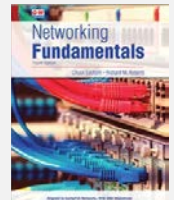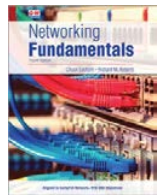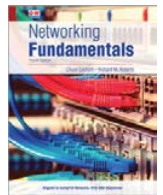**Goodheart-Willcox Publisher**
Correlation of Networking Fundamentals, 4th Ed. (2024
to South Carolina Department of Education
Information Technology
IT Fundamentals
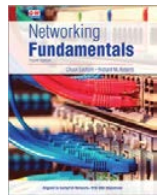**Course Code: 5025 (Grades 9–12)**

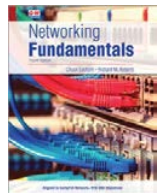| Standards	Correlating Text Pages
A. SAFETY	
Effective professionals know the academic subject matter, including safety as required for proficiency within their area. They will use this knowledge as needed in their role. The following accountability criteria are considered essential for students in any program of study.	
1. Review school safety policies and procedures.	298, 573-574
2. Review classroom safety rules and procedures.	298, 573-574
3. Review safety procedures for using equipment in the classroom.	298, 573-574
4. Identify major causes of work-related accidents in office environments.	298, 573-574
5. Demonstrate safety skills in an office/work environment.	298, 573-574
B. STUDENT ORGANIZATIONS	
Effective professionals know the academic subject matter, including professional development, required for proficiency within their area. They will use this knowledge as needed in their role. The following accountability criteria are considered essential for students in any program of study.	
1. Identify the purpose and goals of a Career and Technology Student Organization (CTSO).	675-676
2. Explain how CTSOs are integral parts of specific clusters, majors, and/or courses.	675-676
3. Explain the benefits and responsibilities of being a member of a CTSO.	675-676
4. List leadership opportunities that are available to students through participation in CTSO conferences, competitions, community service, philanthropy, and other activities.	675-676
5. Explain how participation in CTSOs can promote lifelong benefits in other professional and civic organizations.	675-676
C. TECHNOLOGY KNOWLEDGE	
Effective professionals know the academic subject matter, including the ethical use of technology as needed in their role. The following accountability criteria are considered essential for students in any program of study.	
1. Demonstrate proficiency and skills associated with the use of technologies that are common to a specific occupation.	675-680
2. Identify proper netiquette when using e-mail, social media, and other technologies for communication purposes.	675-680

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Networking **Fundamentals**

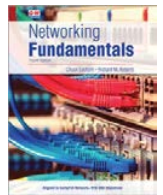| Standards	Correlating Text Pages
3. Identify potential abuse and unethical uses of laptops, tablets, computers, and/or networks.	686
4. Explain the consequences of social, illegal, and unethical uses of technology(e.g., piracy; cyberbullying; illegal downloading; licensing infringement; inappropriate uses of software, hardware, and mobile devices in the work environment).	686
5. Discuss legal issues and the terms of use related to copyright laws, fair use laws, and ethics pertaining to downloading of images, photographs, documents, video, sounds, music, trademarks, and other elements for personal use.	686
6. Describe ethical and legal practices of safeguarding the confidentiality of business-related information.	686
7. Describe possible threats to a laptop, tablet, computer, and/or network and methods of avoiding attacks.	686
D. PERSONAL QUALITIES AND EMPLOYABILITY SKILLS	
Effective professionals know the academic subject matter, including positive work practices and interpersonal skills, as needed in their role. The following accountability criteria are considered essential for students in any program of study.	
1. Demonstrate punctuality.	687
2. Demonstrate self-representation.	686-687
3. Demonstrate work ethic.	686-687
4. Demonstrate respect.	686-687
5. Demonstrate time management.	686-687
6. Demonstrate integrity.	686
7. Demonstrate leadership.	686
8. Demonstrate teamwork and collaboration.	687
9. Demonstrate conflict resolution.	687
10. Demonstrate perseverance.	686-687
11. Demonstrate commitment.	686-687
12. Demonstrate a healthy view of competition.	686-687
13. Demonstrate a global perspective.	686-687
14. Demonstrate health and fitness.	686-687

