

| TX-Principles of Information Technology | | Scope and Sequence |
|---|---|---|
| Unit | Lesson | Objectives |
| Introduction to Information Technology | | |
| | Introduction | |
| | The Four Areas of Information Technology Employment | Evaluate careers in four information technology areas: Information Services and Support, Network Systems, Programming and Software Development, and Interactive Media. |
| | | Compare and contrast job descriptions, working conditions, education, training requirements, salary ranges, industry certifications, and employment outlook for the four areas. |
| | | Describe job requirements for careers and professions in IT. |
| | Compare and Contrast Careers in IT | Compare and contrast careers in computing. |
| | | Identify college majors that require at least one course in computing. |
| | | Describe the variety of occupations and professions within the world of IT and investigate how computing is used in other disciplines. |
| | | Investigate methods for finding websites with career exploration resources, identifying a desired IT career area, and justifying that choice. |
| | | List and describe professional organizations and professional codes in the field of computing. |
| | Entrepreneurship | Demonstrate concepts, processes, and behaviors associated with successful entrepreneurship. |
| | | Analyze how computing is often used in contemporary entrepreneurship. |
| | | Compare and contrast entrepreneurship with working for an employer. |
| | Assessment | Categorize personal skills and aptitudes. |

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| | | Analyze personal skills and aptitudes that relate to IT careers. |
| | | Differentiate between the use of specific personal assessment tools in identifying personal strengths and weaknesses. |
| | Lifelong Learning Skills | |
| | | Demonstrate an understanding of education and career development as lifelong learning process and techniques for acquiring new (IT) industry-related knowledge and improving professional skills. |
| | | Demonstrate techniques for promoting personal advancement and seeking education and other experiences that enhance personal growth. |
| | | Create, refine, and implement a plan for personal growth and skill development related to IT careers. |
| | | Define a work-based learning experience in an IT environment, and describe the purpose and benefits of a work-based learning environment. |
| | | Identify steps for seeking a promotion. |
| | Create a Professional Portfolio | |
| | | Create and maintain a career portfolio. |
| | | Demonstrate preparing for a job search and interview. |
| | | Create a cover letter, resume, and job application. |
| | Summary | |
| | Unit Test | |
| IT and Computer Hardware | | |
| | Introduction | |
| | Information Technology | |
| | | Discuss the use of technology in an IT environment. |
| | | Identify and describe some current and emerging computer technology and software used for personal and business tasks. |
| | | Compare and contrast methods for evaluating emerging technologies. |

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| | | Explain how IT affects business and society. |
| | Job-Specific Math Skills | |
| | | Define and use common statistical procedures to present and communicate data. |
| | | Solve work-related problems using measurements. |
| | | Select and use correct mathematical processes and tools to solve complex problems. |
| | IT Legal and Ethical Issues | |
| | | Define legal and ethical responsibilities for IT professionals. |
| | | Demonstrate and apply an understanding of IT-related legal and ethical issues. |
| | Wireless IT | |
| | | Explore current global business trends and an IT employee's role in maintaining productive business. |
| | | Compare and contrast the ways in which emerging wireless tech impacts business globally. |
| | Computing Basics | |
| | | List the basic operating principles of digital computers. |
| | | Explore the basic operating principles of digital computers. |
| | | Analyze the ways major applications have changed the way we work and live. |
| | | List different ways computers are used. |
| | | Explain the idea of a "paperless society" and how computers support that. |
| | The Evolution of the Computer | |
| | | Describe the evolution of the computer and microprocessors. |
| | | Demonstrate an understanding of Moore's Law as it relates to miniaturization. |
| | | Identify persons with major contributions to the field of computing. |
| | | Describe analog and digital technology, convert between binary and decimal numbers, and define the terms bit and |

