



Principles of Information Technology (Proc 17)

PRE-TEST/POST-TEST TEKS BLUEPRINT

Pre-Test/Post-Test Development Overview

TEKS Addressed Selection Process

The Texas Essential Knowledge & Skills (TEKS) included in the course pre-test and post-test were selected for their direct relevance to the course content. This selection process was guided by the goal of assessing learners' understanding of specific topics and skills that are integral to the course. As a result, TEKS related to general employability skills or broader topics were often excluded. This focus ensures that the assessments accurately measure students' mastery of the subject matter, allowing educators to gain a clear insight into areas where students excel or may need additional support. By concentrating on content-specific TEKS, the tests provide a more precise evaluation of the students' knowledge and understanding of the core material.

Test Question Development Process

The questions created for the pre-test and post-test were designed using psychometric principles to ensure they are of high quality and fairness. This approach helps to accurately assess student understanding. These principles guide the development of questions to be reliable, valid, and free from bias, ensuring that they effectively measure the knowledge and skills the students are expected to acquire in the course.

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Knowledge & Skills Statement	Student Expectation	iCEV Lesson Title
(3) The student uses evolving and emerging technologies to exchange information. The student is expected to:	(A) identify and describe functions of various evolving and emerging technologies	Emerging Technologies
(3) The student uses evolving and emerging technologies to exchange information. The student is expected to:	(C) demonstrate effective Internet search strategies, including keywords and Boolean logic, using various available search engines	Internet Basics
(3) The student uses evolving and emerging technologies to exchange information. The student is expected to:	(D) identify the various components of a Uniform Resource Locator	Internet Basics
(3) The student uses evolving and emerging technologies to exchange information. The student is expected to:	(E) demonstrate ability to effectively test acquired information from the Internet for accuracy, relevance, and validity	Internet Basics
(3) The student uses evolving and emerging technologies to exchange information. The student is expected to:	(F) explain issues concerning computer-based threats such as computer viruses, malware, and hacking	Web Ethics & Safety
(4) The student demonstrates knowledge of the hardware components associated with information systems. The student is expected to:	(A) identify major hardware components and their functions	Introduction to Computers
(4) The student demonstrates knowledge of the hardware components associated with information systems. The student is expected to:	(B) use available reference tools as appropriate	Workplace Technology
(4) The student demonstrates knowledge of the hardware components associated with information systems. The student is expected to:	(C) connect and use a variety of peripheral devices such as mouse, keyboard, microphone, digital camera, and printer	Introduction to Computers
(5) The student demonstrates knowledge of the different software associated with information systems. The student is expected to:	(A) differentiate between systems and application software	Introduction to Computers
(5) The student demonstrates knowledge of the different software associated with information systems. The student is expected to:	(B) identify and explain major operating system fundamentals and components such as disk operations, graphical user interface components, and hardware drivers	Operating Systems & Networking
(5) The student demonstrates knowledge of the different software associated with information systems. The student is expected to:	(D) demonstrate use of computer numbering systems and internal data representation such as identifying the hexadecimal value of a color	Principles of Computer Programming
(5) The student demonstrates knowledge of the different software associated with information systems. The student is expected to:	(E) compare and contrast open source and proprietary software	Workplace Technology
(5) The student demonstrates knowledge of the different software associated with information systems. The student is expected to:	(F) explain use of system management tools	Operating Systems & Networking
(5) The student demonstrates knowledge of the different software associated with information systems. The student is expected to:	(G) apply proper file management techniques such as creating, naming, organizing, copying, moving, and deleting files	Windows Operating Systems Basics OR Operating Systems & Networking
(5) The student demonstrates knowledge of the different software associated with information systems. The student is expected to:	(I) explain the process for discovering, quarantining, and removing viruses from a computer system	Computer Worms & Viruses
(6) The student analyzes network systems. The student is expected to:	(A) identify hardware associated with telecommunications and data networking such as servers, routers, switches, and network connectors	Operating Systems & Networking
(6) The student analyzes network systems. The student is expected to:	(B) identify and describe various types of networks such as peerto- peer, local area networks, wide area networks, wireless and Ethernet	Operating Systems & Networking
(6) The student analyzes network systems. The student is expected to:	(C) identify functions of network operating systems	Operating Systems & Networking
(6) The student analyzes network systems. The student is expected to:	(D) explain troubleshooting techniques for various network connection issues	Operating Systems & Networking
(7) The student applies wordprocessing technology. The student is expected to:	(A) identify the terminology associated with word-processing software	Introduction to Microsoft® Office - Unit 1 (Word)
(7) The student applies wordprocessing technology. The student is expected to:	(B) edit a variety of text documents using functions such as pagination, appropriate white space, tab settings, and font style, size, and color	Introduction to Microsoft® Office - Unit 1 (Word)

