CompuScholar, Inc.

Correlations to the Texas Essential Knowledge and Skills (TEKS): Computer Programming I

Texas Course Details:

Chapter	Chapter 130. Texas Essential Knowledge and Skills for CTE
Subchapter	Subchapter K. Information Technology
Course	§130.309. Computer Programming I (One-Credit), Adopted 2015
TEKS Coverage	100%

CompuScholar Course Details:

Course Title:	Python Programming
Course ISBN:	978-1-946113-00-9
Course Year:	2019
Course Length:	1 semester (0.5 credits)

Note 1: Citation(s) listed may represent a subset of the instances where objectives are met throughout the course.

Note 2: Citation(s) for a "Lesson" refer to the "Lesson Text" elements and associated "Activities" within the course, unless otherwise noted. The "Instructional Video" components are supplements designed to introduce or re-enforce the main lesson concepts, and the Lesson Text contains full details.

Note 3: Python Programming was intentionally written as a single-semester course, intended for both middle and high school students. While it meets Computer Programming I standards as described below, districts may wish to utilize addiitonal material in the second semster for a full credit.

Course Standards

Knowledge and Skills Statement: (1) The student demonstrates the necessary skills for career development, maintenance of employability, and successful completion of course outcomes. The student is expected to:	
Student Expectation	**Citation(s)**
(1.A) employ effective reading and writing skills	Chapter 13, Lessons 1, 2 Supplemental Chapter 2
(1.B) employ effective verbal and nonverbal communication skills	Chapter 13 (Team Project)
(1.C) solve problems and think critically	Chapter 5 Supplemental Chapters 2, 4
(1.D) demonstrate leadership skills and function effectively as a team member	Chapter 13 (Team Project)
(1.E) demonstrate an understanding of legal and ethical responsibilities in relation to the field of IT	Supplemental Chapter 2

(1.F) demonstrate planning and time-management skills such as project management, including initiating, planning, executing, monitoring, and controlling, and closing a project	Supplemental Chapter 3
(1.G) identify job opportunities and accompanying job duties and tasks	Supplemental Chapter 3, Lessons 4, 5

Knowledge and Skills Statement: (2) The student differentiates the concepts of integrity and confidentiality as related to technology in the business environment. The student is expected to:	
Student Expectation	**Citation(s)**
(2.A) define business ethics	Supplemental Chapter 2, Lessons 1, 2
(2.B) distinguish between honest and dishonest business practices	Supplemental Chapter 2, Lessons 1, 2
(2.C) examine copyright and licensing issues in the software industry	Supplemental Chapter 2, Lessons 1, 2
(2.D) analyze the effects of unethical practices on a business	Supplemental Chapter 2, Lessons 1, 2

Knowledge and Skills Statement: (3) The student identifies and analyzes the client project software needs and requirements. The student is expected to:	
Student Expectation	**Citation(s)**
(3.A) gather data to identify client and project requirements	Chapter 13
(3.B) identify input and output requirements	Chapter 13
(3.C) identify system processing requirements	Chapter 13
(3.D) develop program requirements and specifications	Chapter 13

Knowledge and Skills Statement: (4) The student develops an IT-based project plan to solve a specific problem. The student is expected to:	
Student Expectation	**Citation(s)**
(4.A) define scope of work to meet client-based project needs	Chapter 13
(4.B) identify software development processes and issues	Chapter 13
(4.B) identify software development processes and issues	Chapter 13
(4.C) explain the software system life cycle approach	Chapter 13

Knowledge and Skills Statement: (5) The student designs a software application plan. The student is expected to:	
Student Expectation	**Citation(s)**
(5.A) articulate the principles of system design such as procedural, object-oriented, and event-driven processes	Chapters 9, 10, 11
(5.B) perform a logical design using appropriate software tools	Chapter 13 Supplemental Chapter 3, Lesson 3
(5.C) apply algorithmic and data structure concepts	Chapters 6, 13 Supplemental Chapter 3, Lesson 3
(5.D) identify constraints	Chapter 5, Lesson 1 Chapter 13
(5.E) identify modular design concepts	Chapters 9, 10, 11
(5.F) document the design specification using a defined procedure	Chapter 13, Activity 2

Knowledge and Skills Statement: (6) The student solves problems using different types and levels of programming languages and quality assurances. The student is expected to:	
Student Expectation	**Citation(s)**
(6.A) differentiate among the concepts of data such as procedural, object-oriented, and event-driven representation	Chapters 9, 10, 11
(6.B) identify current programming languages and the environment in which each is used	Chapter 1, Lesson 1 Supplemental Chapter 1
(6.C) produce procedural and object-oriented programs using structured coding with appropriate style and clarity of expression	Chapter 1, Lesson 3 Chapters 9, 10, 11 Students will receive instruction and write programs using multiple procedural coding concepts (variables, loops, functions, etc.) throughout the course.
(6.D) demonstrate skill in program testing	Chapter 5 Chapter 13, Activity 4
(6.E) compare computed results with anticipated results to determine the reasonableness of the solutions	Chapter 5 Chapter 13, Activity 4
(6.F) troubleshoot technological problems	Chapter 5 Chapter 13, Activity 4
(6.G) explain the software quality assurance process	Chapter 5 Chapter 13, Activity 4
(6.H) follow established quality assurance procedures for testing, identifying problems, and tracking resolutions	Chapter 5 Chapter 13, Activity 4

Knowledge and Skills Statement: (7) The student recognizes issues and complies with procedures for maintaining the security of computerized information. The student is expected to:	
Student Expectation	**Citation(s)**
(7.A) identify risks to information systems facilities, data communications systems, and applications	Supplemental Chapter 2, Lessons 3, 4
(7.B) comply with federal and state legislation pertaining to computer crime, fraud, and abuse	Supplemental Chapter 2, Lessons 3, 4
(7.C) identify and select controls for information systems facilities, data communications, and applications appropriate to specific risks	Supplemental Chapter 2, Lessons 3, 4
(7.D) apply procedures used to recover from situations such as system failure and computer virus	Supplemental Chapter 2, Lessons 3, 4