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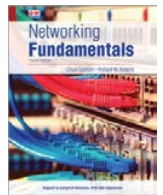| Standards	Correlating Text Pages
15. Demonstrate self-direction.	686
16. Demonstrate lifelong learning.	686-687
E. PROFESSIONAL KNOWLEDGE	
Effective professionals know the academic subject matter, including positive work practices and interpersonal skills, as needed in their role. The following accountability criteria are considered essential for students in any program of study.	
1. Demonstrate effective speaking and listening skills.	687
2. Demonstrate effective reading and writing skills.	687
3. Demonstrate mathematical reasoning.	686-687, 696-699
4. Demonstrate job-specific mathematics skills.	686-687, 696-699
5. Demonstrate critical-thinking and problem-solving skills.	687
6. Demonstrate creativity and resourcefulness.	686-687
7. Demonstrate an understanding of business ethics.	686
8. Demonstrate confidentiality.	686
9. Demonstrate an understanding of workplace structures, organizations, systems, and climates.	686-687
10. Demonstrate diversity awareness.	686-687
11. Demonstrate job acquisition and advancement skills.	680-687
12. Demonstrate task management skills.	686-687
13. Demonstrate customer-service skills.	686-687
F. INFORMATION TECHNOLOGY (IT) LITERACY	
Effective IT professionals demonstrate knowledge in It literacy as well as effective troubleshooting techniques as needed in their role. The following accountability criteria are considered essential for students in any program of study.	
1. Identify and explain the vocabulary of the pc, mobile, and laptop platforms, including the characteristics of various IO devices.	691-695, 704-719
2. Define information technology.	16-17
3. Perform appropriate steps to set up a basic workstation, including	
a. Plug in cables	297-298
b. Power on computer	300

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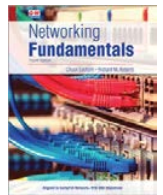| Standards	Correlating Text Pages
c. Screen resolution	297-298
d. Audio settings	297-298
e. Configure and verify internet connection	297-298
f. Basic cable management	297-298
4. Identify and use the six-step process related to the troubleshooting process:	
a. Identify the problem.	560-617
b. Establish a theory of probable cause.	560-617
c. Test the theory to determine cause.	560-617
d. Establish a plan of action to resolve the problem and implement the solution.	560-617
e. Verify full system functionality and if applicable implement preventative measures.	560-617
f. Document findings, actions, and outcomes	560-617
G. ENVIRONMENTAL AND SAFETY CONCEPTS	
Effective IT professionals demonstrate knowledge and usage of effective techniques for protecting hardware and software as needed in their role. The following accountability criteria are considered essential for students in any IT program of study.	
1. Describe proper disposal methods for the following	
a. RoHS (Restriction of Hazardous Substances)	297-298
b. CRT monitors	297-298
c. Scanners	297-298
d. Batteries	297-298
e. Ink/toner	297-298
a. Hard drives	297-298
2. Research and analyze the environmental impact of power and power management.	
a. Energy efficient devices	297-298
b. Power profiles	300-301
c. Power options	300-301

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Standards	Correlating Text Pages
d. Sleep / hibernation	300
e. UPS vs. surge protector vs. power strip	300-301
f. Power limitations	300-301
g. International power differences	300-301
3. Design efficient device placement to create optimum airflow, humidity, temperature, and dust accumulation.	297-298
4. Identify the primary causes of electrostatic discharge and ways to mitigate the effects of ESD on electronic devices.	298
5. Demonstrate appropriate ergonomic practices.	297-298
6. Describe Material Safety Data Sheets (MSDS)	298, 573-574
H. OPERATING SYSTEMS	
Effective IT professionals demonstrate knowledge of the purpose and usage of operating systems as needed in their role. The following accountability criteria are considered essential for students in any IT program of study.	
1. Compare and contrast common mobile and desktop operating systems and their functions and features.	297-298
2. Compare and contrast open-source and commercial operating systems.	568-569
3. Describe software compatibility in relationship to operating systems.	568-569
4. Analyze the basic functions of an operating system, (e.g.. user interface, hardware management, application management, and file and data management).	568-569
5. Select appropriate operating system features and tools based on customer needs.	568-569
6. Use best practices to Install and secure operating systems including features, applications, and drivers.	568-569
7. Use best practices to patch, update, and secure operating systems, including features, applications, and drivers.	568-569
8. Identify different software versions and licensing protocols.	568-569
I. SOFTWARE	
Effective IT professionals demonstrate knowledge of the purpose and usage of software as needed in their role. The following accountability criteria are considered essential for students in any IT program of study.	
1. Demonstrate the use of operating system software to install and manipulate applications and files.	200-202
2. Demonstrate OS navigation using hot keys.	200-202

