HKU BUSINESS SCHOOL
港大經管學院

Inspire·Empower·Lead

1. General Information	
Course Subject	IIMT
Course Number	2602
Course Title	Business Programming
Academic Years	2024-2025
Grading Method	Letter

2. Instructors

Dr DING, Chao
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Consultation: Fri(By appointment)
Subclasses: 2A,2B

4. Course Description	
Course Description	With today's fast-paced digital transformation, massive trails of data have been generated as the by-product of our day-to-day activities. In virtually all business sectors, decision-making is increasingly data-driven. This course aims at teaching students how to write computer programs using Python to collect, analyze, and interpret data from real-world applications. It is designed for absolute beginners. Students will build essential skills from scratch. The focus of the course will be on the fundamentals of Python, data manipulation, visualization, and analysis.
Mutually exclusive	COMP1117 Computer programming ENGG1330 Computer programming I

5. Course Objectives

1. Understand the basic programming concepts
2. Understand the basic syntax and semantics of the Python language
3. Understand the primitive data types built into Python
4. Understand the control structures and repetition structures
5. Understand the principles of data storage and manipulation
6. Be able to design, write and debug simple programs to handle real-world data

6. Faculty Learning Goals

Goal 1: Acquisition and internalization of knowledge of the programme discipline

Goal 2: Application and integration of knowledge

6. Faculty Learning Goals
Goal 3: Inculcating professionalism
Goal 4: Developing global outlook
Goal 5: Mastering communication skills
Goal 6: Cultivating leadership

7. Course Learning Outcomes						
Course Teaching and Learning Activities	Aligned Faculty Learning Goals					
	1	2	3	4	5	6
CLO1. Students will become fully proficient in Python programming for data analysis and analytics, including a conceptual and operational understanding of object oriented programming.	✔					
CLO2. Students will be exposed to and used to many of the advanced Python libraries for data analytics and manipulation.	✔	✔				
CLO3. Students will learn how to transform, clean up, and conduct data-munging for a wide variety of messy real-world data using NumPy and Pandas, so that it can be analyzed via advanced analytics in Python.	✔	✔				
CLO4. Students will be encouraged to solve unexpected analytics problems in a creative yet logically disciplined manner using Python and data science skills, and to communicate their ideas with their classmates and instructor.		✔	✔		✔	
CLO5. Students will demonstrate professionalism and originality in finding an interesting real-world problem of global importance (e.g., healthcare, security, business, social media) that they attempt to solve with original analytics methods that they apply through a full application of Python and other tools.		✔	✔	✔	✔	

8. Course Teaching and Learning Activities		
Course Teaching and Learning Activities #	Expected Study Hours	Study Load (% of study)
T&L1. Interactive lectures and discussions	25	20.8
T&L2. In-class quizzes	5	4.2
T&L3. Assignments	15	12.5
T&L4. Course readings	25	20.8
T&L5. Self-study and self-training	50	41.7
	Total: 120	Total: 100

9. Assessment Methods			
Assessment Methods	Description	Weight %	Aligned Course Learning Outcomes
A1. Participation	Interactions and discussions.	10%	1,2

9. Assessment Methods			
A2. Quizzes	In-class quizzes.	15%	1,2,3
A3. Assignments	Take-home assignments.	25%	1,2,3,4
A4. Midterm exam	One midterm examination.	20%	1,2,3,4,5
A5. Final Exam	One final examination.	30%	1,2,3,4,5

10. Course Grade Descriptors	
A+,A,A-	The student is able to apply all the methods learned in the course to new, unexpected situations, independently and in a novel manner that goes beyond expectations of a good student. Student has achieved an impressive mastery of course content.
B+,B,B-	The student is able to apply the methods learned in the course, but only under partial guidance. Student has achieved a basic mastery of course content, and thus meets expectations.
C+,C,C-	The student understands conceptually most of the methods learned, but cannot apply them all, even under guidance. Performance is that of an average student and content knowledge is that of a novice, which is below expectations.
D+,D	The student has shown some effort but has a highly limited understanding of course content. Performance and content knowledge are poor and not to the level expected for a future data analytics professional.
F	The student has shown little effort or understanding toward course content. Performance and content knowledge are completely unacceptable.

11. Course Content and Tentative Teaching Schedule		
Topic/ Session	Content	Readings
1	Course overview Variables Expressions Statements	Severance – Ch. 1, 2
2	Conditional execution	Severance – Ch. 3
3	Functions	Severance – Ch. 4
4	Modules and packages	Severance – Ch. 4
5	Loops and iterations	Severance – Ch. 5
6	Strings	Severance – Ch. 6
7	Lists	Severance – Ch. 8
8	Dictionaries, Tuples	Severance – Ch. 9, 10
9	Files I/O	Severance – Ch. 7
10	Regular expression	Severance – Ch. 11
11	NumPy	McKinney – Ch. 4
12	Pandas	McKinney – Ch. 5

12. Required/Recommended Readings & Online Materials	
Reading	*Python for Everybody* -- Charles R. Severance Free access at: https://www.py4e.com/book *Python for Data Analysis* -- Wes McKinney Free code at: https://github.com/wesm/pydata-book
Textbook	*Think Python* 2nd Edition -- Allen Downey Free access at: https://greenteapress.com/wp/think-python-2e/

13. Means / Processes for Student feedback on Course	
	Conducting mid-term survey in additional to SETL around the end of the semester
✔	Online response via Moodle site
✔	Others

14. Course Policy

1. Midterm exam and final exam are not to be missed unless under exceptional circumstances.
2. Attendance of all lectures is not mandatory but strongly encouraged.
3. Plagiarism and copying of copyright materials are serious offences and may lead to disciplinary actions. For details concerning plagiarism, please refer to: http://www.hku.hk/plagiarism/page2s.htm
4. Late penalty of assignments: 25% deduction for 1 day overdue, 50% deduction for 2 days overdue, and 100% deduction for 3 days overdue.