Course Syllabus

Introduction to Programming Using Python

Course #: 55264A

Number of Days: 5

Format: Instructor-Led

Certification Exams: 98-381

This course syllabus should be used to determine whether the course is appropriate for the students, based on their current skills and technical training needs.

Course content, prices, and availability are subject to change without notice.

Elements of this syllabus are subject to change.

This five-day instructor-led course is intended for students who want to learn how to write Python code that logically solves problems. Candidates will learn how to write, debug and document Python code. The material will prepare students for the Microsoft certification exam 98-381. Lab exercises are done with cloud resources (web-sites, databases, virtual machines etc.) created by students in Microsoft Azure using a free subscription provided with the class. Students will continue to have access to the subscription after the class.

Audience

This course is intended for new and experienced programmers that want to learn how to write and troubleshoot Python code. This is the Microsoft recommended course for preparing for the 98-381 test. Previous programming experience is not required but recommended.

At Course Completion

After completing this course, students will be able to:

- Create Operations using Data Types and Operators
- Create Control Flow Operations
- Create Input and Output Operations
- Write and Document code to solve a specified problem
- Troubleshoot Problems and Write Error Handling Operations
- Perform Operations Using Lessons and Tools

Prerequisites

Before attending this course, students must have:

- Experience performing command-line operations on Windows, Linux or Mac computers
- Six months experience writing code in any programming language (Recommended)

Additional Reading

To help you prepare for this class, review the following resources:

- Microsoft test objectives for Exam 98-381

Lesson 1: Perform Operations Using Data Types and Operators

This Lesson explains how to use Python operators and data types to achieve a specified result.

Topics
• Assign data types to variables • Perform data and data type operations • Perform Arithmetic, Comparison and Logical Operations • Review
Lab / Project 1: Perform Operations Using Data Types and Operators
• Click here to enter text.Assign data types to variables • Perform data and data type operations • Perform Arithmetic, Comparison and Logical Operations

After completing this Lesson, students will be able to:

- Assign data types to variables
- Perform data and data type operations
- Perform Arithmetic, Comparison and Logical Operations

Lesson 2: Perform Operations Using Modules and Tools

This module explains how to use built-in modules.

Lessons
• Use Built-In Modules to perform basic operations • Use Built-In Modules to perform complex operations • Review
Lab / Project 2: Perform Operations Using Modules and Tools
• Use Built-In Modules to perform basic operations • Use Built-In Modules to perform complex operations

After completing this Lesson, students will be able to:

- Use Built-In Modules to perform basic operations
- Use Built-In Modules to perform complex operations

Lesson 3: Control Flow with Decisions and Loops

This module explains how to use Control Flow and Looping operations in Python.

Lessons
• Using branching operations • Using iteration operations • Review
Lab / Project 3: Control Flow with Decisions and Loops
• Using branching operations • Using iteration operations

After completing this Lesson, students will be able to:

- Using branching operations
- Using iteration operations

Lesson 4: Perform Input and Output Operations

This module explains how to construct input and output operations using files or from the console.

Lessons
• Create Python code segments that perform file input and output operations • Create Python code segments that perform console input and output operations • Review
Lab / Project 4: Perform Input and Output Operations
• Create Python code segments that perform file input and output operations • Create Python code segments that perform console input and output operations

After completing this Lesson, students will be able to:

- Create Python code segments that perform file input and output operations
- Create Python code segments that perform console input and output operations

Lesson 5: Document and Structure Code

This module explains how to structure and document well-written Python code.

Lessons
• Construct and analyze code segments • Document code segments using comments and documentation strings • Review
Lab / Project 5: Document and Structure Code
• Construct and analyze code segments • Document code segments using comments and documentation strings

After completing this Lesson, students will be able to:

- Construct and analyze code segments
- Document code segments using comments and documentation strings

Lesson 6: Perform Troubleshooting and Error Handling

This module explains how to perform troubleshooting and error handling operations in Python.

Lessons
• Analyze, Detect and Fix code segments that have errors • Analyze and construct code segments that handle exceptions • Review
Lab / Project 6: Perform Troubleshooting and Error Handling
• Analyze, Detect and Fix code segments that have errors • Analyze and construct code segments that handle exceptions

After completing this Lesson, students will be able to:

- Analyze, Detect and Fix code segments that have errors
- Analyze and construct code segments that handle exceptions

Appendix B: PowerShell for Technology Professionals (Optional)

This Lesson explains how to use PowerShell to administer computer, network, application and Azure resources.

Lessons
▪ Introduction ▪ Compared to Other Scripting Languages ▪ Configuring and Using PowerShell ▪ Creating and Running Scripts ▪ Administering Local Resources ▪ Administering Network Resources ▪ Resolve PowerShell Scripting Problems.
Lab B: PowerShell for Technology Professionals
▪ Exercise 1: Use PowerShell to get Computer Information ▪ Exercise 2: Use PowerShell documentation to understand and use cmdlets ▪ Exercise 3: Create and execute scripts ▪ Exercise 4: Configure and test Remote Management ▪ Exercise 5: Create an Azure VM with Azure PowerShell

After completing this Lesson, students will be able to use PowerShell to:

- Use PowerShell to get Computer Information
- Use PowerShell documentation to understand and use cmdlets
- Create and execute scripts
- Configure and test Remote Management
- Create and Azure VM with Azure PowerShell