

## CompuScholar, Inc.

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

#### Texas Course Details:

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

#### CompuScholar Course Details:

<b>Course Title:</b>	Java Programming
<b>Course ISBN:</b>	978-1-946113-99-3
<b>Course Year:</b>	2022

**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.

#### Course Standards

<b>Knowledge and Skills Statement:</b> (1) The student demonstrates the necessary skills for career development, maintenance of employability, and successful completion of course outcomes. The student is expected to:	
<b>Student Expectation</b>	<b>Citation(s)</b>
(1.A) employ effective reading and writing skills	Chapter 1, Lesson 4 Chapter 2, Lesson 4 Chapter 27, Lesson 2 / Activity 1 Supplemental Chapter 2, Lessons 1, 4 Students must read and follow technical instructions and write clear, commented code throughout the course.
(1.B) employ effective verbal and nonverbal communication skills	Chapter 27 Supplemental Chapter 2, Lessons 1, 4
(1.C) solve problems and think critically	Chapter 11 Chapter 13, Lessons 1, 2 Chapter 27 ...and throughout the course
(1.D) demonstrate leadership skills and function effectively as a team member	Chapter 27 Supplemental Chapter 2, Lesson 1
(1.E) demonstrate an understanding of legal and ethical responsibilities in relation to the field of IT	Chapter 1, Lessons 4, 5

(1.F) demonstrate planning and time-management skills such as project management, including initiating, planning, executing, monitoring, and controlling, and closing a project	Chapter 27 Supplemental Chapter 2, Lesson 1
(1.G) identify job opportunities and accompanying job duties and tasks	Supplemental Chapter 2, Lessons 2, 3

**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	Chapter 1, Lessons 4, 5
(2.B) distinguish between honest and dishonest business practices	Chapter 1, Lessons 4, 5
(2.C) examine copyright and licensing issues in the software industry	Chapter 1, Lessons 4, 5
(2.D) analyze the effects of unethical practices on a business	Chapter 1, Lessons 4, 5

**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 27, Lesson 2 / Activity 1 Supplemental Chapter 2, Lesson 1
(3.B) identify input and output requirements	Chapter 27, Lessons 1 - 2 Supplemental Chapter 2, Lesson 1
(3.C) identify system processing requirements	Chapter 27, Lessons 1 - 2 Supplemental Chapter 2, Lesson 1
(3.D) develop program requirements and specifications	Chapter 27, Lessons 1 - 2 Supplemental Chapter 2, Lesson 1

**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 27, Lessons 1 - 2 Supplemental Chapter 2, Lesson 1
(4.B) identify software development processes and issues	Chapter 27, Lessons 1 - 2 Supplemental Chapter 2, Lesson 1
(4.B) identify software development processes and issues	Chapter 27, Lessons 1 - 2 Supplemental Chapter 2, Lesson 1
(4.C) explain the software system life cycle approach	Chapter 27, Lessons 1 - 2 Supplemental Chapter 2, Lesson 1

**Knowledge and Skills Statement:** (5) The student designs a software application plan. The student is expected to:

<b>Student Expectation</b>	<b>Citation(s)</b>
(5.A) articulate the principles of system design such as procedural, object-oriented, and event-driven processes	Chapter 5, Lesson 1 Chapter 14, Lessons 1, 5 Chapter 30, Lesson 3
(5.B) perform a logical design using appropriate software tools	Chapter 13, Lessons 1, 2 Chapter 27, Lesson 2, Activity 1 Supplemental Chapter 1, Lesson 6
(5.C) apply algorithmic and data structure concepts	Chapters 13, 18, 19, 21 Supplemental Chapter 1, Lesson 5
(5.D) identify constraints	Chapter 27, Lessons 1 - 2 Supplemental Chapter 2, Lesson 1
(5.E) identify modular design concepts	Chapters 5, 14, 15, 16, 22, 23
(5.F) document the design specification using a defined procedure	Chapter 27, Lessons 1 - 2 Supplemental Chapter 2, Lesson 1

**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:

<b>Student Expectation</b>	<b>Citation(s)</b>
(6.A) differentiate among the concepts of data such as procedural, object-oriented, and event-driven representation	Chapter 5, Lesson 1 Chapter 14, Lessons 1, 5 Chapter 30, Lesson 3
(6.B) identify current programming languages and the environment in which each is used	Chapter 2, Lesson 1
(6.C) produce procedural and object-oriented programs using structured coding with appropriate style and clarity of expression	Chapter 2, Lesson 3 Chapters 5, 14, 15, 16, 22, 23 Students will receive instruction and complete programs using multiple procedural coding concepts (variables, loops, functions, etc.) throughout the course.
(6.D) demonstrate skill in program testing	Chapter 11 Chapter 27, Lesson 3 / Activity 3
(6.E) compare computed results with anticipated results to determine the reasonableness of the solutions	Chapter 11 Chapter 27, Lesson 3 / Activity 3
(6.F) troubleshoot technological problems	Chapter 11 Chapter 27, Lesson 3 / Activity 3
(6.G) explain the software quality assurance process	Chapter 11 Chapter 27, Lesson 3 / Activity 3
(6.H) follow established quality assurance procedures for testing, identifying problems, and tracking resolutions	Chapter 11 Chapter 27, Lesson 3 / Activity 3

<b>Knowledge and Skills Statement:</b> (7) The student recognizes issues and complies with procedures for maintaining the security of computerized information. The student is expected to:	
<b>Student Expectation</b>	<b>Citation(s)</b>
(7.A) identify risks to information systems facilities, data communications systems, and applications	Chapter 1, Lesson 5 Supplemental Chapter 3, Lesson 1
(7.B) comply with federal and state legislation pertaining to computer crime, fraud, and abuse	Chapter 1, Lesson 5 Supplemental Chapter 3, Lesson 1
(7.C) identify and select controls for information systems facilities, data communications, and applications appropriate to specific risks	Chapter 1, Lesson 5 Supplemental Chapter 3, Lesson 1
(7.D) apply procedures used to recover from situations such as system failure and computer virus	Chapter 1, Lesson 5 Supplemental Chapter 3, Lesson 1