# 55264-A: Introduction to Programming Using Python

Course outline

Module 1: Perform Operations Using Data Types and Operators

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

*Lessons*

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

*Lab : Perform Operations Using Data Types and Operators*

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

After completing this module, students will be able to:

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

Module 2: Control Flow with Decisions and Loops

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

*Lessons*

- Construct and analyze code segments that use branching statements
- Construct and analyze code segments that perform iterations
- Review

*Lab : Control Flow with Decisions and Loops*

- Using branching operations
- Using iteration operations

After completing this module, students will be able to:

- Create branching operations
- Create iteration operations

## Module 3: 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 : Perform Input and Output Operations*

- Perform input and output operations using files
- Perform input and output operations from the console

After completing this module, students will be able to:

- Use files for input and output operations
- Use the console to perform input and output operations

## Module 4: 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 : Document and Structure Code*

- Construct and Analyze Code Segments
- Document Code Segments

After completing this module, students will be able to:

- Create code segments
- Document code segments

Module 5: 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 : 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 module, students will be able to:

- Detect and Fix errors in code
- Create error handling code

Module 6: 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 : 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 module, students will be able to:

- Use Built-In modules to perform operating system, date and mathematical operations