

Florida Computer Science Standards Alignment with Python with Robots Curriculum

	Unit 1	Unit 2	Unit 3	Unit 4
Communication and Collaboration				
SC.68.CS-CC.1.1 Demonstrate an ability to communicate appropriately through various online tools.				
SC.68.CS-CC.1.2 Apply productivity and or multimedia tools for local and global group collaboration.				
SC.68.CS-CC.1.3 Design, develop, and publish a collaborative digital product using a variety of digital tools and media-rich resources that demonstrate and communicate concepts to inform, persuade, and/or entertain.				
Communication Systems and Computing				
SC.68.CS-CS.1.1 Examine connections between elements of mathematics and computer science including binary numbers, logic, sets, and functions.				
SC.68.CS-CS.1.2 Create or modify and use a simulation to analyze and illustrate a concept in depth (i.e., use a simulation to illustrate a genetic variation), individually and collaboratively.				
SC.68.CS-CS.1.3 Evaluate what kinds of real-world problems can be solved using modeling and simulation.				
SC.68.CS-CS.1.4 Interact with content-specific models and simulations to support learning, research and problem solving (e.g., immigration, international trade, invasive species).				
SC.68.CS-CS.2.1 Create, modify, and use a database (e.g., define field formats, adding new records, manipulate data) to analyze data and propose solutions for a task/problem, individually and collaboratively.				
SC.68.CS-CS.2.2 Solve real-life issues in science and engineering (i.e., generalize a solution to openended problems) using computational thinking skills.				
SC.68.CS-CS.2.3 Perform a variety of operations such as sorting, filtering, and searching in a database.				
SC.68.CS-CS.2.4 Organize and display information in a variety of ways such as number formats (e.g., scientific notation, percentages, and exponents), charts, tables and graphs.				
SC.68.CS-CS.2.5 Decompose a problem and create a function for one of its parts at a time (e.g., video game, robot obstacle course, making dinner), individually and collaboratively.				
SC.68.CS-CS.2.6 Create a program that implements an algorithm to achieve a given goal, individually and collaboratively.				
SC.68.CS-CS.2.7 Design solutions that use repetition and two-way selection (e.g., for, while, if/else).				
SC.68.CS-CS.2.8 Recognize that boundaries need to be taken into account for an algorithm to produce correct results.				
SC.68.CS-CS.2.9 Identify simple data types and data structures.				
SC.68.CS-CS.2.10 Recognize that more than one algorithm can solve a given problem.				
SC.68.CS-CS.2.11 Predict outputs while showing an understanding of inputs.				
SC.68.CS-CS.2.12 Select the 'best' algorithm based on a given criteria (e.g., time, resource, and accessibility) to solve a problem, individually and collaboratively.				
SC.68.CS-CS.2.13 Explore a problem domain using iterative development and debugging.				
SC.68.CS-CS.2.14 Perform program tracing to predict the behavior of programs.				
SC.68.CS-CS.3.1 Explain why different file types exist (e.g., formats for word processing, images, music, and three-dimensional drawings).				

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SC.68.CS-CS.3.2 Identify the kinds of content associated with different file types.				
SC.68.CS-CS.3.3 Integrate information from multiple file formats into a single artifact.				
SC.68.CS-CS.4.1 Identify and describe the function of the main internal parts of a basic computing device (e.g., motherboard, hard drive, Central Processing Unit -CPU).				
SC.68.CS-CS.4.2 Describe the main functions of an operating system and explain how an operating system provides user and system services (e.g., user interface, IO device management, task management).				
SC.68.CS-CS.4.3 Describe the relationships between hardware and software (e.g., BIOS, operating systems and firmware).				
SC.68.CS-CS.4.4 Identify and describe the use of sensors, actuators, and control systems in an embodied system (e.g., a robot, an e-textile, installation art, and a smart room).				
SC.68.CS-CS.4.5 Evaluate a hardware or software problem and construct the steps involved in diagnosing and solving the problem (e.g., power, connections, application window or toolbar, cables, ports, network resources, video, and sound).				
SC.68.CS-CS.4.6 Describe the essential characteristics of a software artifact.				
SC.68.CS-CS.4.7 Describe the major components and functions of computer systems and networks.				
SC.68.CS-CS.4.8 Identify software used to support specialized forms of human-computer interaction.				
SC.68.CS-CS.5.1 Describe how information, both text and non-text, is translated and communicated between digital computers over a computer network.				
SC.68.CS-CS.5.2 Explain the difference between physical (wired), local area wireless, and mobile networks.				
SC.68.CS-CS.5.3 Identify the major components of a network.				
SC.68.CS-CS.6.1 Explain why some tasks can be accomplished more easily by computers.				
SC.68.CS-CS.6.2 Describe how humans and machines interact to accomplish tasks that cannot be accomplished by either alone.				
SC.68.CS-CS.6.3 Identify novel ways humans interact with computers, including software, probes, sensors, and handheld devices.				
SC.68.CS-CS.6.4 Describe ways in which computers use models of intelligent behavior (e.g., robot motion, speech and language understanding, and computer vision).				
SC.68.CS-CS.6.5 Identify factors that distinguish humans from machines.				
SC.68.CS-CS.6.6 Design and demonstrate the use of a device (e.g., robot, e-textile) to accomplish a task, individually and collaboratively.				
Computer Practices and Programming				
SC.68.CS-CP.1.1 Define parameters for individual and collaborative projects using Boolean logic (e.g., using “not”, “or”, “and”).				
SC.68.CS-CP.1.2 Select and use data-collection technology (e.g., probes, handheld devices, geographic mapping systems and output from multiple runs of a computer program) to gather, view, organize, analyze, and report results for content-related problems, individually and collaboratively.				
SC.68.CS-CP.2.1 Develop problem solutions using visual representations of problem states, structures and data.				
SC.68.CS-CP.2.2 Evaluate the logical flow of a step-by-step program by acting it out through computerfree activities.				