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| | | byte. |
| | Hardware Input and Output | <p>Define input and output.</p> <p>Explain and identify the pieces that make up the architecture of a computer system.</p> <p>Describe how the hardware components of a computer interact with one another.</p> <p>Understand terms and units used to describe major hardware components.</p> <p>Use information about the function, type, capabilities, size and speed of CPUs, motherboards, RAM, and hard drives to compare two computers.</p> |
| | Sound, Graphics, and Network Cards | <p>Explain the functions and characteristics of sound cards, graphics cards, and network cards.</p> <p>Explain the need for peripherals.</p> <p>Demonstrate proficiency with peripherals.</p> <p>Demonstrate proficiency in the use of a mouse and keyboard.</p> |
| | System Maintenance | <p>Define system maintenance and preventive measures.</p> <p>Describe consequences of not taking preventive measures.</p> <p>Install and configure hardware in a computer system.</p> <p>Troubleshoot problems with computer peripherals and office equipment.</p> |
| | Upgrade Computer Hardware | <p>Investigate different (hardware) upgrade considerations.</p> <p>Choose computers for specific purposes based on their commercial descriptions.</p> <p>Given a scenario, make recommendations to improve a computer system.</p> |

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| | | Define the process of planning upgrades and changeovers, and demonstrate knowledge of the process of planning upgrades and changeovers. |
| | | List the steps in setting up a new computer. |
| | Summary | |
| | Unit Test | |
| Operating Systems and Application Software | | |
| | Introduction | |
| | Software Overview | |
| | | Identify classes of system and application software and differentiate between them. |
| | | Compare and contrast the use of various software applications and their appropriate use. |
| | | Identify open source, free, and proprietary licenses, as well as their benefits and drawbacks. |
| | | Identify new and emerging classes of software, and demonstrate knowledge of the process of upgrading and changing software applications. |
| | Software Development | |
| | | Describe the development of software applications and the software development process. |
| | | Identify and define features common to most software applications. |
| | | Identify basic problems with application software. |
| | Computer Operating Systems | |
| | | Examine major operating system fundamentals and components. |
| | | Identify persons with major contributions to operating systems. |
| | | Examine the history and purpose of various OSes (such as DOS, Windows, OS X, iOS/Android). |
| | | Compare and contrast the differences among current Windows, Unix, and Macintosh operating systems. |
| | File Management | |

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| | | Demonstrate an understanding of file extensions and the purpose of file types across software products. |
| | | Match file extensions with their associated programs by differentiating among file types. |
| | | Demonstrate a working knowledge of standard file formats and identify file naming conventions in different operating systems. |
| | | Demonstrate proficiency with proper file management techniques and structure. |
| | | Identify the hierarchy of files and folders and find files and folders using specific file paths. |
| | File Management Tools | |
| | | Demonstrate proper use of system management tools. |
| | | Demonstrate using file protection and security. |
| | | Use file management tools to create folders and select, move, copy, cut, delete, rename, and sort files. |
| | | Practice viewing files in different ways (by icon, name, type, size, and date). |
| | | Use the trash or recycling features to safely manage file deletions and restore files. |
| | Web Browsers | |
| | | Examine what a web browser is, what it does (render web pages), and how it does this. |
| | | List and examine the major/most popular web browsers and their features. |
| | | Examine how URLs and associated URL protocols work. |
| | | Dissect and identify the various components of a URL (in other words, explain how to read and understand a URL). |
| | Summary | |
| | Unit Test | |
| Networks and the Internet | | |
| | Introduction | |
| | Network Basics | |

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| Unit | Lesson | Objectives |
| | | Describe what a network is. |
| | | Identify the role of servers and clients on a network. |
| | | Explain hierarchical addressing schemes. |
| | | Explain the benefits of a network. |
| | | Demonstrate knowledge of how data is passed in packets, and ways to deal with network failure. |
| | Evolution of Networks | |
| | | Investigate important events in the evolution of networks. |
| | | Analyze current trends and developments in networking. |
| | | Investigate the most common types of networks and differentiate between them. |
| | | Identify different types of networks and how they work. |
| | | Investigate networking terminology. |
| | Wireless Networks | |
| | | Investigate and analyze trends related to networking and wireless technology. |
| | | Describe how computers connect to wired and wireless networks. |
| | | Compare and contrast wired and wireless networks. |
| | Network Administration | |
| | | Demonstrate basic understanding of network administration by identifying the relationship between computer networks and other communications networks. |
| | | Describe communications hardware and software used in networking. |
| | | Identify and describe communications and networking systems used in workplace environments. |
| | | Identify and describe the functions of network operating systems. |
| | | Explain and apply troubleshooting techniques and strategies for fixing network connectivity issues. |

