivers
- Sensors Overview
- Assembly Basics

Module 04

Project - Building a Roach Bot -

Create your first simple mechanical/electronic robot. Learn basic assembly and understand how simple robots function.

What you'll learn:

- Mechanical Assembly
- Motor Wiring
- Basic Programming
- Testing & Debugging
- Project Documentation

Module 05

Project - Obstacle Avoidance Robot -

Build an autonomous robot that can navigate around obstacles using ultrasonic sensors and intelligent programming.

What you'll learn:

- Ultrasonic Sensors
- Distance Measurement
- Obstacle Detection
- Navigation Logic
- Autonomous Movement

Module 06

Project - Line Follower Robot -

Develop a robot that can track and follow a designated path using IR sensors and PID control algorithms.

What you'll learn:

- IR Sensors
- Line Detection
- PID Control
- Path Following
- Speed Optimization

Module 07

Project - Bluetooth Controlled Robot -

Implement wireless control for your robot via Bluetooth. Learn to create mobile app interfaces for robot control.

What you'll learn:

- Bluetooth Module
- Wireless Communication
- Mobile App Control
- Command Processing
- Final Presentation

