Telecoms & Tech Academy

Live Virtual Classroom

CERTIFIED INTERNET OF THINGS PRACTITIONER (CIOTP™)

Live Virtual Classroom | 3 Days

In partnership with:

CERTNEXUS

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CERTIFIED IoT PRACTITIONER
PROGRAMME SUMMARY

The Internet of Things (IoT) promises a wide range of benefits for industry, energy and utility companies, municipalities, healthcare, and consumers. Data can be collected in extraordinary volume and detail regarding almost anything worth measuring, such as public health and safety, the environment, industrial and agricultural production, energy, and utilities. New data analysis tools have been optimized for the massive amounts of data that IoT produces, enabling well-informed decisions to be made quickly.

But putting IoT systems into place can be a complicated proposition, and fraught with hazards. Solutions may involve devices and technologies from many different vendors, requiring a good understanding of software and hardware and strategies to integrate them, as well as the risks associated with security, privacy, and the safety of those whose working and living environments are managed by these systems.

IT professionals often have little or no experience working with embedded systems, sensor networks, actuators, real-time systems, and other components that are common to IoT, so this course provides a foundation for understanding how these components work with other systems that IT professionals typically have more experience working with—such as networks, cloud computing, and applications running on servers, desktop computers, and mobile devices.

In this course, students will learn general strategies for planning, designing, developing, implementing, and maintaining an IoT system through various case studies and by assembling and configuring an IoT device to work in a sensor network. Students will create an IoT device based on an ESP8266 microcontroller, implementing various common IoT features, such as analog and digital sensors, a web-based interface, MQTT messaging, and data encryption.

OBJECTIVES

In this course, you will learn how to apply Internet of Things technologies to solve real-world problems. You will:

- Plan an IoT implementation.
- Construct and program an IoT device.
- Communicate with an IoT device using wired and wireless connections.
- Process sensor input and control an actuator on an IoT device.
- Manage security, privacy, and safety risks on IoT projects.
- Manage an IoT prototyping and development project throughout the development lifecycle.

CERTIFIED IoT PRACTITIONER
PROGRAMME AGENDA

TARGET STUDENTS:

Designed for IT professionals with baseline skills in computer hardware, software support, and development who want to learn how to design, develop, implement, operate, and manage IoT devices and related systems. The student is interested in learning about embedded systems, microcontroller programming, IoT security, and the development life cycle for IoT projects.

While students will gain hands-on experience assembling a prototype IoT device and using software development tools, these activities are closely guided, so previous experience in electronics assembly and programming are not required. This course prepares students for taking the CertNexus Certified Internet of Things (IoT) Practitioner (Exam ITP-110).

PREREQUISITES:

To ensure your success in this course you should be an experienced computer user who is comfortable setting up and configuring computers and electronic devices.

COURSE CONTENTS:

- Lesson 1: Planning an IoT Implementation
  - Topic A: Select a General Architecture for an IoT Project
  - Topic B: Identify Benefits and Challenges of IoT
- Lesson 2: Constructing and Programming an IoT Device
  - Topic A: Select and Configure a Processing Unit
  - Topic B: Select a Microcontroller Power Source
  - Topic C: Use a Software Development Kit to Program an IoT Device
- Lesson 3: Communicating with an IoT Device
  - Topic A: Communicate Using Wired Connections
  - Topic B: Communicate Using Wireless Connections
  - Topic C: Communicate Using Internet Protocols
- Lesson 4: Processing IoT Data
  - Topic A: Process IoT Device Input and Output
  - Topic B: Process Data in the Cloud
  - Topic C: Provide Machine to Machine Communication
- Lesson 5: Managing Risks on IoT Projects
  - Topic A: Identify IoT Security and Privacy Risks
  - Topic B: Manage IoT Security and Privacy Risks
  - Topic C: Manage IoT Safety Risks
- Lesson 6: Undertaking an IoT Project
  - Topic A: Identify Real World Applications for IoT
  - Topic B: Follow the IoT Development Lifecycle

LIVE VIRTUAL CLASSROOM
ENGAGING INSTRUCTOR-LED TRAINING

All our training programmes are deliverable as engaging online learning courses via our live Virtual Classroom platform.

Our cutting-edge instructor-led online virtual classroom solutions offer an engaging and enjoyable experience that replicates our face-to-face training experience to deliver knowledge and develop the competencies you need to succeed.

