

Course Title: Introduction to Python Programming Syllabus

Course Description: This course serves as an introduction to programming using the Python programming language. Students will learn fundamental programming concepts and techniques through hands-on exercises and projects. Topics covered include data types, control structures, functions, object-oriented programming, exception handling, module, package, file handling and collections.

Prerequisites: No prior programming experience required. Basic computer literacy is recommended

Course Objectives:

1. Understand the basic syntax and semantics of the Python programming language.
2. Learn fundamental programming concepts such as variables, data types, and control structures.
3. Develop the ability to write Python programs to solve simple computational problems.
4. Gain proficiency in writing and using functions for code modularity and reusability.
5. Learn object-oriented programming concepts and apply them to develop Python classes and objects.
6. Explore file handling techniques to read from and write to files using Python.

Course Outline:

1. **Introduction to Python**
 - History and background
 - Installing Python
 - Using Python interpreter and IDLE
2. **Python Basics**
 - Print statement and comments
 - Variables and data types
 - Operators and expressions
3. **Control Structures**
 - Conditional statements (if, elif, else)
 - Loops (for and while)
 - Control statements (break, continue)
4. **Functions**
 - Defining functions
 - Parameters and arguments
 - Return statement

5. Data Structures

- Lists, tuples, and dictionaries
- Accessing and manipulating elements
- List comprehensions

6. Introduction to Object-Oriented Programming

- Classes and objects
- Attributes and methods
- Constructors and destructors
- Collections

7. File Handling

- Opening and closing files
- Reading from and writing to files
- File modes and operations

Assessment:

- Weekly assignments to reinforce learning concepts.
- Midterm exam covering topics covered in the first half of the course.
- Final project requiring students to develop a Python application that demonstrates understanding of concepts covered throughout the course.

Textbook: "Python Crash Course" by Eric Matthes

Additional Resources:

- Online tutorials and documentation (Python official documentation-www.python.org, tutorials on websites like csdt.co.in, W3Schools.com, GeeksforGeeks.org, etc.).
- Supplemental readings and materials provided by the instructor.

Grading:

- Assignments: 30%
- Midterm Exam: 20%
- Final Project: 40%
- Participation and Attendance: 10%

Attendance Policy: Regular attendance is expected. Students are allowed a maximum of three unexcused absences. Excessive absences may result in a reduction of the final grade.

Office Hours: Instructor office hours will be held twice a week for additional help and clarification.