

NFC ACADEMY



INTRODUCTION TO INFORMATION TECHNOLOGY ACADEMIC INSTRUCTIONAL LIBRARY

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.

Requirements

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

This course requires independent research and work from the student. Students should have a high interest in this course for the most success.

○ **UNIT 1 - HARDWARE AND COMMUNICATIONS TECHNOLOGY INTRODUCTION**

- **Course Overview**
- **Computer Systems and Networks**
- **Network Ethics and Security**
- **Project: Benefit Analysis Study: Small Business Expansion – Complete this assignment Small Business Expansion.**
- **Information Storage**
- **Quiz 1: Computer Systems and Networks**

- **Internet in Business and Society**
 - **Human-Centered Technology**
 - **Project: Biometrics Report - Complete this assignment Small Business Expansion.**
 - **Mobile Computing**
 - **Quiz 2: Internet in Business and Society**
 - **Unit 1 Test**
 - **Course Project Part 1: Capstone Project – Complete this assignment for the Capstone Project in Information Technology.**
 - **Glossary and Credits**
- **UNIT 2 - OPERATING SYSTEMS, SYSTEM SOFTWARE, MOBILE APPLICATIONS**
- **Computer, Server, and Mobile Operating Systems**
 - **Operating Systems vs. System Software**
 - **Battle of the Operating Systems**
 - **Project: PowerPoint Presentation: Smart Phone Preference Survey - Complete this assignment Smart Phone Preference**
 - **Quiz 1: Operating Systems and System Software**
 - **Mobile Application Development and Implementation**
 - **Project: Mobile App Development - Complete this assignment Mobile App Development.**
 - **Applications vs. Software**
 - **The Mobile Application Business**
 - **Quiz 2: Mobile Application Development**
 - **Unit 2 Test**
 - **Course Project Part 2: Capstone Project - Complete this assignment for the Capstone Project in Information Technology.**
 - **Glossary and Credits**
- **UNIT 3 - INTRODUCTION TO INFORMATION SYSTEMS**
- **What is an Information System?**
 - **Project: Building a Local GIS - Complete this assignment Building a Local GIS.**
 - **Types of Information Systems**
 - **Jobs in Information Systems**
 - **Quiz 1: Introduction to Information Systems**
 - **Planning Information Systems**

- **Developing Information Systems**
 - **Implementing Information Systems**
 - **Project: On the Job: System Developer - Complete this assignment On the Job System Developer.**
 - **Quiz 2: Developing and Implementing Information Systems**
 - **Unit 3 Test**
 - **Course Project Part 3: Capstone Project - Complete this assignment for the Capstone Project in Information Technology.**
 - **Glossary and Credits**
- **UNIT 4 - INTERNET UTILIZATION AND INFORMATION LITERACY**
- **Internet Use in Home and Business**
 - **Project: School Internet Policies Report - Complete this assignment School Internet Policies Report.**
 - **Security on the Internet**
 - **Cloud Computing**
 - **Quiz 1: Internet Use in Home and Business**
 - **Internet Best Practices and Protocols**
 - **Information Library Systems**
 - **Jobs in Information Literacy**
 - **Project: Digital Library Research - Complete this assignment Digital Library Research.**
 - **Quiz 2: Internet Best Practices and Protocols**
 - **Unit 4 Test**
 - **Course Project Part 4: Capstone Project - Complete this assignment for the Capstone Project in Information Technology.**
 - **Glossary and Credits**
- **UNIT 5 - MOBILE APPLICATION PROGRAMMING AND PRODUCTIVITY**
- **Mobile Application Construction**
 - **Project: Flowcharts for Free-to-Play and Pay-to-Play Versions of a Travel Game App - Complete this assignment Flowcharts for Free-to-Play and Pay-to-Play Versions of a Travel Game App.**
 - **Mobile Application Programming**
 - **The Business of Mobile Application Development**

- **Quiz 1: Mobile Application Construction and Programming**
 - **Mobile Application Development Project Management**
 - **Project: Compare/Contrast Report: Five Mobile Operating Platforms - Complete this assignment**
 - **Compare/Contrast Report: Five Mobile Operating Platforms.**
 - **Tools of the Trade**
 - **Outsourcing vs. In-House Development**
 - **Quiz 2: Mobile Application Development**
 - **Unit 5 Test**
 - **Course Project Part 5: Capstone Project - Complete this assignment for the Capstone Project in Information Technology.**
 - **Glossary and Credits**
- **UNIT 6 - COURSE PROJECT, REVIEW, AND EXAM**
- **Course Project Part 6: Capstone Project - Complete this assignment for the Capstone Project in Information Technology.**
 - **Review**
 - **Exam**