

STEM Summer Camp
University of Nevada, Las Vegas

Instructor

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Course Objectives

After completing this course, you will be able to:

- Create programs in the Python programming language using sequential, selection, and repetition structures
- Utilize object-oriented programming techniques to develop robust programming solutions in the Python programming language
- Solve programming tasks by adapting Python programming language constructs to a specific solution

Textbooks

Python Programming: An Introduction to Computer Science (3rd edition), by John Zelle, Franklin, Beedle, & Associates, 2016, ISBN-13 9781590282755

Schedule of Topics

Python Basics		
Module 1	Programming Fundamentals & Introduction to Python	
Module 2	Arithmetic, Assignment, Data Types, Variables, & Basic Input/Output	
Selection, Repetition, & Collections		
Module 3	Relational Operators, Logical Expressions, & Conditional Statements	
Module 4	Looping & Iteration	
Module 5	Lists & Dictionaries	
Module 6	List Comprehensions	
Files, Strings, & Functional Decomposition		
Module 7	File Operations & Text Processing	
Module 8	Functions, Parameter Passing, Return Values, Recursion	
Object-Oriented Programming		
Module 9	Abstract Data Types, Classes, & Objects	
Module 10	Class Methods & Variables	
Module 11	Class Inheritance	
Beyond Python Basics		
Module 12	Python Modules	
Module 13	Advanced Python Algorithms	
Module 14	Advanced Python Algorithms	
Final Exam		