



Course Outline

Programme	: Certificate Programme in Python Programming
Course Code	: 242-179010-02
Module Name	: Python Programming
Number of Lesson	: 10
Contact Hours/lesson	: 3
Instructor	: Mr. Edward Szeto (Email: edward.class.hk@gmail.com)
Commencing Date	: Wednesday, 24 Jul, 2024

Course Content:

This module aims to introduce to participants the process of setting up the Python environment, running a Python programme, improving Python coding, and applying Python execution model behind object-oriented programming. The ways of applying Python in a variety of technical fields will also be explored. Topics include:

1. Sequence and file operations
2. Working with files
3. Debugging
4. Object-oriented programming in Python
5. Techniques of web scraping
6. Python libraries and matrices for data cleaning and processing
7. Input evaluation
8. Adding Zip
9. Handling Binary file
10. Introduction to data analysis and visualization techniques

Learning Outcomes

Upon completion of this module, participants will have acquired the ability to:

1. illustrate Python object types;
2. develop object-oriented skills in Python
3. acquire and process data from the internet
4. explain the basics of data analysis and visualization

Lesson Plan

Week	Date	Course Content	Activities
1	24 Jul	<ul style="list-style-type: none">- Python Basic Review- Python File Handling	Lec / Lab
2	31 Jul	<ul style="list-style-type: none">- Working with Files: Read / Create / Write /Delete Files- Debugging	Lec / Lab
3	7 Aug	<ul style="list-style-type: none">- Introduction of Object-Oriented Programming- Classes and Instances	Lec / Lab
4	14 Aug	<ul style="list-style-type: none">- Inheritance- Introduction to Web Scrapping	Lec / Lab Assignment #1
5	21 Aug	<ul style="list-style-type: none">- Libraries and Tools used in Web Scrapping- Web Scrapping Implementation	Lec / Lab
6	28 Aug	<ul style="list-style-type: none">- Input Evaluation- Zip File Handling	Lec / Lab
	4 Sep	<ul style="list-style-type: none">- No class	
7	11 Sep	<ul style="list-style-type: none">- Binary File Handling- Libraries: Pandas and Numpy	Lec / Lab
	18 Sep	<ul style="list-style-type: none">- No class – Public Holiday	
8	25 Sep	<ul style="list-style-type: none">- Data Processing and Cleaning Operations- Data Analysis	Lec / Lab Assignment #2
9	2 Oct	<ul style="list-style-type: none">- Data Visualization with Graph Plotting- Review	Lec / Lab
10	9 Oct	<ul style="list-style-type: none">- Examination	Exam (2hr)

Remark: The above teaching schedule is just an outline of the course and the instructor can make adjustment where appropriate.

Venues:

- CUSCS Central Learning Centre – 1/F Bank of America Tower, 12 Harcourt Road, Central.

Assessment Method

1. Exam – 40%
2. Assignment – 30%
3. Case Studies – 20%
4. Class participation – 10%

Suggested Reading

1. Knapp, M. (2017). Python programming for intermediates: Learn the fundamentals of Python in 7 Days. Independently Published.
2. Philips, D. (2018). Python 3 object-oriented programming: Build robust and maintainable software with object-oriented design patterns in Python 3.8 (3rd ed.). Birmingham: Packt Publishing.
3. Chen, D. Y. (2017). Pandas for everyone: Python data analysis. Addison-Wesley Professional.

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