UCI Division of Continuing Education

THE INTERNET OF THINGS (IOT): APPLICATIONS AND OPPORTUNITIES

SPECIALIZED STUDIES PROGRAM • ONLINE

The explosive growth of the Internet of Things (IoT) is changing our lives. Fueled by dramatic developments in technology and the rapid drop in price for IoT components that can be embedded in the objects around us, the IoT is changing the landscape of work, business, industry, education, healthcare, and leisure.

According to Statista, the number of Internet of Things (IoT) devices worldwide is forecast to almost triple from 8.74 billion in 2020 to more than 25.4 billion IoTdevices in 2030. Devices will span industrial, commercial, and consumer markets and will be able to intelligently respond to human interaction and business needs in a remarkable variety of ways. Emerging technologies such as artificial intelligence and 5G wireless connectivity will be used to create smart, connected IoT solutions that make our lives more effective and enjoyable. The IoT offers vast new opportunities for businesses to grow and improve their operational efficiencies. According to Market Data Forecast, the global IoT market is projected to reach $875 billion in 2025, at a compound annual growth rate of 26.9%.

The program explores the devices, technologies, cloud based IoT platforms, techniques, and programming languages used to create innovative connected devices and IoT solutions. It provides students with the knowledge and skills required to take advantage of this next major shift in technologies and the related exponential growth in job demand. It is designed to help both individuals and businesses understand IoT technologies and create IoT solutions that improve their operational efficiencies and provide opportunities for growth.

WHO SHOULD ENROLL

The program is ideal for those who are looking to build foundational knowledge in IoT to improve their business operations and increase their career options. For those already in the industry, the program includes practical application courses designed to increase the depth and breadth of their understanding of IoT technologies and applications. The curriculum is also designed for those who are looking to enter this growing field.

PROGRAM BENEFITS

- Explore IoT use cases and applications
- See examples of smart IoT devices that use voice and augmented reality interfaces
- Study a teardown of an IoT device and explore the components used to sense, take actions, and connect to the IoT
- Review network communications technologies, protocols, and standards used to connect IoT devices
- Learn how analytics and machine learning are used in the IoT
- Explore IoT concepts and technologies through hands on activities using the Arduino and Raspberry Pi
- Review the features of cloud based IoT platforms and see how platforms are used to create IoT solutions
- Understand security and privacy issues
- See examples of IoT cybersecurity threats
- Learn how to design strong security into IoT devices and use a security by design approach to provide end-to-end security
- See how encryption and other technologies provide security
- Explore current trends and see what may be on the horizon for the IoT

EARN A CERTIFICATE

Apply to become a candidate for the program: A Declaration of Candidacy is required to establish candidacy in this program. Complete the application and pay the application and candidacy fee of $125 (non-refundable). Learn more about the benefits of becoming a candidate. Candidacy is not required to enroll into individual course in a program.

A candidate in the program is awarded a specialized studies certificate upon the successful completion of three (3) required courses totaling 9 units, each with a letter grade of “C” or better. All requirements must be completed within five (5) years after the student enrolls in their first course. To receive the Certified Digital Certificate after the completing all the program requirements, students must submit the Request for Certificate to initiate the certificate audit process. Students not pursuing the certificate are welcome to take as many individual courses as they wish.

PROGRAM FEES

Actual fees may differ from the estimate below. Fees are subject to change without prior notice.

Course Fees	$2,235
Candidacy Fee	$125
Textbooks and Materials	$550
Total Estimated Cost	**$2,910**

TO ENROLL

Visit ce.uci.edu/iot for full course descriptions, instructor biographies, and enrollment information.

FOR MORE INFORMATION

EngineeringSciences@ce.uci.edu

INTERNET OF THINGS (IOT): APPLICATIONS AND OPPORTUNITIES SPECIALIZED STUDIES PROGRAM

COURSE#	REQUIRED COURSES (9 units)	UNITS
EECS X480	The Internet of Things (IoT)	3
I&C SCI X481	Designing and Integrating IoT Devices	3
I&C SCI X482	Networking and Securing IoT Devices	3

Course schedules are subject to change. Individual courses may be taken without enrolling in the full program.