

# Capital University of Economics and Business

## Overseas Chinese College

### Course Syllabus

<b>Year and Semester</b>	2026 Spring					
<b>Course Name</b>	Foundation of Python Programming					
<b>Course Code</b>	MIS233					
<b>Course Type</b>	<input type="checkbox"/> General Education (Required)		<input type="checkbox"/> General Education (Elective)			
	<input type="checkbox"/> Basic Disciplinary Course		<input checked="" type="checkbox"/> Professional Course (Required)			
	<input type="checkbox"/> Professional Course (Elective)		<input type="checkbox"/> Professional Course (Expanded)			
	<input type="checkbox"/> Professional Course (Advanced)					
<b>Course Credits</b>	4					
<b>Course Hours</b>	Total Class Hours	64	Lecture Hours	32	Experiment (Computer) Hours	32
<b>Applicable object</b>	<input type="checkbox"/> Freshman <input checked="" type="checkbox"/> Sophomore <input type="checkbox"/> Junior <input type="checkbox"/> Senior					
	<input type="checkbox"/> Business Administration (Accounting)					
	<input checked="" type="checkbox"/> Information Management and Information Systems (Finance)					
<b>Prerequisites</b>	MIS223					
<b>Instructor</b>	Changjun Ru Jingning Li					
<b>Contact Information</b>	Office: C217					
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<b>Office Hour</b>	TBA					
<b>Learning Centre</b>	TBA					
<b>Grade/Section</b>	2024IT&2024CFA					
<b>Course Time/Place</b>	2024IT:W: 8:00-9:35; F: 9:55-11:30 (B211) 2024CFA: M: 13:30-15:05; W: 8:00-9:35 (C320B)					
<b>Textbook</b>	Eric Matthes, <i>Python Crash Course: A Hands-On, Project-Based Introduction to Programming</i> , 2nd Edition, No Starch Press, ISBN 978-1-593-27928-8.					

#### Reference Book

Mark Lutz, *Programming Python*, 4th Edition, O'Reilly Media, Inc, ISBN 978-1-491-97731-6.

#### Course Description

Python is a very popular big data analysis software, which replaces Java and becomes the number one language in programming field by its useful and easy features. The Description of this course, is guiding students to understand the programming mode of python, and skillfully use Python operators, built-in functions, basic data types such as list, tuple, dictionary and collection, and related list derivation and slicing to solve practical problems, in order to improve students' professional quality of programming.

### Student Learning Outcomes

On successful completion of this course, candidates should be able to:

Knowledge	<ul style="list-style-type: none"> <li>• Understand Python language</li> <li>• Recognize the differences between Python and Java language</li> <li>• Understand the steps to design a program.</li> </ul>
Capability	<ul style="list-style-type: none"> <li>• Apply Python language to write a modestly complex program involving multiple functions</li> <li>• Apply database to work with a Python program</li> <li>• Design and test each function</li> </ul>
Mindset	<ul style="list-style-type: none"> <li>• Develop the quality and morals of being objective, integrity and dedication.</li> <li>• Be logical, ethical, methodical, consistent and accurate</li> <li>• Apply critical thinking in the process of decision making</li> <li>• Cultivate the spirit of Xi Jinping Economic Thought</li> </ul>

### Website Source

1. <https://www.bilibili.com/video/BV1ht41187Aa?from=search&seid=2821357085891750127>
2. <https://www.bilibili.com/video/BV1wD4y1o7AS?from=search&seid=10650633478054591671>

### Teaching Methods

This course includes skill demonstration, project practice, homework and classroom test. In the last two weeks, each student will be provided with personalized data to test their ability to understand and apply knowledge.

This course adopts the flipped classroom teaching mode, and provides detailed operation handouts in advance. Students are required to complete the preview and homework before class, assess and score in class, finish the project cases independently after class, and obtain the final results by means of speech competitions.

### Grade Criterion

Component	Weight	Description
Final Exam	20%	A cumulative final examination will be given based on all of the contents of the class. The exam paper may be composed of computer operation questions and case analysis questions. Students should rely primarily on homework assignments to give them a sense of what they may see for material on exams.
Mid-Term Test	20%	A cumulative midterm test will be given based on all of the contents that have been taught in class. The test paper may be mainly composed of multiple-choice questions and it should be completed in class.
Homework	15%	Most of the assigned homework is taken from the Exercises in the textbook. Assignments will be collected at the clearly stated date. Late assignments will not be accepted. The graded assignments may be kept by the tutor for reference and won't be returned to students.

