



CTE Course: §120.65 BCP Business Computer Programming

Unit Name					
Academic Alignment with TEKS	CTE TEKS	Content/Vocabulary	Guiding Questions	Activities	Resources and Web links
ELA 110.42. b.1-8 110.43. b.1-8 110.44. b.1-8 110.45. b.1-8	TEKS (1) The student identifies employment opportunities in various business environments. The student is expected to:	System Analyst IT Software Engineer Database Administrator Computer Programmer Computer Science Computer Engineer Web Designer MIS Compile, link, run design	(A) identify positions and career paths in the field of computer information systems, for example, programmer, and system analyst; (B) identify common tasks performed by computer information systems workers; and (C) research education, experience, skills, and personal requirements for careers in computer information systems.	CS jobs research paper UT CS video, graphics presentations and handouts College personnel and recruiter visits and class presentations UT CS roadshow	All college websites Government OCE catalog
ELA 110.43. b.10-13	TEKS (2) The student differentiates the concepts of integrity and confidentiality as related to technology in the business environment. The student is expected to:	Computer ethics Computer piracy Computer privacy Hacker / cracker Internet Plagiarism Open source Download	(A) define business ethics; (B) define honest and dishonest business practices; and (C) analyze the effects of unethical practices on a business.	CS special topics research and product presentation Ethics paper Classroom procedures and rationale	



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<p>ELA 110.42. b.1-8 110.43. b.1-8 110.44. b.1-8 110.45. b.1-8</p>	<p>TEKS</p> <p>(3) The student analyzes programming languages and operating systems. The student is expected to:</p>	<p>Machine code Source code Binary Hexadecimal Assembly language Object code Device driver Microsoft OS Unix/Linux High Level language Executable Processor dependent RAM CPU Memory secondary storage bus disk usb</p>	<p>(A) identify the types and levels of programming languages and operating systems;</p> <p>(B) identify emerging languages and operating systems;</p> <p>(C) identify the functions and features of different languages and operating systems; and</p> <p>(D) select language and operating systems appropriate to specific hardware and software.</p>	<p>Computer languages lesson(s), worksheet(s), quiz, etc.</p> <p>Why C++ lesson and discussion</p> <p>Alice, Jeroo, C++ programs assignments</p>	
<p>Science IP&C 112.42. c.2-3 Math: Geometry 111.34. b.G3 111.34. b.G4 PreCalculus 111.35.c.P3 SocialStudies 113.32.c.26</p>	<p>TEKS</p> <p>(4) The student solves problems using different types and levels of programming languages. The student is expected to:</p>	<p>Design Pseudocode Implement Algorithm Syntax Compile, link, run Source code, object code, executable code Jeroo Alice C++ Java Operator precedence Delimiter Selection structure Condition Logical operator Relational operator Real vs. integer and math</p>	<p>(A) illustrate the use of various types of languages and operating systems;</p> <p>(B) interpret source and object codes;</p> <p>(C) solve business programming applications using appropriate software;</p> <p>(D) produce business programs using structured coding with appropriate style and clarity of expression;</p> <p>(E) develop code with correct and efficient use of constant and variable data;</p>	<p>Alice, Jeroo, C++ programs assignments.</p> <p>Alice Project Jeroo Project C++ programs Graphics Project</p> <p>Book assignments</p> <p>Free Response test sections</p>	



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		Design Pseudocode Implement Algorithm Syntax Compile, link, run Source code, object code, executable code Jeroo Alice C++ Java Operator precedence Delimiter Selection structure Condition Logical operator Relational operator Real vs. integer and math Test Design Verification/validation	(F) develop code with correct and efficient use of sequential, conditional, and repetitive control structures; (G) demonstrate skill in testing for program correctness using effective coding, design, and test data; (H) compare computed results with estimated results to determine the reasonableness of the solutions; (I) recognize, describe, and predict patterns of data; (J) troubleshoot technological problems; and (K) import, export, and merge data stored in different formats.	Debug programs Selection Structures unit -programs -book assignments Output statements to test	
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<p>Math: Geometry 111.34. b.G3 111.34. b.G4 PreCalculus 111.35.c.P3 Algebra I 111.32. 1.1-5 SocialStudies 113.32.c.26</p>	<p>TEKS</p> <p>(5) The student solves problems using analytical techniques. The student is expected to:</p>	<p>Pseudocode Story board Top down design OOP Object Oriented Design Bottom up testing Module Software development cycle Software life cycle Functional breakdown Algorithm Requirements document Design document</p>	<p>(A) organize ideas through thematic webbing, idea-mapping, outlining, pseudocoding, and other techniques;</p> <p>(B) identify and describe various structured analysis and design methodologies; and</p> <p>(C) analyze a problem by formulating a structured approach.</p>	<p>Storyboarding</p> <p>Program design (Esp. large projects like battleship)</p> <p>Pseudocode design</p> <p>Book assignments</p> <p>Free Response test sections</p>	
<p>ELA 110.43. b.10-13</p>	<p>TEKS</p> <p>(6) The student applies procedures for maintaining the security of computerized information. The student is expected to:</p>	<p>Hacker / cracker Internet privacy Copyright Identity theft Network Internet Crash Logic error Runtime error Computer ethics</p>	<p>(A) identify risks to information systems facilities, data, communications systems, and applications;</p> <p>(B) identify federal and state legislation pertaining to computer crime, fraud, and abuse;</p> <p>(C) identify and select controls for information systems facilities, data, communications, and applications appropriate to specific risks; and</p> <p>(D) apply procedures used to restart and recover from situations such as system failure and computer virus.</p>	<p>Discussion</p> <p>Student paper/product on Special topic</p>	