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(8) The student applies spreadsheet technology. The student is expected to:	(F) perform sorting, searching, and data filtering in documents	Microsoft® Excel Advanced - Unit 1 (Review of Basic Skills)
(8) The student applies spreadsheet technology. The student is expected to:	(A) identify the terminology associated with spreadsheet software	Introduction to Microsoft® Office - Unit 3 (Excel)
(8) The student applies spreadsheet technology. The student is expected to:	(B) use numerical content to perform mathematical calculations	Introduction to Microsoft® Office - Unit 3 (Excel)
(8) The student applies spreadsheet technology. The student is expected to:	(C) use student-created and preprogrammed functions to produce documents such as budget, payroll, statistical tables, and personal checkbook register	Microsoft® Excel Advanced - Unit 3 (Advanced Worksheets)
(8) The student applies spreadsheet technology. The student is expected to:	(E) create and analyze spreadsheets incorporating advanced features such as lookup tables, nested IF statements, subtotals, cell protection conditional formatting, charts, and graphs	Microsoft® Excel Advanced - Unit 6 (Advanced Functions)
(9) The student explores computer programming concepts. The student is expected to:	(A) identify the function of compilers and interpreters	Principles of Computer Programming
(9) The student explores computer programming concepts. The student is expected to:	(B) explain the difference between the operation of compilers and interpreters	Principles of Computer Programming
(9) The student explores computer programming concepts. The student is expected to:	(C) identify various computer languages and how the languages are used in software development	Principles of Computer Programming
(9) The student explores computer programming concepts. The student is expected to:	(D) recognize data representation in software development such as string, numeric, character, integer, and date	Principles of Computer Programming
(9) The student explores computer programming concepts. The student is expected to:	(E) identify and explain the concept of algorithms	Principles of Computer Programming
(9) The student explores computer programming concepts. The student is expected to:	(F) describe the flow of a structured algorithm, including linear and iterative instructions such as using a flow chart	Principles of Computer Programming
(10) The student explores database technology. The student is expected to:	(A) identify the terminology associated with database software and database functions	Introduction to Microsoft® Office- Unit 4 (Access)
(10) The student explores database technology. The student is expected to:	(B) explore the application of databases	Introduction to Microsoft® Office- Unit 4 (Access)
(10) The student explores database technology. The student is expected to:	(C) identify and explain the purpose and elements of a query language	Introduction to Microsoft® Office- Unit 4 (Access)
(10) The student explores database technology. The student is expected to:	(D) identify and explain the purpose of fields and records	Introduction to Microsoft® Office- Unit 4 (Access)
(10) The student explores database technology. The student is expected to:	(E) describe the process of constructing a query, including multiple search parameters	Introduction to Microsoft® Office- Unit 4 (Access)
(11) The student applies presentation management technology. The student is expected to:	(A) identify the terminology and functions of presentation software	Introduction to Microsoft® Office - Unit 2 (PowerPoint)
(11) The student applies presentation management technology. The student is expected to:	(B) create, save, edit, and produce presentations incorporating advanced features such as links, hyperlinks, audio, and graphics	Microsoft® PowerPoint Advanced - Unit 4 (Adding Media to Presentations)
(12) The student applies design and web publishing techniques. The student is expected to:	(A) identify the terminology associated with web page development and interactive media	Building & Maintaining a Website
(12) The student applies design and web publishing techniques. The student is expected to:	(B) identify and explain design elements such as typeface, color, shape, texture, space, and form	Web Content
(12) The student applies design and web publishing techniques. The student is expected to:	(C) identify and explain design principles such as unity, harmony, balance, scale, and contrast	Web Content
(12) The student applies design and web publishing techniques. The student is expected to:	(D) identify and explain common elements of Hyper Text Markup Language (HTML) such as tags, stylesheets, and hyperlinks	Web Authoring Software & Languages
(12) The student applies design and web publishing techniques. The student is expected to:	(E) create a web page containing links, graphics, and text using appropriate design principles	Web Authoring Software & Languages
(13) The student understands and demonstrates legal and ethical procedures as they apply to the use of information technology. The student is expected to:	(A) explain and demonstrate ethical use of technology and online resources	Web Ethics & E-Issues

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(13) The student understands and demonstrates legal and ethical procedures as they apply to the use of information technology. The student is expected to:	(B) adhere to intellectual property laws	Web Ethics & E-Issues
(13) The student understands and demonstrates legal and ethical procedures as they apply to the use of information technology. The student is expected to:	(C) explain the concept of intellectual property laws, including copyright, trademarks, and patents and consequences of violating each type of law	E-Ethics
(13) The student understands and demonstrates legal and ethical procedures as they apply to the use of information technology. The student is expected to:	(D) examine the consequences of plagiarism	Web Ethics & E-Issues
(13) The student understands and demonstrates legal and ethical procedures as they apply to the use of information technology. The student is expected to:	(E) identify and explain unethical practices such as hacking, online piracy, and data vandalism	Web Ethics & E-Issues
(13) The student understands and demonstrates legal and ethical procedures as they apply to the use of information technology. The student is expected to:	(F) demonstrate ethical use of online resources, including citation of source	Web Ethics & Safety