

Arduino IDE / Thonny Course

Practical programming workflow using Arduino IDE and Thonny, including MicroPython basics, serial communication and hardware projects.

Course Objectives

By the end of this course, learners should be able to configure the development environment, write and troubleshoot programs, connect common hardware components, and complete a practical project.

Complete Course Modules

- 1 Arduino vs MicroPython and when to use each
- 2 Arduino IDE installation and board configuration
- 3 Thonny installation and interpreter setup
- 4 Python/MicroPython syntax for beginners
- 5 Variables, conditions, loops and functions
- 6 REPL and interactive testing
- 7 GPIO digital input/output
- 8 PWM, analog concepts and timing
- 9 Serial communication and debugging
- 10 Libraries/modules and device drivers
- 11 Sensors and actuator integration
- 12 I2C and SPI device basics
- 13 Writing reusable MicroPython programs
- 14 Uploading and running scripts on supported boards
- 15 Error handling and troubleshooting
- 16 Project: automated sensor and LED controller
- 17 Project presentation and interview preparation

Practical Project

Build an end-to-end project using the tools and hardware covered in the modules. Include setup documentation, source code, testing steps, troubleshooting notes and a short demonstration.

Important

Course duration, hardware requirements, batch schedule, fees and delivery format should be confirmed with WC Skills before enrollment.