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| | History of the Internet | |
| | | Trace and outline the history and development of the Internet. |
| | | Trace the future of the Internet. |
| | | Explain the Internet's effect on computing and society. |
| | | Identify and examine persons with major contributions to the Internet. |
| | Ethical Issues on the Internet | |
| | | Demonstrate an understanding of how to use the Internet efficiently for work. |
| | | Analyze ethical issues and problems associated with computers and information systems. |
| | | Describe and analyze copyright laws related to file sharing and Internet regulatory control. |
| | | Explain and predict the consequences of software piracy on developers and the role of relevant enforcement organizations in software piracy. |
| | | Compare and contrast the pros and cons of hacking and cracking. |
| | Copyright and IP | |
| | | Explain intellectual property and examine the consequences of plagiarism. |
| | | Identify adherence to copyright rules and regulations and differentiate between copyright and trademarks. |
| | | Identify and explain the effects of technology crimes. |
| | | Examine the emergence of e-commerce and e-government and how it relates to intellectual property and describe the function of a non-disclosure agreement. |
| | | Explain the potential impact of e-commerce and e-government on business and society. |
| | Search on the Internet | |
| | | Identify criteria for conducting searches on the Internet. , including analyzing whether an online source is reputable or not. |
| | | Define ethical use of Internet/online resources using citations (both formal and informal). |

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| | | Examine the ethical and unethical use of Internet and online sources. |
| | | Demonstrate citing a source. |
| | Risks on the Internet | |
| | | Examine issues concerning Internet security (including computer viruses and spam) and online predators. |
| | | Explain and identify the risks/dangers of working on an insecure network/ or in an unsecured environment. |
| | | Analyze the benefits and risks of networked computing. |
| | | Identify the risks of posting personal and work information on the Internet as it relates to identity theft (and other potential dangers). |
| | Improving Network Security | |
| | | Identify network security issues and describe methods that help protect against security attacks. |
| | | Compare and contrast anti-virus software. |
| | | Explain the purpose of a firewall. |
| | | Explain the purpose of spyware/adware and describe methods for protecting against it. |
| | | Explain how and by whom encryption is used on a daily basis. |
| | Summary | |
| | Unit Test | |
| | HTML and the Web | |
| | Introduction | |
| | Web Pages | |
| | | Identify and describe web terminology and the elements of a web page. |
| | | Identify and describe design principles related to web page design. |
| | | Identify individual web page layouts and content. |

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| | | Identify and describe types and styles of typeface used for web publications, including serif and sans serif, and analyze reasons for using one typeface instead of another. |
| | | Identify and explain the terminology and need for interactive media and web-based applications, including things like Adobe Flash and Ajax. |
| | Investigate Web Design | |
| | | Analyze design elements of professional web sites by evaluating the use of theme and navigational links. |
| | | Analyze and develop an awareness of acceptable and excellent web page design. |
| | | Identify and critique the layout, navigation, and accessibility of a web site based on its purpose. |
| | HTML Basics | |
| | | Identify and describe the purpose of basic HTML. |
| | | Analyze basic HTML. |
| | Create a Web Page | |
| | | Identify the terminology associated with web page editing software and its functions. |
| | | Create a Web page with links, graphics, text with basic HTML tags, bulleted lists, and an email address. |
| | | Write HTML code using an HTML editor and then render it using a Web browser. |
| | Use CSS to Design a Web Page | |
| | | Learn about CSS and why it's used, and then apply basic CSS to style HTML. |
| | | Use CSS to express the design of a website. |
| | | Demonstrate the ability to use various web development software programs. |
| | | Compare and contrast creating a web page manually versus using a WYSIWYG editor. |
| | Add Images to a Web Page | |
| | | Create a web page with images. |
| | | Examine color theory as it relates to web page design and legibility. |

