CompuScholar, Inc.

Alignment to Utah

"Introduction to Python 1" Course Standards

Utah Course Details:

Course Name:	Introduction to Python 1
Primary Cluster:	CTE / IT
Course Code(s):	35.02.00.00.004
Credit:	0.5
Grade Level:	7 - 9
State Standards Link:	Introduction to Python 1 Strands and Standards

CompuScholar Course Details:

Course Title:	Python Programming
Course ISBN:	978-1-946113-00-9
Course Year:	2021

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.

Utah Course Description

Python is a language with a simple syntax, and a powerful set of libraries. It is an interpreted language, with a rich programming environment, including a robust debugger and profiler. While it is easy for beginners to learn, it is widely used in many scientific areas for data exploration. This course is an introduction to the Python programming language for students without prior programming experience.

Utah Course Standards

STRAND 1: Python and Jupyter Basics	**CITATION(S)**
Standard 1: Students will be able to:	
Understand the history of programming languages.	N/A (See Digital Savvy)
Understand the differences between high-level and low-level languages.	N/A (See Digital Savvy)
Understand how to work with Jupyter notebooks.	Students use our online IDE

Write basic working code using the Python 3 programming language.	Chapters 1, 2, 3+
Standard 2: Students will be able to:	
Understand how variables work in Python.	Chapter 2
Understand a data type.	Chapter 2, Lesson 1
Understand the type() built-in function.	Chapter 2, Lesson 2
Standard 3: Students will be able to:	
Write working code using type() and variables.	Chapter 2, Lesson 2
Standard 4: Students will be able to:	
Understand string/number addition and add variables.	Chapter 2, Lessons 2, 3
Understand the three main types of errors.	Chapter 5, Lesson 1
Understand how to fix each type of error.	Chapter 5
Standard 5: Students will be able to:	
Create on-screen art.	Chapter 3 Activity
Standard 6: Students will be able to:	
Understand the input() function.	Chapter 3, Lesson 2
Apply the input() and print() function in programs.	Chapter 3
Standard 7: Students will be able to:	
Apply formatting to the print() function	Chapter 3, Lessons 1, 3
Standard 8: Students will be able to:	
Understand what a Boolean value is.	Chapter 2, Lesson 1 Chapter 4, Lesson 1
Understand string methods and how to use them.	Chapter 8, Lesson 2

Standard 9: Students will be able to:	
Apply string formatting methods.	Chapter 3, Lesson 3 Chapter 8, Lesson 2
Understand the in keyword.	Chapter 6, Lessons 2, 3

STRAND 2: Functions	**CITATION(S)**
Standard 1: Students will be able to:	
Understand built-in and user-defined functions.	Chapter 3, Lesson 1 Chapter 9, Lesson 1
Create a user-defined function.	Chapter 9, Lesson 1
Understand parameters and use them in functions.	Chapter 9, Lesson 2
Standard 2: Students will be able to:	
Create functions with a return value.	Chapter 9, Lesson 2
Create functions with multiple parameters.	Chapter 9, Lesson 2
Standard 3: Students will be able to:	
Use knowledge of sequence in coding tasks.	Chapter 1, Lesson 3 Chapter 4, Lesson 2
Use coding best practices.	Chapter 1, Lesson 3 Chapter 4, Lesson 2

STRAND 3: Conditionals	**CITATION(S)**
Standard 1: Students will be able to:	
Control code flow with if... else conditional logic by using Boolean string methods(.isupper(), .isalpha(), startswith()...).	Chapter 4
Standard 2: Students will be able to:	
Control code flow with if…else conditional logic by using comparison operators (>, <,>=, <=, ==, !=).	Chapter 4, Lesson 1

Standard 3: Students will be able to:	
Control code flow with if…else conditional logic by using strings in comparisons.	Chapter 4, Lesson 3
Standard 4: Students will be able to:	
Code more than two choices by using elif.	Chapter 4, Lesson 2
Gather numeric input by using type casting.	Chapter 3, Lesson 2
Standard 5: Students will be able to:	
Perform subtraction, multiplication, and division operations in code.	Chapter 2, Lesson 2

STRAND 4: Nesting and Loops	**CITATION(S)**
Standard 1: Students will be able to:	
Create nested conditional logic in code.	Chapter 4, Lesson 3
Standard 2: Students will be able to:	
Use escape sequences with print() statements.	Chapter 8, Lesson 1
Standard 3: Students will be able to:	
Create forever loops using while and break.	Chapter 6, Lessons 3, 4
Use incrementing variables in a while loop.	Chapter 6, Lesson 4
Standard 4: Students will be able to:	
Control while loops by using Boolean operators.	Chapter 6, Lesson 4