

Utah Standards Alignment with Python with Robots Curriculum

By the end of grade 8, ALL students will be able to...	Unit 1	Unit 2	Unit 3	Unit 4
Computing Systems				
Design modifications to computing devices in order to improve the ways users interact with the devices.				
Design projects that combine hardware and software components to collect and exchange data.				
Systematically identify and fix problems with computing devices and their components.				
Networks & the Internet				
Model the role of protocols in transmitting data across networks and the Internet.				
Explain potential security threats and security measures to mitigate threats.				
Apply multiple methods of information protection to model the secure transmission of information.				
Data and Analysis				
Represent data in multiple ways.				
Collect data using computational tools and transform the data to make it more useful.				
Test and analyze the effects of changing variables while using computational models.				
Algorithms and Programming				
Use flowcharts and/or pseudocode to design and illustrate algorithms that solve complex problems.				
Create clearly named variables that store data, and perform operations on their contents.				
Design and iteratively develop programs that combine control structures and use compound conditions.				
Decompose problems and subproblems into parts to facilitate the design, implementation, and review of programs.				
Create procedures with parameters to organize code and make it easier to reuse.				
Seek and incorporate feedback from team members and users to refine a solution that meets user needs.				
Incorporate existing code, media, and libraries into original programs, and give attribution.				
Systematically test and refine programs using a range of test cases.				
Distribute tasks and maintain a project timeline when collaboratively developing computational artifacts.				
Document programs in order to make them easier to follow, test, and debug.				
Impacts of Computing				
Compare tradeoffs associated with computing technologies that affect people's everyday activities and career options.				
Discuss issues of bias and accessibility in the design of existing technologies.				
Collaborate with many contributors through strategies such as crowdsourcing or surveys when creating a computational artifact.				
Describe tradeoffs between allowing information to be public and keeping information private and secure.				