



Python Syllabus

Module 1: Introduction to Python

- Overview of Python programming language
- Setting up the Python environment
- Basic syntax, variables, and data types

Module 2: Control Structures

- Conditional statements (if, elif, else)
- Looping constructs (for, while)
- List comprehensions

Module 3: Functions and Modules

- Defining and calling functions
- Function arguments and return values
- Lambda functions
- Modules and packages

Module 4: Data Structures

- Lists, tuples, and sets
- Dictionaries
- Strings and string operations
- Working with files

Module 5: Object-Oriented Programming (OOP)

- Classes and objects
- Methods and attributes
- Inheritance and polymorphism
- Encapsulation and abstraction

Module 6: Exception Handling

- Try, except, else, and finally blocks
- Raising exceptions
- Custom exceptions

Module 7: Working with Libraries

- NumPy for numerical operations
- Pandas for data manipulation and analysis
- Matplotlib and Seaborn for data visualization
- Scikit-Learn for machine learning

Module 8: Practical Python Applications

- Data analysis and visualization projects
- Machine learning projects