

INFORMATION TECHNOLOGY FOUNDATIONS

Course Code: 5270

COURSE DESCRIPTION: The course prepares students to take the Certiport's Internet and Computing Core Certification IC³ Certification test. This course introduces basic concepts in computer and information technology, including computer hardware, software, Internet, and network systems. Upon successful completion of this course, a student may qualify for articulation/dual credit. Individuals who currently hold or are pursuing IC³ certification may apply for college credit through the American Council on Education (ACE) member institutions.

OBJECTIVE: Given the necessary equipment, supplies, and facilities, the student will be able to successfully complete all of the following core standards.

RECOMMENDED GRADE LEVELS: 9–12

COURSE CREDIT: 1 unit

PREREQUISITE: n/a

COMPUTER REQUIREMENT: one computer per student

RESOURCES:

www.mysctextbooks.com

A. SAFETY AND ETHICS

1. Identify major causes of work-related accidents in offices.
2. Describe the threats to a computer network, methods of avoiding attacks, and options in dealing with virus attacks.
3. Identify potential abuse and unethical uses of computers and networks.
4. Explain the consequences of illegal, social, and unethical uses of information technologies, e.g., piracy; illegal downloading; licensing infringement; and inappropriate uses of software, hardware, and mobile devices.
5. Differentiate between freeware, shareware, and public domain software copyrights.
6. Discuss computer crimes, terms of use, and legal issues such as copyright laws, fair use laws, and ethics pertaining to scanned and downloaded clip art images, photographs, documents, video, recorded sounds and music, trademarks, and other elements for use in Web publications.
7. Identify netiquette including the use of email, social networking, blogs, texting, and chatting.
8. Describe ethical and legal practices in business professions such as safeguarding the confidentiality of business-related information.

B. EMPLOYABILITY SKILLS

1. Identify positive work practices, e.g., appropriate dress code for the workplace, personal grooming, punctuality, time management, and organization.
2. Demonstrate positive interpersonal skills, e.g., communication, respect, and teamwork.

C. STUDENT ORGANIZATIONS

1. Explain how related student organizations are integral parts of career and technology education courses.
2. Explain the goals and objectives of related student organizations.
3. List opportunities available to students through participation in related student organization conferences/competitions, community service, philanthropy, and other activities.
4. Explain how participation in career and technology education student organizations can promote lifelong responsibility for community service and professional development.

D. COMPUTING FUNDAMENTALS

1. Computer Hardware:
 - a. Identify types of computers, how they process information and how individual computers interact with other computing systems and devices.
 - b. Identify the function of computer hardware components
 - c. Identify the factors that go into an individual or organizational decision on how to purchase computer equipment.
 - d. Identify how to maintain computer equipment and solve common problems relating to computer hardware.
2. Computer Software:
 - a. Identify how software and hardware work together to perform computing tasks and how software is developed and upgraded.
 - b. Identify different types of software, general concepts relating to software categories, and the tasks to which each type of software is most suited or not suited.
 - c. Identify fundamental concepts relating to database applications.
3. Using an Operating System:
 - a. Identify what an operating system is and how it works, and solve common problems related to operating systems.
 - b. Manipulate and control the Windows desktop, files, and disks; identify how to change system settings, install and remove software.

E. KEY APPLICATIONS

1. Common Program Functions:
 - a. Be able to start and exit a Windows application and utilize sources of online help.

- b. Identify common on-screen elements of Windows applications, change application settings and manage files within an application.
 - c. Perform common editing and formatting functions.
 - d. Perform common printing functions.
- 2. Word Processing Functions:
 - a. Be able to format text and documents including the ability to use automatic formatting tools.
 - b. Be able to insert, edit and format tables in a document.
- 3. Spreadsheet Functions:
 - a. Be able to modify worksheet data and structure and format data in a worksheet.
 - b. Be able to sort data, manipulate data using formulas and functions and add and modify charts in a worksheet.
- 4. Presentation Software:
 - a. Be able to create simple presentations.
 - b. Be able to format simple presentations.

F. LIVING ONLINE

- 1. Networks and the Internet:
 - a. Identify network fundamentals and the benefits and risks of network computing.
 - b. Identify the relationship between computer networks, other communications networks (like the telephone network) and the Internet.
- 2. Electronic Mail:
 - a. Identify how electronic mail works.
 - b. Identify how to use an electronic mail application.
 - c. Identify the appropriate use of e-mail and e-mail related "netiquette."
- 3. Using the Internet:
 - a. Identify different types of information sources on the Internet.
 - b. Be able to use a Web browsing application.
 - c. Be able to search the Internet for information.
- 4. The Impact of Computing and the Internet on Society:
 - a. Identify how computers are used in different areas of work, school, and home.
 - b. Identify the risks of using computer hardware and software.
 - c. Identify how to use the Internet safely, legally, and responsibly.

Reviewed February 2010