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AppliedTechnologyAcademy.com

CertNexus Certified Internet of Things Practitioner (CIoTP) Training

CertNexus Authorized Training · Applied Technology Academy

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.

LEVEL	DURATION	EXPERIENCE	AVERAGE SALARY	LABS
Beginner	**3 Days**	**1 year: IT Administration**	**$80,000**	**Yes**

Course Overview

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.

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

Course Outline

- **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
  - Appendix A: Mapping Course Content to Certified Internet of Things Practitioner (CIoTP) (Exam ITP-110)

Intended Audience

Individuals who are seeking to build a vendor-neutral, cross-industry foundational knowledge that will enable them to design, implement, operate, and/or manage an IoT ecosystem.

- Network Administrator
- Software Development Engineer
- Solution Architect
- Product Manager
- Application Developer
- Technical Writer
- Business Development Analyst
- Cybersecurity Analyst
- Platform Engineer
- Chief Information Officer

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Prerequisites

Understanding of the business benefits and challenges of IoT systems.

Understanding of a typical IoT ecosystem, including the physical elements, edge/fog computing elements, network and connectivity elements, cloud and cloud platform elements, and the applications and things within various market sectors.

- Understanding of common IoT security and privacy threats and countermeasures.
- Understanding of common IoT safety hazards and risk management approaches.
- Understanding of the IoT system development life cycle.

Follow-On Courses

- Cyber Secure Coder
- CyberSec First Responder
- CyberSafe
- Certified Ethical Emerging Technologist

Ready to enroll? Call 800.674.3550 or email Info@AppliedTechAc.com — private team cohorts, GSA MAS purchasing, military credentialing funding, VA GI Bill and VR&E and student financing available.