

ISOM 3400 (L1) – Business Applications Development in Python

Summer, 2025

Mon / Wed / Fri 9:00 – 12:20 Lecture, 13:00 – 13:50 Lab

Rm 1003, LSK Bldg

Instructor: Kai YE, Ph.D. candidate

Email: kai.ye@connect.ust.hk

Office Hours: By appointment

Course Website: <https://canvas.ust.hk>

COURSE GOALS

This course will provide students with knowledge of and skills in Python programming and experience in designing and developing business applications.

LEARNING OUTCOMES

By the end of this course, students will be able to:

- (1) Acquire programming knowledge with Python.
- (2) Design and develop business applications in Python.
- (3) Learn conventional Python programming styles.

COURSE DESCRIPTION

Python has recently become the most popular general-purpose programming language according to many polls among programmers. The scripting nature of Python allows fast development and easy maintenance of applications. More importantly, the unparalleled community support makes Python increasingly powerful. In this course, students will learn Python programming language in the context of business application development. Business applications involve both business requirements and user requirements. Therefore, developers and programmers who design and develop business applications for organizations are required to meet those requirements. We believe that the combination of Python programming skills and business applications development will provide high practical value to students majoring in Information Systems as well as other related fields.

TEACHING APPROACH

In general, the teaching approach is based on the notion of an understandable, interactive illustration of key concepts in Python, followed by hands-on practices and individual assignments.

EVALUATION

*** Note: You are prohibited from using generative artificial intelligence (AI) tools to produce**

any content related to the assessment tasks.

An initiable part of this end of any university course is the evaluation and the grade. In any course, the most important evaluation is a student's self-evaluation: how much new and useful knowledge and skills did students learn from the course? Has the course changed student views about themselves and future career? If so, students' efforts here will have paid off. The student's course goals will be assessed in the following manner, and the percentage of grade is broken down as below:

Components	Percentage of the grade
A. In-class Exercises	20%
B. Assignment 1	15%
C. Assignment 2	15%
D. Final Exam – Programming concepts	25%
E. Final Exam – Advanced techniques	25%
Total	100%

A. In-class Exercises

There are about FIVE in-class exercises throughout the semester. They will give you hands-on practice in Python programming in a setting where you can ask questions and collaborate with fellow students. Students' answers will be collected and graded. The highest 4 out of the 5 scores will count towards the final grade. For each in-class exercise, the deadline of submission will be midnight on the same day the in-class exercise questions are given (23:59 pm). There will be NO makeup in-class exercises for whatever reasons.

B. Assignment

There are TWO individual assignments. Students are expected to apply Python programming skills to solve practical business application problems.

C. Final Exam

The final exam will cover ALL TOPICS taught in the course. Students may bring up to three (3) A4-sized, double-sided pages of self-prepared cheat sheets to the exam. Further information will be provided in the last class.

Late policy

Turn in your work early if there is any uncertainty about your ability to turn it in at the due time. Submissions up to 24 hours late will have their grade reduced by 25%; those up to 48 hours late will have their grade reduced by 50%. They will not be accepted for credit after two days.

Make-up policy

There will be no make-up exams except due to extraordinary circumstances beyond your control such as medical emergencies. Students must submit the required documentation

described on the ARO's Exam Regulations website in order to be considered for a make-up exam.

Grade appeal

All scores will be uploaded to Canvas when ready. It is the student's responsibility to check their scores and make sure they are correct. Any score appeal needs to be filed through email to kai.ye@connect.ust.hk. No score appeal shall be allowed after a checking/appeal period (e.g., 48 hours after a score is released) if applicable. If a student cannot come to check his/her paper during the checking period, the student's score will be finalized by default. We will not be able to change/correct his/her score after the checking/appeal period.

Academic Integrity

Students are expected to uphold the highest standards of academic integrity. Any form of cheating, plagiarism, or unauthorized assistance during assignments or exams is strictly prohibited. Violations will result in disciplinary action in accordance with university policies. For assignments, plagiarism—including copying from other students or external sources without proper attribution—is not allowed. All submitted work must be original and reflect the student's own understanding. If plagiarism is suspected, the student may be required to meet with the instructor to explain their code and demonstrate their understanding. Additionally, students must prepare their own cheat sheets for exams—sharing or copying materials from others is not permitted. For further details on academic integrity guidelines, please refer to the university's official policy.

STUDENT LEARNING RESOURCES

1. MAIN READING

Lecture notes and PowerPoint slides. Also note that many useful resources are available online, so no required textbook will be assigned. Students are strongly encouraged to take advantage of the online information (e.g., Google, YouTube, stack overflow).

2. SOFTWARE

- Anaconda Navigator (for Windows, Mac, or Linux)
 - ✧ Jupyter notebook
 - ✧ Python 3.11+
 - ✧ Visual Studio Code (VS Code)

COURSE SCHEDULE

The course is offered in lecture sessions.

- ✧ Mon, Wed, & Fri: 9:00 – 12:20 Lecture, 13:00 – 13:50 Lab

Course Schedule (Tentative)				
Week	Date	Lecture	Lab	Assignment
1	Jun 16	Course Introduction Python Basics: Data, Data Types, and Operators	Lab 0: Software Setup Lab 1: Python Basics	
1	Jun 18	Data Structures: Lists, Tuples, Dictionaries, and Sets In-class exercise session 1	Lab 2 - Lists, Tuples Lab 3 - Sets, Dictionaries	
1	Jun 20	Control Structures: if, for, while, and try statements In-class exercise session 2	Lab 4 - Control Structures Lab 5 - Unpacking	Assignment 1 Release
2	Jun 23	Functions, Classes, and Modules	Lab 6 - Functions	
2	Jun 25	Functions, Classes, and Modules (Cont.) In-class exercise session 3	Lab 7 - Web Scraping I HTML CSS	
2	Jun 27	Web Scraping with <i>Beautiful Soup</i> In-class exercise session 4	Lab 8 - Web Scraping II Beautiful Soup	Assignment 1 Due & Assignment 2 Release
3	Jul 2	Data Analysis and Manipulation		
3	Jul 4	Guest Lecture: TBD Web App Development with <i>Streamlit</i>	Lab 9 - <i>Streamlit</i> Setup	Assignment 2 Due
4	Jul 7	Web App Development with <i>Streamlit</i>	Lab 10 - Web App Development I	
4	Jul 9	Web App Development with <i>Streamlit</i> API In-class exercise session 5	Lab 11 - Web App Development II	
4	Jul 11	Final Exam		