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| | | Apply color theory to choose strong color choices for a web page's background and text color. |
| | | Use CSS to change the text and background color and appearance of a web page. |
| | Publish to the Web | |
| | | Identify a website host for publishing a website. |
| | | Investigate how to determine the preferred procedures for posting/publishing a website using the selected website host. |
| | | Investigate how to make decisions about how often the site should be updated, who will change the content, and who will maintain the site. |
| | | List steps necessary to take in order to publish a website to the Internet. |
| | | Demonstrate knowledge about publishing to the Internet. |
| | Summary | |
| | Unit Test | |
| General Workplace Skills | | |
| | Introduction | |
| | Communication Skills | |
| | | Identify how to employ effective verbal and nonverbal communication skills. |
| | | Demonstrate communicating effectively to customers, coworkers, and supervisors with appropriate speaking and listening skills and nonverbal communication skills. |
| | | Define customer-service skills: in-person. |
| | | Define customer-service skills: telephone. |
| | | Demonstrate techniques for determining and addressing customer needs using in-person, telephone, and email customer service skills. |
| | Positive Personal Qualities in the Workplace | |

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| | | Identify and demonstrate positive personal qualities, such as flexibility, open-mindedness, showing initiative, and being willing to learn new concepts and skills. |
| | | Demonstrate recognizing a professional appearance for the workplace. |
| | | Examine critical thinking and problem-solving skills, and demonstrate creativity and resourcefulness. |
| | | Organize ideas and then create IT-related oral and written messages to communicate those ideas. |
| | Diversity in the Workplace | |
| | | Identify gender and diversity issues in computing and IT. |
| | | Analyze diversity awareness. |
| | | Explain the importance of conflict resolution skills and being able to accept constructive criticism. |
| | | Demonstrate an ability to accept constructive criticism. |
| | Positive Work Ethic | |
| | | Demonstrate awareness of business ethics, workplace rules, regulations, policies, procedures, and processes. |
| | | Demonstrate an understanding of the work ethics, behavior, and legal responsibilities employees commit to in the workplace. |
| | | Demonstrate a positive work ethic, having a positive attitude toward taking direction, and motivation toward accomplishing tasks. |
| | Teamwork and Collaboration | |
| | | Demonstrate initiative, courtesy, loyalty, honesty, cooperation, and punctuality as a team member. |
| | | Demonstrate teamwork. |
| | | Formulate a plan for collaborating to solve an IT problem. |
| | | Demonstrate leadership skills in a team. |
| | | Apply leadership and teamwork skills to accomplish goals. |
| | Assessment in the Workplace | |

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| | | Understand best practices for assessing personal, peer, and group performance. |
| | | Identify and implement strategies for improving performance, such as organizational skills, note taking, making outlines, reasoning skills, problem solving skills, and decision making skills. |
| | | Develop criteria for assessing the effectiveness of products and processes in business (project management). |
| | Project Management Skills | |
| | | Demonstrate planning, time-management, storyboarding, and project management skills. |
| | | Demonstrate an awareness of project management concepts and tools. |
| | | Demonstrate how to work efficiently by using time, task, and resource-management skills. |
| | Parts of an Email Message | |
| | | Breakdown email purposes, capabilities and functions. |
| | | Identify components of an email message, such as address, to, from, subject, and body. |
| | | Identify when to use different email options, such as cc, bcc, email attachments, and forwarding. |
| | | Demonstrate an awareness of how to use an email program's address book. |
| | Appropriate Email Use | |
| | | Identify the appropriate use of e-mail and common problems associated with e-mail. |
| | | Demonstrate e-mail etiquette. |
| | | Describe principles of e-mail and Internet etiquette. |
| | | Identify when to include (quote) from an original e-mail message in a response. |
| | | Respond to and utilize information derived from e-mail to solve business problems and complete business tasks. |
| | Organizations | |
| | | Explore and analyze the structures and work cultures of different organizations. |
| | | Examine how an organization's strategic and operational plans are formulated, including how it uses planning tools. |

