CompuScholar, Inc.

Alignment to Georgia **Introduction to Software Technology** Standards

Georgia Course Details:

Course Title:	Introduction to Software Technology
Career Cluster:	CTAE / Information Technology
Course Code(s):	11.44600
Standards Link:	Introduction to Software Technology.pdf

CompuScholar Courses (use together to meet state requirements):

Course Title:	Digital Savvy
Course ISBN:	978-0-9887070-8-5
Course Year:	2022

Course Title:	Python Programming
Course ISBN:	978-1-946113-00-9
Course Year:	2022

Selecting Chapters to Meet State Requirements

Georgia's **Introduction to Software Technology** requirements are largely met with selected chapters from the **Digital Savvy** course. We recommend supplementing with our **Python Programming** course to meet additional requirements.

Individual IST requirements are cited, where present, in both **Digital Savvy** and **Python Programming**. Some standards are met by both courses, though **covering items in duplicate from both courses is not necessary**. The list below demonstrates one way to efficiently select specific chapters or lessons from each CompuScholar course and cover requirements in a standard school year.

Digital Savvy	Python Programming
Chapters 2, 3 (Software and Operating Systems)	Chapter 1
Chapters 4, 5 (Computer Files and Troubleshooting)	Chapter 2
Chapter 8 (Computer Security and Ethics)	Chapter 3
Chapters 9 - 11 (Office-style applications)	Chapter 4
Chapter 12 (Databases)	Chapter 5
Chapter 13 (Project Management and Teamwork)	Chapter 6
Chapter 14 (Mid-Term Project)	Chapter 7
Chapter 16 (Internet Communications)	Chapter 8
Chapters 19-21 (Web Design)	Chapter 9
Chapters 22-23 (Introductory coding in Scratch)	
Chapter 24 (Careers and Professional Skills)	
Supplemental Chapter 1, Lessons 1, 3	
Supplemental Chapter 3, Lesson 2	

Georgia Course Description

Introduction to Software Technology is the foundational course for Cloud Computing, Computer Science, Game Design, Internet of Things, Programming, Web and Digital Design, and Web Development pathways. This course is designed for high school students to understand, communicate, and adapt to a digital world as it impacts their personal life, society, and the business world. Exposure to foundational knowledge in programming languages, software development, app creation, and user interfacing applications are all taught in a computer lab with hands-on activities and project-focused tasks.

Course Standards

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: Citation(s) to "Supplemental" or "Suppl." lessons can be found in Supplemental chapters at the end of each course.

IT-IDT-1: Standard: Demonstrate employability skills required by business and industry.	Digital Savvy Citation(s)	Python Programming Citation(s)
IT-IDT-1 standards are identical across all CTAE courses and are intended to be incorporated by the teacher into other lessons as opportunities arise. All CompuScholar courses contain opportunities for effective communication, research, problem solving, creative thought, career exploration and workspace traits, time management and teamwork.	Throughout the course	Throughout the course

IT-IST-2: Establish a personal online career portfolio and begin uploading relevant artifacts.	Digital Savvy Citation(s)	Python Programming Citation(s)
IT-IST-2: Establishing a long-term, student-centric career portfolio is beyond the scope of an individual course. Districts or schools should select a platform that works for their local environments.	Students can upload any projects from this course to their district-supported portfolio.	Students can upload any projects from this course to their district-supported portfolio.

IT-IST-3: Explore, research, and present findings on positions and career paths in technology and the impact of technology on chosen career area.	Digital Savvy Citation(s)	Python Programming Citation(s)
3.1 Develop technical reading and writing skills to follow instructions.	Students will read technical instructions and write technical responses throughout both courses	

3.2 Use collaborative tools to communicate with team members, such as online meeting platforms, group messaging, and shared online documents and files.	Chapter 16 Chapters 14, 25 (Collaborative team projects)	Chapter 13 (Collaborative team project)
3.3 Research specific IT careers, including post-secondary continuing education options, IT credentials, required job skills, potential salaries in Georgia, and work environment.	Chapter 24, Lessons 1 Chapter 24 Activity	Suppl. Ch. 3, Lesson 4