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SC.68.CS-CP.2.3 Develop problem solutions using a block programming language, including all of the following: looping behavior, conditional statements, expressions, variables, and functions.				
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SC.68.CS-CP.3.1 Select appropriate tools and technology resources to accomplish a variety of tasks and solve problems.				
SC.68.CS-CP.3.2 Create online content (e.g., webpage, blog, digital portfolio, multimedia), using advanced design tools.				
SC.68.CS-CP.3.3 Create an artifact (independently and collaboratively) that answers a research question and communicates results and conclusions.				
Personal, Community, Global, and Ethical Impact				
SC.68.CS-PC.1.1 Recognize and describe legal and ethical behaviors when using information and technology and describe the consequences of misuse.				
SC.68.CS-PC.1.2 Describe and use safe and appropriate practices when participating in online communities (e.g., discussion groups, blogs, and social networking sites).				
SC.68.CS-PC.1.3 Evaluate the proper use and operation of security technologies (e.g., passwords, virus protection software, spam filters, pop-up blockers, and cookies).				
SC.68.CS-PC.1.4 Recognize the impacts and consequences of plagiarism on the development of creative works, projects, publications and online content.				
SC.68.CS-PC.2.1 Analyze the positive and negative impacts of computing, social networking and web technologies on human culture.				
SC.68.CS-PC.2.2 Explain the possible consequences of cyberbullying and inappropriate use of social media on personal life and society.				
SC.68.CS-PC.2.3 Describe the influence of access to information technologies over time and the effects those changes have had on education, the workplace, and the global society.				
SC.68.CS-PC.2.4 Describe how the unequal net-neutrality and distribution of computing resources in a global economy raises issues of equity, access, and power.				
SC.68.CS-PC.2.5 Describe ways in which adaptive technologies can assist users with special needs to function in their daily lives.				
SC.68.CS-PC.2.6 Identify and discuss the technology skills needed in the workplace.				
SC.68.CS-PC.2.7 Interpret writings and/or communications which use developmentally appropriate terminology.				
SC.68.CS-PC.2.8 Identify interdisciplinary careers that are enhanced by computer science.				
SC.68.CS-PC.3.1 Answer research questions using digital information resources.				
SC.68.CS-PC.3.2 Analyze how media and technology can be used to distort, exaggerate, or misrepresent information.				
SC.68.CS-PC.3.3 Describe strategies for determining the reliability of resources or information on the Internet.				
SC.68.CS-PC.3.4 Identify peer reviewed resources and understand the need for peer review.				
SC.68.CS-PC.3.5 Identify resources such as city, state, and federal government websites and explain that these resources can be used for communication between citizens and government.				

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SC.68.CS-PC.4.1 Explain the guidelines for the fair use of downloading, sharing or modifying of digital materials.				
SC.68.CS-PC.4.2 Explain how copyright law and licensing protect the owner of intellectual properties.				
SC.68.CS-PC.4.3 Explain the possible consequences of violating intellectual property law.				
SC.68.CS-PC.4.4 Identify threats and actions that protect devices from viruses, intrusion, vandalism, and other malicious activities.				
SC.68.CS-PC.4.5 Demonstrate compliance with the school's Acceptable Use Policy.				
SC.68.CS-PC.4.6 Generate text and non-text citations using digital citation tool.				