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| | | Examine the impact of an organization's management structure and culture on operations. |
| | | Examine processes for accomplishing an organization's goals using available resources. |
| | Organizational Responsibilities | |
| | | Analyze organizational responsibilities as they relate to labor issues, worker rights and responsibilities, wages, benefits, and working conditions, including workers' health and safety. |
| | | Demonstrate an understanding of how safety, health, and environmental management systems are employed in a corporation. |
| | | Examine an industry/organization's responsibilities for its workers' health and safety. |
| | | Examine laws, regulations, and practices affecting workers' health and safety in an industry. |
| | | Demonstrate an understanding of the importance of following safety guidelines. |
| | Summary | |
| | Unit Test | |
| | Cumulative Exam | |
| | Cumulative Exam Review | |
| | Cumulative Exam | |
| | Course Software Installation | |
| | Install the Software | |
| | Spreadsheets and Presentations | |
| | Introduction | |
| | Spreadsheet Basics | |
| | | Identify key features and functions of spreadsheet software. |
| | | Identify terminology associated with spreadsheet software. |
| | | Describe the ways in which spreadsheets are used to solve real-world business problems. |

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| Unit | Lesson | Objectives |
| | Create and Use a Spreadsheet | <p>Create and format a spreadsheet that incorporates textual and numeric content.</p> <p>Use functions to perform basic calculations, such as addition, subtraction, multiplication, and division.</p> <p>Explore formulas and the order of operations principle.</p> |
| | Use Spreadsheet Functions and Formulas | <p>Use a spreadsheet program's built-in functions to produce a business document.</p> <p>Create formulas to produce a business document.</p> |
| | Advanced Spreadsheet Features | <p>Describe subtotals, cell protection, and conditional formatting.</p> <p>Describe lookup tables and nested IF statements.</p> <p>Identify common types of charts and graphs.</p> <p>Analyze advanced spreadsheets.</p> |
| | Create Advanced Spreadsheets | <p>Use subtotals, cell protection, and conditional formatting.</p> <p>Use lookup tables and nested IF statements.</p> <p>Generate charts and graphs.</p> |
| | Spreadsheets and Data Management | <p>Identify data management procedures.</p> <p>Describe the use of simple search parameters to locate, sort, and filter data.</p> <p>Describe the use of multiple search parameters to locate, sort, and filter data.</p> |

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| | Presentation Software | |
| | | Identify the basic features of presentation software. |
| | | Identify advanced features of presentation software. |
| | | Describe terminology associated with presentation software. |
| | | Identify common uses of presentations in business. |
| | Create a Presentation | |
| | | Identify the parts of a presentation. |
| | | Identify ways to enhance communication in a presentation. |
| | | Create, save, edit, and print a presentation with handouts and speaker notes. |
| | Summary | |
| | Unit Test | |
| Creating Multimedia | | |
| | Introduction | |
| | Digital Images | |
| | | Understand how images are digitized and displayed. |
| | | Distinguish between raster and vector graphics. |
| | | Compare and contrast image file formats. |
| | | Identify resources used to access and digitize graphics. |
| | Create and Edit Images | |
| | | Identify and compare the different kinds of graphic art software. |
| | | Use image editing software to create and edit a digital image. |
| | Digital Audio | |

