



PYTHON TRAINING

# Raspberry Pi Python Course

*Dive into Raspberry Pi with Python! Create innovative IoT solutions and automate hardware projects.*

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DURATION

**2 hours**

LEVEL

**Intermediate**

FORMAT

**Instructor-Led**

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- Globally Recognized Certification

- Expert-Led Hands-On Training

- Flexible Scheduling

Computer Pride | 1st Floor, ICEA Building, Kenyatta Avenue, Nairobi | [www.computer-pride.co.ke](http://www.computer-pride.co.ke)

## COURSE OVERVIEW

This intermediate-level Raspberry Pi Python Course at Computer Pride is meticulously designed to bridge the gap between software programming and physical computing. Participants will dive deep into the world of embedded systems, learning how to leverage the versatility of Python alongside the power of Raspberry Pi hardware. The course focuses on practical, hands-on application, enabling you to control electronic components, interact with various sensors, and develop smart, connected devices from the ground up. You will master GPIO programming, understand fundamental electronics concepts, and gain the confidence to bring your innovative hardware projects to life.

By the end of this intensive 2-hour course, you will not only have a solid understanding of how Python interacts with Raspberry Pi but also possess the practical skills to prototype and build functional IoT solutions. This specialization is invaluable for IT professionals looking to expand their skill set into hardware interfacing, automation, and the rapidly growing field of Internet of Things (IoT). It provides a strong foundation for those aspiring to work with smart technologies, robotics, or any domain requiring the integration of software control with physical hardware.

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|----------|--------------|
| Duration | 2 hours      |
| Level    | Intermediate |
| Vendor   | Python       |

## COURSE CURRICULUM

### 01 Module 1: Getting Started with Raspberry Pi & Python

- Introduction to Raspberry Pi: Models, components, and applications
- Setting up your Raspberry Pi: OS installation and initial configuration
- Python fundamentals refresher for hardware interaction
- Understanding GPIO pins and their functions

### 02 Module 2: Basic Input/Output Control

- Controlling LEDs: Basic circuits and Python programming
- Reading digital inputs: Buttons and switches
- Introduction to Pulse Width Modulation (PWM) for analog control
- Implementing simple visual feedback systems

### 03 Module 3: Interfacing with Sensors & Actuators

- Connecting and reading analog sensors (e.g., potentiometers)
- Integrating digital sensors (e.g., PIR motion, DHT11 temperature/humidity)
- Introduction to I2C and SPI communication protocols
- Controlling simple motors and servo mechanisms

### 04 Module 4: Building Interactive Projects

- Developing a miniature traffic light system
- Creating an environmental monitoring station
- Introduction to event-driven programming for hardware
- Project showcase and troubleshooting techniques

## CAREER PATHWAYS

Graduates of this program are prepared for the following roles:

- > **Junior Embedded Systems Developer**
- > **IoT Solutions Technician**
- > **Robotics Programming Assistant**

## FREQUENTLY ASKED QUESTIONS

### Q: What prior experience or knowledge is required to enroll in this Raspberry Pi Python Course?

To get the most out of this course, participants should have a foundational understanding of Python programming, including concepts like variables, data types, loops, and conditional statements. While no prior hardware or electronics experience is strictly necessary, a keen interest in tinkering with electronics and a basic grasp of IT concepts will be highly beneficial.

### Q: How will completing this course enhance my career prospects in the IT or hardware industry?

This course provides highly practical and in-demand skills in embedded systems and IoT prototyping. You will gain hands-on experience in connecting software to physical hardware, a critical skill for roles in smart device development, industrial automation, robotics, and home automation. This certification will significantly boost your portfolio, demonstrating your ability to innovate and solve real-world problems using Python and Raspberry Pi.

### Q: What specific types of projects will I be able to build after completing this Raspberry Pi Python Course?

Upon successful completion, you will be equipped to build a variety of interactive projects. This includes but is not limited to: automated lighting systems, simple weather stations with environmental sensors, basic security systems using motion detectors, miniature robotics components, and smart home prototypes that respond to user input or environmental changes. You'll gain the confidence to turn ideas into functional hardware-software solutions.

## ABOUT COMPUTER PRIDE



**East Africa's Premier IT Training Center**

With over 15 years of excellence, Computer Pride delivers globally recognized certification programs from leading technology vendors. Located on Kenyatta Avenue in Nairobi's CBD, our state-of-the-art facilities and expert instructors have empowered thousands of professionals across East Africa.

**15+**

Years of Excellence

**10,000+**

Professionals Trained

**50+**

Vendor Certifications

## READY TO ENROL?

Take the next step in your technology career.

### Location

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