IT-IST-4: Demonstrate effective professional communication skills (oral, written, and digital) and practices that enable positive relationships with all	Digital Savvy Citation(s)	Python Programming Citation(s)
4.1 Differentiate between the different audiences of a business, including users, clients, customers, contractors, vendors, and others.		
4.2 Explain the impact of emerging technologies on a business and how it affects the bottom line.	Chapter 2, Lesson 5	Suppl. Ch. 4, Lesson 3
4.3 Apply strategies for identifying routine software problems current to everyday life. a. Compose an appropriate report outlining procedures to correct an identified software problem.	Chapter 5, Lesson 3 Chapter 5 Activity	Chapter 5, Lessons 2, 3
4.4 Demonstrate ability to assist all audiences in a professional manner. a. Actively listen to your audience to determine individual needs, such as specifications for a design, breaking down the specifications, and communicating to non-technical individuals. b. Ensure that your assistance promotes the best interests of the	Chapter 24, Lesson 2	
4.5 Identify effective database strategies and create a database to maintain a customer list.	Chapter 12	
4.6 Create a communication document utilizing advanced word processing, spreadsheet, presentation, electronic mail, and database script and app tools for business.	Chapters 9, 10, 11, 12, 14, 16	

IT-IST-5: Identify, describe, evaluate, and use appropriate technology for given situations.	Digital Savvy Citation(s)	Python Programming Citation(s)
5.1 Demonstrate understanding of set up of a basic computer workstation.	Chapter 3, Lessons 2, 3	
5.2 Identify input and output devices and ports, including keyboards, monitors, printers, touch screens, mice, peripheral connectors (e.g., USB, Lightning, HDMI, and emerging technologies), microcontrollers and sensors (e.g., GPS, temperature, accelerometer).	Chapter 1, Lessons 2, 3	
5.3 Describe and explore current and emerging software, including operating systems, application software, and applications for software development.	Chapters 2, 3	

5.4 Explain the function and purpose of software tools, text editors, Integrated Development Environments (IDEs), and software development toolchains.	Chapter 19, Lesson 2 Chapter 20, Lesson 4 Chapter 22, Lessons 1, 2	Chapter 1, Lessons 2, 3 Suppl. Ch. 1

IT-IST-6: Understand, communicate, and adapt to a digital world.	Digital Savvy Citation(s)	Python Programming Citation(s)
6.1 Develop a working IT vocabulary specific to software and programming.	Chapters 2, 19 - 23	Throughout the course
6.2 Describe trends in emerging, evolving, and future computer technologies and their influence on IT practices, such as mobile technology, cloud computing, and microcontrollers.	Chapter 2, Lesson 5	
6.3 Recognize online risks and dangers in order to take appropriate actions to protect the business and self while using digital tools and resources.	Chapter 8, Lessons 1-3	Suppl. Ch. 2
6.4 Define and demonstrate folder and file management and the importance of content-management systems.	Chapter 4	
6.5 Identify and explain how to protect Personally Identifiable Information (PII) in a digital world (Refer to FERPA guidelines).	Chapter 8, Lesson 1 Chapter 18, Lesson 4 Suppl. Ch. 1, Lesson 2	Suppl. Ch. 2, Lessons 3, 4

IT-IST-7: Use computational thinking procedures to analyze and solve problems.	Digital Savvy Citation(s)	Python Programming Citation(s)
7.1 Explain the software development process to solve problems.	Chapter 13	Chapter 5 Chapter 13, Lesson 1
7.2 Explain the differences between various software development models such as the iterative and incremental model, scrum, and waterfall.		Chapter 13 (Waterfall)
7.3 Explore commonly used documentation tools for design specifications, such as flowcharts, pseudocode, visual and textual storyboards.	Chapter 13, Lesson 2 Chapter 22, Lesson 3	Suppl. Ch. 3, Lesson 3
7.4 Create a table showing the most prevalent programming languages currently being used and determine industry tasks where each would be best utilized.	Chapter 22, Lesson 1	

IT-IST-8: Create and organize webpages through the use of a variety of web programming design tools.	Digital Savvy Citation(s)	Python Programming Citation(s)
8.1 Understand and apply design principles to create professional appearing and functioning web pages.	Chapter 20, Lesson 3	
8.2 Understand elements of web design, including HTML5, CSS3, responsive design, site usability and accessibility, relation of site to business, and story the site reveals about the business.	Chapters 19, 20, 21 Suppl. Ch. 1, Lesson 3	
8.3 Describe how HTML5 and CSS3 are living web standards.	Chapter 19, Lesson 1	
8.4 Understand the Document Object Model (DOM) used in web page organization and in the creation of dynamic web pages.		
8.5 Design simple and dynamic webpages incorporating HTML5 elements (e.g., text, audio, video, and canvas elements such as SVG and other graphics), navigation, linking, forms and client-side scripting.	Chapters 19, 20, 21	
8.6 Explain site accessibility in relation to standards, rules and laws including Web Accessibility Initiative (WAI) and Web Content Accessibility Guides (WCAG).	Suppl. Ch. 1, Lesson 3	
8.7 Explain the impact of mobile sites on the development of business.		
8.8 Explore the trends and emerging issues for websites.		