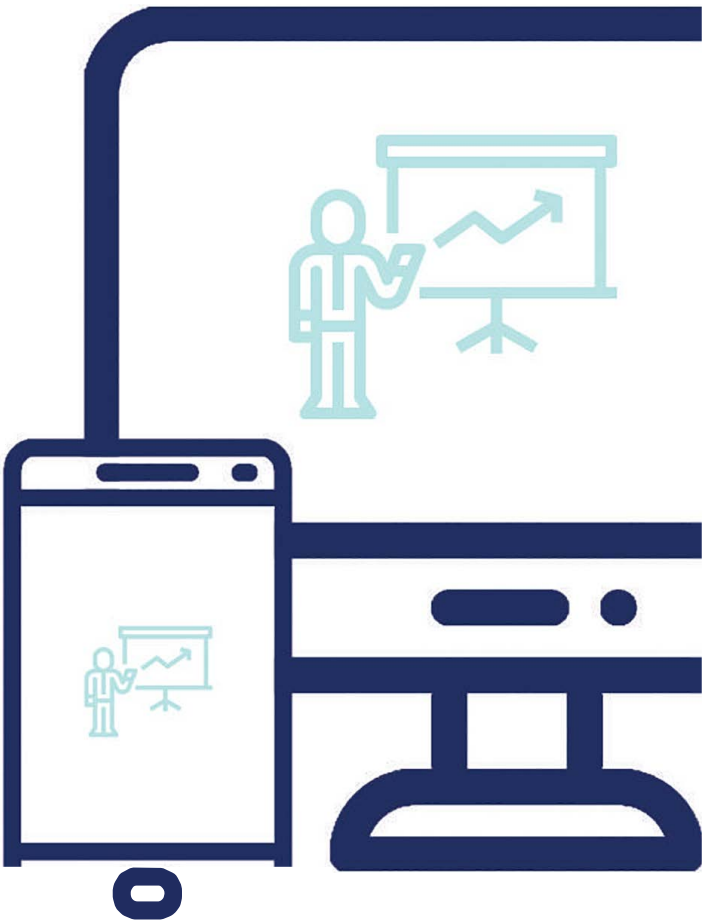
Our programmes are designed to ensure an optimal training experience - focusing on practical application of the concepts and topics covered.

We deliver the same market leading programmes online so you can benefit from the flexibility to take the training at a location of your choice without the need to travel!

Why Choose a Virtual Classroom?

Enjoy the same classroom learning experience online

- Benefit from the same quality training programmes at a location of your choice.
- Minimise downtime with highly impactful training
- Cost effective training that saves on travel expenses and time.
- Experience an intimate class setting
- Interact with your course tutor and fellow students throughout the course including group exercises, file sharing and live Q&A's.
- Review the training material after the course
- All sessions are recorded so you can review the material anytime.



BESPOKE TRAINING SOLUTIONS

Flexible and cost-effective way to upskill teams and develop key competencies across your business

Telecoms & Tech Academy is the leading training partner to the TMT industry, having trained more than 30,000 professionals and 500 businesses globally. We were borne out of the telecoms industry and understand the challenges the sector has been facing.

Our training portfolio continues to evolve to help address new and emerging skills gaps telecoms & tech businesses are facing. To provide you with leading-edge knowledge, our learning is influenced by our partners including Omdia. Whether you'd like to utilise our existing programmes or create a completely customised solution, we've got you covered.

Flexible delivery methods

FACE-TO-FACE:

We'll hand pick a leading practitioner to create and deliver a technical or commercially focussed programme, at your location – wherever that may be globally

DIGITAL:

We develop specialised online learning programmes using our virtual learning platform so your teams can learn anytime, anywhere – both on-demand or through online live classes

BLENDED:

A mix of online and face-to-face - your business taps into our leading online learning experience and gets valuable face-time with leading practitioners

"The trainer was very experienced. The Material that was provided was great and we recieved some excellent recommendation on how to handle specific situations." MTN, South Africa

BROUGHT TO YOU BY THE EXPERTS

Telecoms & Tech Academy

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CERTNEXUS®

CertNexus is the global purveyor of vendor neutral, emerging technology certifications and micro-credentials for IT, business, and security professionals. CertNexus' exams meet the most rigorous development standards possible, which outline a global framework for developing personnel certification programs to narrow the widening skills gap.

CertNexus partners with highly knowledgeable and talented industry experts to ensure the integrity and quality of each exam, with all exams following a rigorous development process.