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| Unit | Lesson | Objectives |
| | | Describe how sound is digitized and reproduced. |
| | | Identify and compare audio file formats. |
| | Audio Editing Techniques | |
| | | Describe audio editing software. |
| | | Analyze techniques for editing a digital audio file. |
| | Digital Video | |
| | | Describe how video is digitized and reproduced |
| | | Identify and compare video file formats and encoding methods |
| | Create a Multimedia Presentation | |
| | | Differentiate between linear and non-linear presentations. |
| | | Incorporate hyperlinks in a presentation. |
| | | Incorporate digital images and audio in a presentation. |
| | Word Processing Software Basics | |
| | | Identify key features and functions of word processing software. |
| | | Identify terminology associated with word processing software. |
| | | Understand how word processing software is used in the real world. |
| | Create and Format a Letter | |
| | | Identify the characteristics of a professional letter. |
| | | Identify word processing features that are useful for letter writing and formatting. |
| | | Use word processing features to create and format a letter. |
| | Format a Research Paper | |

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| | | Understand the use of style guidelines for formatting academic papers. |
| | | Identify commonly used style guidelines for academic papers (APA, MLA, CSE, ACS) and the disciplines in which they are used. |
| | | Format a multi-page research paper according to a set of approved style guidelines. |
| | Create a Business Card and a Flyer | |
| | | Define desktop publishing. |
| | | Identify desktop publishing features in a word processing program. |
| | | Create a business card. |
| | | Create an advertising flyer. |
| | Summary | |
| | Unit Test | |
| Databases | | |
| | Introduction | |
| | Databases | |
| | | Define database. |
| | | Distinguish databases from spreadsheets. |
| | | Identify basic components of databases. |
| | | Identify common uses of databases in business. |
| | Database Software Basics | |
| | | Identify key features of database software. |
| | | Explore forms. |
| | | Explore queries and reports. |

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| | Relating Fields and Records | <p>Discuss the difference between flat files and relational databases.</p> <p>Describe how fields and records in different tables are related.</p> <p>Describe primary keys.</p> <p>Analyze the table relationships of a database.</p> |
| | Creating a Database | <p>Discuss when to create a database.</p> <p>Describe how to organize information in fields of data.</p> <p>Describe how to choose a primary key.</p> <p>Discuss the steps necessary to prepare for creating a database.</p> |
| | Locate and Sort Data | <p>Use tools to locate data in a database.</p> <p>Use tools to sort data in a database.</p> |
| | Query Data | <p>Identify the uses of queries in a database.</p> <p>Create and run simple queries.</p> <p>Create and run complex queries.</p> |
| | Export Data | <p>Identify options for exporting query data.</p> <p>Use database tools to export query data to a spreadsheet.</p> <p>Use database tools to export query data to a document.</p> |
| | Using Reports to Communicate | |

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| | Data | |
| | | Identify different kinds of data reports. |
| | | Describe how to use reports to communicate data effectively. |
| | | Describe how to use tools to include calculated figures in reports. |
| | Summary | |
| | Unit Test | |
| Introduction to Programming | | |
| | Introduction | |
| | Programming Overview | |
| | | Define computer program, programming, and programming language. |
| | | Discuss the history and development of programming languages. |
| | | Identify persons who contributed significantly to the field of computer programming. |
| | Algorithms | |
| | | Define and describe the purpose of algorithms. |
| | | Identify examples of algorithmic problem solving in everyday life. |
| | Programming Design | |
| | | Define and discuss the significance of programming design. |
| | | Identify three types of programming design. |
| | | Define and discuss top-down programming design. |
| | | Define and discuss structured programming design. |
| | | Define and discuss object-oriented programming design. |
| | Logic Problems | |

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| | | Define logic and logic problems in relation to computer programming. |
| | | Give examples of logic problems in relation to computer programming. |
| | | Identify and discuss strategies for solving logic problems. |
| | Writing a Problem Statement | |
| | | Define problem statement. |
| | | Describe the importance of writing problem statements when designing software. |
| | | Identify characteristics of effective problem statements. |
| | | Analyze writing a problem statement. |
| | Exploring a Problem and Communicating a Solution | |
| | | Describe strategies used to explore a problem. |
| | | Explain how to communicate the design of an algorithm and the flow of data. |
| | Using Flowcharts and Pseudocode | |
| | | Communicate the design of a program in a flowchart. |
| | | Communicate the design of a program in pseudocode. |
| | | Analyze the use of flowcharts and pseudocode in designing a computer program. |
| | Summary | |
| | Unit Test | |
| Writing and Testing Code | | |
| | Introduction | |
| | Variables and Data Types | |
| | | Define and discuss the use of variables. |

