Odysseyware®

CURRICULUM OVERVIEW

Introduction to Information Technology
Career and Technical Education Series

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Introduction to Information Technology Course Overview

In this course, students will be introduced to the knowledge-base and technical skills that will help them to successfully compete for jobs within the Information Technology career cluster. Lessons are structured so that students learn and then demonstrate not only critical assessment and analytic skills, but also interpersonal skills that are valued so highly among IT employers.

We explore a range of career tracks that include network engineers, application/programming developers, and systems analysts. These career paths are described in depth, discussing typical job responsibilities, educational and licensure requirements, working conditions, and job outlooks.

Our lessons help students place the evolution of technology and job opportunities in context so that they will understand their important role in furthering its development. We believe that the most successful IT professionals combine technical know-how with leadership ability. To this end, students learn that their acquired expertise comes with the responsibility to represent themselves and the companies they work for within the highest legal and ethical standards.

Objectives

- Identify the basic components and structure of a computer system and its use within a networking/communications environment.
- Design and implement a basic network while being introduced to multiple types of network systems.
- Apply both ethical and industry standard security policies to networks.
- Discuss the history and development and use of the Internet in business and society.
- Explain the development of human-centered technology interaction.
- Apply mobile computing technology capabilities to learning and business.
- Identify the variety of operating systems found on desktops, laptops, and mobile devices.
- Understand mobile application architecture, deployment, and marketing.
- Determine best practice application skills for the variety of information technology systems available to implement.
- Plan, develop, and implement an information system.
- Maximize use of the Internet within the home and business.
- Identify the structure of wireless communication networks and the mechanisms behind its functionality.
- Identify and develop protocols for use of the Internet within business.
- Identify and develop information system libraries and repositories of information.
- Develop an understanding of the logic behind object-oriented programming.
- Identify the multiple programming languages for use in mobile/Internet application development.
- Plan, develop, and implement a mobile/Internet application.

Students should have access to a laptop or desktop computer.
Students should have access to a smart device.

Unit 1: Hardware and Communications Technology Introduction

Assignments

1. Course Overview
2. Computer Systems and Networks
3. Network Ethics and Security
4. Project: Benefit Analysis Study: Small Business Expansion
5. Information Storage
6. Project: Correspondence Between Stringer and Newspaper Editor: Media Preview
7. Quiz 1: Computer Systems and Networks
8. Internet in Business and Society
9. Human-Centered Technology
10. Project: Biometrics Report
11. Mobile Computing
12. Project: Geocache Treasure Hunt
13. Quiz 2: Internet in Business and Society
14. Special Project*
15. Unit 1 Test
16. Course Project Part 1: Capstone Project*
17. Glossary and Credits

Unit 2: Operating Systems, System Software, Mobile Applications

Assignments

1. Computer, Server, and Mobile Operating Systems
2. Project: Similarities/Differences Chart: School Operating Systems
3. Operating Systems vs. System Software
4. Battle of the Operating Systems
5. Project: PowerPoint Presentation: Smart Phone Preference Survey
6. Quiz 1: Operating Systems and System Software
7. Mobile Application Development and Implementation
8. Project: Mobile App Development
9. Applications vs. Software
10. The Mobile Application Business
11. Project: Market Research Comparison/Contrast Matrix – Free Mobile App
12. Quiz 2: Mobile Application Development
13. Special Project*
14. Unit 2 Test
15. Course Project Part 2: Capstone Project*
16. Glossary and Credits

Unit 3: Introduction to Information Systems

Assignments

1. What is an Information System?
2. Project: Building a Local GIS
3. Types of Information Systems
4. Jobs in Information Systems
5. Project: Career Day Presentation
6. Quiz 1: Introduction to Information Systems
7. Planning Information Systems
8. Project: Strategic Report
9. Developing Information Systems
10. Implementing Information Systems
11. Project: On the Job: System Developer
12. Quiz 2: Developing and Implementing Information Systems
13. Project: Special Project*
14. Unit 3 Test
15. Course Project Part 3: Capstone Project*
16. Glossary and Credits

Unit 4: Internet Utilization and Information Literacy

Assignments

1. Internet Use in Home and Business
2. Project: School Internet Policies Report
3. Security on the Internet
4. Project: Comparison Shopping Report
5. Cloud Computing
6. Quiz 1: Internet Use in Home and Business
7. Internet Best Practices and Protocols
8. Project: Search Strategy and Intelligent Agent Exercise
9. Information Library Systems
10. Accessing Reference Material
11. Jobs in Information Literacy
12. Project: Digital Library Research
13. Quiz 2: Internet Best Practices and Protocols
14. Project: Special Project*
15. Unit 4 Test
16. Course Project Part 4: Capstone Project*
17. Glossary and Credits

Unit 5: Mobile Application Programming and Productivity

Intro. to Information to Technology

Assignments

1. Mobile Application Construction
2. Project: Flowcharts for Free-to-Play and Pay-to-Play Versions of a Travel Game App
3. Mobile Application Programming
4. The Business of Mobile Application Development
5. Project: Compare/Contrast Report: Contract Versus Salaried Mobile App Development Jobs
6. Quiz 1: Mobile Application Construction and Programming
7. Mobile Application Development Project Management
8. Project: Compare/Contrast Report: Five Mobile Operating Platforms
9. Tools of the Trade
10. Outsourcing vs. In-House Development
11. Project: Design a Work-Around; Role-Playing Panel
12. Quiz 2: Mobile Application Development
13. Project: Special Project*
14. Unit 5 Test
15. Course Project Part 5: Capstone Project*
16. Glossary and Credits

Unit 6: Course Project, Review, and Exam

Assignments

1. Course Project Part 6: Capstone Project*
2. Review
3. Exam

(*) Indicates alternative assignment