Python Data Representations

by Rice University

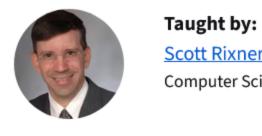
About this Course

This course will continue the introduction to Python programming that started with Python Programming Essentials. We'll learn about different data representations, including strings, lists, and tuples, that form the core of all Python programs. We will also teach you how to access files, which will allow you to store and retrieve data within your programs. These concepts and skills will help you to manipulate data and write more complex Python programs.

By the end of the course, you will be able to write Python programs that can manipulate data stored in files. This will extend your Python programming expertise, enabling you to write a wide range of scripts using Python

This course uses Python 3. While most Python programs continue to use Python 2, Python 3 is the future of the Python programming language. This course introduces basic desktop Python development environments, allowing you to run Python programs directly on your computer. This choice enables a smooth transition from online development environments.

∧ Show less



Scott Rixner, Professor **Computer Science**



Taught by: Joe Warren, Professor **Computer Science**

Course 2 of 4 in the Introduction to Scripting in Python Specialization
Beginner
This is a four week class with an expected workload of 5-7 hours per week.
English, Subtitles: Arabic, French, Bengali, Ukrainian, Chinese (Simplified), Greek, Italian, Portuguese (Brazil), Vietnamese, Dutch, Korean, German, Pashto, Urdu, Russian, Thai, Indonesian, Swedish, Turkish, Azerbaijani, Spanish, Dari, Hindi, Japanese, Kazakh, Hungarian, Polish
Pass all graded assignments to complete the course.
★ ★ ★ ★ Average User Rating 4.7

Syllabus

Module 1

Strings This module will teach you about Python's string data type and its capabilities. Strings are used to represent text within

programs. 7 videos, 2 readings

- 1. Video: Welcome!
 - 2. Video: Class Structure
 - 3. **Video:** Python Strings
 - 4. Video: Indexing Strings
 - 5. **Video:** Searching Strings
 - 6. Video: Slicing Strings 7. Reading: Formatting Strings
 - 8. Video: Answering Common Python Questions 9. Reading: Practice Exercises for Strings
- Show less
- Graded: Strings

Basics of Lists

Module 2

This module will teach you the basics of Python's list data type. Lists are used to hold a sequence of data within programs. 7 videos, 4 readings

1. Video: Lists

- 2. Video: List Indexing and Slicing
 - 3. **Reading:** Defining and Accessing Lists
- 4. Video: Splitting and Joining Strings
- 5. Video: List Searching
- 6. Video: Iteration over Lists
- 7. Reading: Iteration
- 8. Reading: Using Thonny
- 9. Video: Using Thonny's Debugger 10. Video: Debugging an Example Program
- 11. **Reading:** Practice Exercises for Lists Show less
- Graded: Lists

Module 3

List Manipulation

🗐 5 videos, 3 readings

1. Video: List Mutation

This module will dive further into the use of lists. You will learn how about mutating the contents of a list and the implications of doing so.

2. **Reading:** List Processing Example 3. Video: Tuples

- 5. Video: Understanding List References 6. **Reading:** Visualizing Objects and References
- 7. **Video:** Diagnosing List Reference Issues 8. Reading: Practice Exercises for List Manipulation

4. **Video:** Objects and References

Graded: List Manipulation

Module 4

File Access

Show less

1. Reading: Introduction to Files 2. Video: Opening and Reading Files

5 videos, 5 readings

3. **Video:** Reading Files using Iteration 4. Video: Writing Files 5. **Reading:** Understanding File Systems and Paths

This module will teach you how to access files in Python.

- 6. **Video:** Working with File Paths 7. **Reading:** Practice Project: Updating the CodeSkulptor Docs
- 8. Video: Project Video 9. Reading: Project Description: File Differences

10. Reading: OwlTest: Automated Feedback and Assessment

- 11. App Item: Project Submission History Show less
- Graded: Project: File Differences

General

How It Works

View Less

What do start dates and end dates mean?

Course 2 of Specialization

Once you enroll, ✓ More

Launch Your Career in Python Programming

Master the core concepts of scripting in Python to enable you to solve practical problems.

Rice University

View the course in catalog

Introduction to Scripting in Python

Learn More

Related Courses



Python Programming Essentials



Python Data Analysis Rice University

Rice University



Python Data Visualization Rice University