Standards	Correlating Text Pages
3. Demonstrate methods for managing folders, files, and their permissions.	279-280
4. Identify common programs, applications, and their purpose.	279-280
5. Compare and contrast productivity, collaboration, utility, and specialized software.	312-313
6. Differentiate between open-source and commercial software.	312-313
7. Identify common file types and their extensions, (e.g., documents, audio, images, video, executables, and compression formats.	410-412
8. Configure POP3, IMAP, SMTP e-mail platforms.	453-455
J. HARDWARE	
Effective IT professionals demonstrate knowledge of the purpose and usage of hardware as needed in their role. The following accountability criteria are considered essential for students in any IT program of study.	
1. Identify basic wired and wireless peripherals and their purpose, (e.g. input, output, and input/output).	298-302
2. Differentiate various computer connector/ports, (e.g., video, FireWire, eSATA, thunderbolt, USB, PS2, parallel, serial, RJ-45, RJ-11, audio, and power).	298-302
3. Identify internal computer components.	297-298
4. Explain the basic features and functions of wireless devices.	
a. unlocking/security	133-134
b. Bluetooth pairing	133-134
c. Wireless connection setup	133-134
d. Email configuration	133-134
e. Airplane mode	133-134
K. ALTERNATIVE TECHNOLOGIES	
Effective IT professionals demonstrate knowledge and usage of alternative technologies as needed in their role. The following accountability criteria are considered essential for students in any IT program of study.	
1. Define the term alternative technology.	419-420, 438-467, 544-559
2. Identify the following alternative technologies and their purpose, (e.g., virtualization, cloud computing, streaming media (audio/video), web applications, VoIP, telepresence, and gesture-based interaction).	419-420, 438-467, 544-559

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Standards	Correlating Text Pages
3. Research and present an alternative technology to solve a real-world problem.	419-420, 438-467, 544-559
L. NETWORKING	
Effective IT professionals demonstrate knowledge and usage of networking concepts as needed in their role. The following accountability criteria are considered essential for students in any IT program of study.	
1. Use computational thinking procedures to analyze and set up a basic SOHO router (wire/wireless):	
a. Verify wired connection, if applicable.	486-493
b. Set WEP vs. WPA vs. WPA2.	150, 510
c. Change SSID from default.	133, 509, 597
d. Apply a new wireless password.	519-521
e. Change admin password for router.	519-521
f. Connect to the new network.	519-521
g. Verify internet connectivity.	519-521
h. Update firmware if necessary.	517
2. Compare and contrast cellular, wireless, and wired data connections in regards to high vs. low mobility, availability, throughput/bandwidth, reliability, connection delay, number of concurrent connections, and levels of security	133-134, 144-150, 510
3. Compare and contrast different methods of sharing and storage.	
a. HTTP vs. HTTPS	173, 238, 447
b. FTP vs. FTPS vs. SFTP	450-452
c. Local vs. hosted storage	316-317
d. Peer-to-peer	14
e. Network vs. local printing	13, 279, 593-594
3. Explain basic backup concepts, (e.g., importance, scheduling, frequency, mediums, and verification/testing).	243, 581
M. SECURITY	
Effective IT professionals demonstrate knowledge and usage of effective security techniques used to protect user identity as needed in their role. The following accountability criteria are considered essential for students in any IT program of study.	
1. Research and discuss common security threats found IT.	496-532

Standards	Correlating Text Pages
2. Describe methods used to prevent breaches in security, (e.g., password management, physical security, and Wi-Fi security).	496-502
3. Identify common e-mail security breaches, (e.g., phishing, spam, malware, etc.)	496-502
4. Evaluate websites for data validity, security, credibility, accuracy.	496-532
5. Identify suspicious links, ads, banner ads, and adware symptoms.	496-532
6. Identify the security risk of using public workstations.	496-502
7. Disable autofill forms/passwords.	496-502
8. Clear browser cache/history/cookies.	496-502
9. Recognize untrusted source warnings.	496-502
N. COMPUTATIONAL THINKING	
IT professionals demonstrate effective thinking and problem solving skills as needed in their role. The following accountability criteria are considered essential for students in any IT program of study.	
1. Apply strategies for identifying routine hardware and software problems current to everyday life.	686-687
2. Identify compatibility issues and describe operational problems caused by hardware errors.	686-687
3. Explain how technology can be used to solve problems.	686-687
4. Explain software development process used to solve problems.	686-687
a. Explore commonly used documentation tools for design specifications (e.g., flowcharts, visual and textual storyboards).	686-687