



Internet of Things

Course Description:

This course provides students with an introduction to Internet of Things and covers the concepts, terms, and patterns of an IoT solution. Students participating in this course will learn about the device programming, data analytics, machine learning, solution design skills, industry verticals that are using IoT; the architectural components of an IoT solution and the steps and approaches for evaluating and implementing IoT in your business. We will look at the ‘things’ that make up the Internet of Things, examine the concept of IoT, examine cybersecurity and privacy issues, optimization of processes, including how those components are connected together, how they communicate and how they value add to the data generated to help you develop skills and experiences you can employ in designing novel systems.

Course Outline:

Computer Literacy

Getting Started with the Internet of Things (IoT)

Introduction to Device Programming for IoT

Introduction to Cloud Services for IoT

IoT Device Configuration and Communication

Project – Internet of Things (IoT)

Course Outcomes:

At the end of the course the student will be able to:

- Understand what IoT is and the difference between a commercial IoT device and a consumer IoT device
- Explain how IoT can be used to support business needs in industries like Manufacturing, Energy, Healthcare, Retail, and Transportation
- Describe the components of an IoT Architecture
- Describe the security considerations that must be addressed when implementing an IoT solution



- Describe the device categories available in the marketplace and the characteristics of commonly used devices
- Evaluate and align a use case scenario or problem statement with a real-world IoT implementation and architecture
- Explain one or more approaches for implementing an IoT solution based on a use case scenario or problem statement
- Support effective employee and labor relations in union and non-union environments
- Perform reference checks
- Explain how legislation affects occupational health and safety in today's work environment
- Create, draft and edit documents and reports
- Recommend changes in Human Resource Management practices and policies
- Understand Human Resource Management concepts for recruitment and selection
- Explain the purposes and importance of employee benefits, services, and incentive plans
- Understand the principles, issues, trends, and legislative requirements affecting recruitment selection
- Successfully identify Human Resource requirements to attract and retain an effective work force for an organization
- Explain several techniques for managing and promoting health and safety in the workplace
- Describe the communication, data, and process pathways implemented within an IoT solution
- Discover and report the trends in your business data that lead to insights and improvements, how to use the latest data visualization tools to create reports using historical and live data.

Career Opportunities

Graduates of this certificate program will be able to start their career with entry-level positions in medium to large-sized companies as an:

- Application programmer
- Cloud developer
- Computer application programmer
- Computer programmer
- Embedded IoT Engineer
- IoT Engineer

Course Duration:

180 Hours