IT-IST-9: Identify and explain the building blocks, principles, and ways to access code within programming languages used today.	Digital Savvy Citation(s)	Python Programming Citation(s)
9.1 Explain and apply the procedures used in current programming languages to access code libraries, scripts, and related coding principles.		Chapters 7, 9
9.2 Describe a variety of programming languages used to solve problems.	Chapter 22, Lesson 1	
9.3 Explain how sequence, selection, and iteration are building blocks of algorithms.	Chapter 22, Lesson 3 Chapter 23, Lessons 2, 3	Chapters 4, 6 Suppl. Ch. 3, Lesson 3
9.4 Explain how procedural abstraction is implemented to reuse code.		Chapters 7, 9
9.5 Demonstrate the principles of readability and self-documenting code. a. Use an appropriate naming convention in the creation of variables, functions and/or procedures. b. Use comments to assist others in understanding programs, algorithms, and functions and/or procedures.		Chapter 1, Lesson 3 Chapter 2, Lesson 1

IT-IST-10: Design, develop, test, and implement programs using high-level programming languages.	Digital Savvy Citation(s)	Python Programming Citation(s)
10.1 Use various debugging and testing methods to ensure program correctness.		Chapter 5
10.2 Explore text-editors and Integrated Development Environments (IDEs) in the use of software development for different software and hardware platforms.	Chapter 22, Lesson 2	Chapter 1, Lesson 2 Suppl. Ch. 1
10.3 Demonstrate the use of pair-programming in the development of new programs and applications.	Chapter 25 Team project allows pair programming	Chapter 13 Team project allows pair programming
10.4 Demonstrate the use of content-management systems to track changes and allow for multiple people to create, edit and modify source code files.		
10.5 Create and access libraries and Application Programming Interfaces (APIs) in the development of programs or applications. Upload to online career portfolio.		Chapters 7, 9
10.6 Understand how data from an external source such as a file, database, or stream can be input, manipulated, and output in programs.		Suppl. Ch. 5

IT-IST-11: Describe, analyze, develop, and follow policies for managing ethical and legal issues in the business world and in a technology-based society.	Digital Savvy Citation(s)	Python Programming Citation(s)
11.1 Demonstrate positive cyber citizenry by applying industry-accepted ethical practices and behaviors.	Chapter 8, Lesson 4	Suppl. Ch 2 Suppl. Ch. 4, Lesson 2
11.2 Evaluate the ways computing impacts personal, ethical, social, economic, and cultural practices.	Suppl. Ch. 1, Lesson 1	Suppl. Ch 4, Lessons 1, 3
11.3 Exercise digital citizenship as a lifelong learner.	Suppl. Ch 3, Lesson 2 and throughout the course	Suppl. Ch 3, Lesson 5 and throughout the course
11.4 Debate laws and regulations that impact the development and use of software.	Chapter 8, Lesson 5	Suppl. Ch. 2, Lesson 2
11.5 Describe the various copyright licenses used in the creation and distribution of software.	Chapter 8, Lesson 5	Suppl. Ch. 2, Lesson 2
11.6 Describe personal and legal consequences of inappropriate use of resources and online content, including but not limited to plagiarism, piracy, illegal downloading, copyright infringement, licensing infringement, and inappropriate use of software, hardware, and mobile devices.	Chapter 8, Lesson 5	Suppl. Ch. 2, Lesson 2

IT-IST-12: Explore how related student organizations are integral parts of career and technology education courses through leadership development, school and community service projects, entrepreneurship development, and competitive events.	Digital Savvy Citation(s)	Python Programming Citation(s)
12.1 Explain the goals, mission, and objectives of Future Business Leaders of America (FBLA) and/or Technology Student Association (TSA) and/or SkillsUSA.	Suppl. Ch 3, Lesson 2	Suppl. Ch 3, Lesson 5
12.2 Explore the impact and opportunities a student organization (FBLA, TSA, SkillsUSA) can develop to bring business and education together in a positive working relationship through innovative leadership and career	Suppl. Ch 3, Lesson 2	Suppl. Ch 3, Lesson 5
12.3 Explore the local, state, and national opportunities available to students through participation in related student organizations (FBLA, TSA, SkillsUSA) including but not limited to conferences, competitions, community	Suppl. Ch 3, Lesson 2	Suppl. Ch 3, Lesson 5
12.4 Explain how participation in career and technology education student organizations can promote lifelong responsibility for community service and professional development.	Suppl. Ch 3, Lesson 2	Suppl. Ch 3, Lesson 5
12.5 Explore the competitive events related to the content of this course and the required competencies, skills, and knowledge for each related event for individual, team, and chapter competitions.	Suppl. Ch 3, Lesson 2	Suppl. Ch 3, Lesson 5