

Raspberry Pi OS + Thonny Course

Raspberry Pi OS setup, terminal basics, Python development in Thonny, GPIO, sensors, networking and practical automation 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 Raspberry Pi hardware and operating-system overview
- 2 Raspberry Pi OS installation and first boot
- 3 Desktop, terminal, files and permissions
- 4 Network configuration and remote access basics
- 5 Python installation and environment basics
- 6 Thonny IDE setup and workflow
- 7 Python variables, data types, conditions and loops
- 8 Functions, modules, files and exceptions
- 9 GPIO input/output and safe wiring principles
- 10 LEDs, buttons, buzzers and relays
- 11 Sensors and I2C/SPI/UART peripherals
- 12 Camera and basic multimedia concepts
- 13 Networking with Python and simple APIs
- 14 Running programs automatically and basic services
- 15 Troubleshooting and system maintenance
- 16 Project: Raspberry Pi monitoring/automation system
- 17 Project documentation 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.