The Hong Kong Polytechnic University

Subject Description Form

Subject Code	LGT3109
Subject Title	Introduction to Coding for Business with Python
Credit Value	3
Level	3
Normal Duration	1-semester
Pre-requisite / Co-requisite/ Exclusion	Nil
Objectives	Python is a popular coding (programming) language. It is easy to learn, and has been widely used by business professionals to facilitate their daily operational tasks and analytical jobs. This course introduces the fundamentals of Python language and its applications for task automation for business operations, and data management for business analytics. Students with or without programming experience are all welcome. The objective of this course is to enable students to: 1. grasp the fundamentals of Python language and the basics of coding; 2. be familiar with the basic usage of Python language in business applications; 3. be able to apply basic knowledge and skills of Python programming for basic business applications; 4. develop ability, interest, and confidence in exploiting benefits from coding for business**.**
Subject Learning Outcomes	Upon completion of the subject, students will be able to: a. read and analyse basic Python programs; b. develop, test and debug basic Python programs; c. understand business applications of Python programs; d. apply Python programming for basic business applications in task automation data management.

<table>
<tr><td>Subject Synopsis/ Indicative Syllabus</td><td>
<table>
<tr><th>Topics</th><th>Sub-topics</th><th>Remarks</th></tr>
<tr><td rowspan="6">Python Fundamentals</td><td>Getting Started: What’s the use of Python? How to type and execute Python programs?</td><td rowspan="6">Lectures and Lab Tutorials</td></tr>
<tr><td>Variables, Simple Data Types, and Basic Flow Control</td></tr>
<tr><td>Functions</td></tr>
<tr><td>Strings, Lists, and Dictionaries</td></tr>
<tr><td>Testing and Debugging Python Programs</td></tr>
<tr><td>Object-Oriented Programming</td></tr>
<tr><td rowspan="2">Business Applications of Python (1): Task Automation in Business Operations</td><td>Organizing, Reading, and Writing Working Files</td><td rowspan="2">Lectures, Case Study, and Lab Tutorials</td></tr>
<tr><td>Working with CSV Files and Excel Spread Sheets</td></tr>
<tr><td rowspan="3">Business Applications of Python (2): Data Management for Business Analytics</td><td>Data Cleaning</td><td rowspan="3">Lectures, Case Study, and Lab Tutorial</td></tr>
<tr><td>Data Analysis</td></tr>
<tr><td>Data Visualization</td></tr>
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<tr><td>Teaching/Learning Methodology</td><td>

During lectures, basic knowledge of python language and its business application will be introduced and discussed.
During tutorials, students will be guided to practice the basic usages and development of Python programs for business applications in a computer lab.

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Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					
		a	b	c	d		
Coursework	50 %	✓	✓	✓	✓		
Examination	50 %	✓	✓	✓	✓		
Total	100 %						

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

The coursework includes a series of written assignments to assess the subject outcomes (a) and (c), as well as a series of tutorial exercises for practicing the development of Python programs to assess the subject outcomes (b) and (d). The final exam is based on questions relevant to basic concepts, knowledge, and skills about Python language and its business applications, to access subject outcomes (a) – (d).

To reflect the significant technology content in this subject, *10% (or more)* of the overall weighting of this subject is based on individual assessment concerning technology-related knowledge.

Student Study Effort Expected

Class contact:	
▪ Lectures	26 Hrs.
▪ Tutorials	13 Hrs.
Other student study effort:	
▪ Assignment and Self-Study	40 Hrs.
▪ Additional Exercises on Python Programming After Tutorials	47 Hrs.
Total student study effort	126 Hrs.

Reading List and References

<u>Reference Textbook</u>

Charles Russell Severance, Sue Blumenber, Elliott Hauser, and Aimee Andrion . (2016) *Python for Everybody: Exploring Data in Python 3*. CreateSpace Independent Publishing Platform.

Clinton W. Brownley. (2016) *Foundations for Analytics with Python: From Non-Programmer to Hacker*, O'Reilly Media.

Al Sweigart. (2019) *Automate the Boring Stuff with Python, 2nd Edition: Practical Programming for Total Beginners*. No Starch Press.