

Python 2 Course Syllabus

Objectives

This course provides students with the intermediate knowledge needed to create better Python applications. Many concepts taught in this course have analogous concepts in other programming languages as well. We break down the major topics into "Modules" that focus on each topic one at a time.

Module Topics

1. Functions Design - Learn how pseudocode works, why we use pseudocode, how to architect a program and how to refactor a program
2. Lists - Learn data structures, how indexing works, why we use lists, and how to use loops in lists
3. Strings - Learn more about a common data type and how to manipulate strings
4. Dictionaries - Learn advanced data structures, how key-value pairs work, why we use dictionaries, and how to represent the world using data structures

Topics and Schedule

Module 1	Topic - Functions Design
1-1	App Design and Pseudocode
1-1 Project	Guess The Number
1-2	Function Return
1-3	Helper Functions
1-4	Pattern Finding and Refactoring
1-4 Project	Theme Park
1-4 Project	Turtle Photoshop

Module 2	Topic - Lists
2-1	Lists
2-2	List Structure and Index-Value Pairs
2-3	CRUD Operations
2-4	List Looping
2-4 Project	Memory Game
2-5	List Membership
2-6	Searching a List
2-6 Project	Skittles Factory

Module 3	Topic - Strings
3-1	Strings
3-2	String Building
3-3	String Methods
3-3 Project	Secret Codes
3-4	Substrings and String Slicing
3-5	Text Files Input/Output
3-6	Parsing Text Files
3-6 Project	Mad Libs

Module 4	Topic - Dictionaries
4-1	Dictionaries
4-2	CRUD Operations
4-3	How to Access Keys and Values

Module 4	Topic - Dictionaries
4-4	Input with Dictionaries
4-5	Checking For Keys
4-5 Project	Grocery Store
4-6	Dictionary and Objects
4-7	Dictionaries and JSON
4-7 Project	Better RPG