



monarch

Curriculum Catalog

Career and Technical Education Series

Introduction to Information Technology

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Introduction to Information Technology Course Overview

In this course, we introduce students 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.

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

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

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

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

(*) Indicates alternative assignment