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| Unit | Lesson | Objectives |
| | | Define and discuss the use of data types. |
| | | Identify common data types used in programming. |
| | Functions, Procedures, Arguments and Parameters | |
| | | Define and discuss the use of procedures and functions. |
| | | Analyze the similarities and differences between procedures and functions. |
| | | Define and discuss the use of parameters and arguments. |
| | Conditional Statements | |
| | | Define and discuss the use of conditional statements in computer programming. |
| | | Analyze the use of if statements. |
| | | Analyze the use of else and elif statements. |
| | Iteration | |
| | | Define and describe the use of iteration in computer programming. |
| | | Identify the use of iteration to repeat a set of programming instructions. |
| | Internal Data Representation | |
| | | Describe computer numbering systems and internal data representation. |
| | | Identify binary, octal, decimal, and hexadecimal number systems. |
| | | Describe how to convert between binary and decimal number systems. |
| | Integrated Development Environments | |
| | | Define integrated development environment (IDE). |
| | | Identify the components of an IDE and the purpose of each. |
| | | Describe and differentiate between compilers and interpreters. |

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| Unit | Lesson | Objectives |
| | | Identify popular IDEs. |
| | Resources for Programmers | |
| | | Identify reference materials for computer programming. |
| | | Identify other resources for computer programming. |
| | Program with Variables | |
| | | Describe naming conventions for variables. |
| | | Describe the importance of using correct syntax. |
| | | Create variables of different data types and use them in code. |
| | Program with Functions and Arguments | |
| | | Analyze the use of syntax when using functions and arguments. |
| | | Write a function, with and without an argument. |
| | Testing and Fixing Code | |
| | | Describe the process of testing code. |
| | | Describe the process of fixing and verifying code. |
| | Summary | |
| | Unit Test | |
| Programming with Lists and Loops | | |
| | Introduction | |
| | Use Conditional Statements | |
| | | Use if-then statements in a program. |
| | | Use else-if statements in a program. |

| TX-Principles of Information Technology | | Scope and Sequence |
|---|------------------------|--|
| Unit | Lesson | Objectives |
| | Use Data Structures | <p>Define and give examples of ordered data structures.</p> <p>Use a list and list methods in a program.</p> <p>Describe an array and how it differs from a list.</p> |
| | Use Iteration | <p>Use iteration to repeat a set of programming instructions.</p> <p>Use iteration to change an ordered data structure.</p> |
| | Readable Code | <p>Define readable code.</p> <p>Identify the characteristics of readable code.</p> <p>Discuss the importance of writing code that is readable.</p> <p>Analyze how code formatting improves readability.</p> |
| | Encode and Decode Text | <p>Define and discuss the use of character encoding.</p> <p>Define and differentiate between ASCII and Unicode character encoding.</p> <p>Write a program to encode a text string in Unicode.</p> <p>Write a program to decode a Unicode character encoding into text.</p> |
| | Types of Errors | <p>Define errors in the context of computer programming.</p> <p>Identify three types of errors.</p> <p>Define and discuss syntax errors.</p> <p>Define and discuss run-time errors.</p> |

| TX-Principles of Information Technology | | Scope and Sequence |
|---|------------------------|--|
| Unit | Lesson | Objectives |
| | | Define and discuss logic errors. |
| | Debugging a Program | |
| | | Define bugs and debugging. |
| | | Define and differentiate between diagnosing and troubleshooting. |
| | | Debug a program. |
| | Summary | |
| | Unit Test | |
| Cumulative Exam | | |
| | Cumulative Exam Review | |
| | Cumulative Exam | |