Quizzes	15%	There will be at least 2 quizzes during the semester. Quizzes may or may not be announced in advance. It may also be used as a way to check the attendance. Quizzes will test your knowledge of both concepts and the application of those concepts.
Presentation	10%	The students will be divided into several groups to prepare a presentation. Each student is required to be involved in the presentation. The topics can be selected from the textbook or lectures. Each group need to finish a PPT related to the topic which is given and hand in the related resources to the teacher before the presentation.
Participation	10%	Individuals will be asked to participate individually in a question and answer at least 5 times during the semester. The performances should be counted in their participation.
Attendance	10%	Refer to attendance policy listed below
<b>Total</b>	<b>100%</b>	

### **Detailed Grade Computation**

	<b>Before Midterm</b>	<b>After Midterm</b>
Attendance	5%	5%
Participation	5%	5%
Homework	5%	10%
Quizzes	5%	10%
Presentation		10%
Midterm test	20%	
Final exam		20%
Total	40%	60%

### **Assessment of Student Performance**

#### ***☞ Self-Study and Reading ability Practice***

Instructor will give out the chapters or the reference books to read and use class hours to have discussion; students should be able to show a proactive attitude and ability for self-study and reading. Knowledge and oral English will be elements of homework or presentation score.

#### ***☞ Homework***

Students should finish their homework by themselves. Copying from others will be treated as cheating and the homework scores will be lowered. Students should hand in all assignments on time. Late assignments will be accepted at the discretion of the instructor (i.e., when the student was ill or had an excused absence). Late assignments without reasonable proof will be reduced in score by 50%.

#### ***☞ Attendance***

Because the course covers a great deal of material, attending every class session is very important for performing well.

- ◆ Being late for 15 minutes or more is considered an absence.
- ◆ Five hours or above of unexcused absences will result in the lower level of the final grade by one grade band (e.g. from C – to D +). Any excused absence must be discussed directly with the teacher.
- ◆ Absence which is more than 1/3 of the total teaching hours will cause an F (a failing grade) directly.

but students are welcome to continue attending classes.

- ♦ An incomplete grade (I) will be considered in case of medical or family emergencies.

### ☞ Participation

- ♦ Students should participate in classes actively. Half of participation grade is determined by their presentation in class. They are encouraged to ask questions relevant to the subject and express their own opinions. Every student should respect the ideas, opinions, and questions of their classmates.
- ♦ Students should also use office hours to ask questions or talk with the instructor for good communication and effective learning.
- ♦ Frequent visiting the instructor and chatting in English during office hours is highly recommended.
- ♦ Any misbehavior and non-class related activities in class will result in the lower level of the participation grade, including ringing cell phones.
- ♦ All above behaviors will be solely evaluated by the instructor for scoring.

### ☞ Textbook

Students must bring the textbook to class.

### Topic Course Outline (original)

Week	Content	Homework
1	<ul style="list-style-type: none"> <li>● Syllabus</li> <li>● Realize Python environment on PC</li> <li>● Chapter 1 Python Overview - Getting Started                             <ul style="list-style-type: none"> <li>-- Learn print()</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Setup Python environment</li> <li>● Write the 1st Python program using Jupyter, PyCharm, Python3</li> </ul>
	<ul style="list-style-type: none"> <li>● Chapter 1 Python Overview - Getting Started                             <ul style="list-style-type: none"> <li>-- Introduce Python programming Language                                     <ul style="list-style-type: none"> <li>o Which technology is hot today?</li> <li>o Why do we learn Python?</li> <li>o Python Scientific Computing Ecosystem</li> <li>o Python History</li> <li>o Python Data Analysis Process</li> </ul> </li> <li>-- Differences from C and Java</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● How to show up the below results using formula 5/2: 2, 2.0, 2.5</li> <li>● How to do Math.sqrt(81); using Python?</li> <li>● How to count how many “的” using 3 Python statements?</li> </ul>
2	<ul style="list-style-type: none"> <li>● Chapter 2 Variables and Simple Data Types                             <ul style="list-style-type: none"> <li>-- Introduce Variables:                                     <ul style="list-style-type: none"> <li>o Numeric</li> <li>o String</li> </ul> </li> <li>-- Write comments in Python</li> <li>-- How to create .py files?</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Find people's name and age information</li> <li>● Review the new knowledge for next lecture's mini test</li> </ul>
	<ul style="list-style-type: none"> <li>● Chapter 2 Variables and Simple Data Types                             <ul style="list-style-type: none"> <li>-- Mini-test (20 questions)</li> <li>-- 1 programming homework</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● 1 programming homework</li> </ul>
3	<ul style="list-style-type: none"> <li>● Chapter 3 Introducing Lists                             <ul style="list-style-type: none"> <li>-- What is a List?</li> <li>-- Accessing Elements in a List</li> <li>-- Changing, Adding, and Removing Elements</li> <li>-- Organizing a list</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Improve the last homework using list</li> <li>● Delete the similar elements from the list (extra)</li> </ul>

	<ul style="list-style-type: none"> <li>● Chapter 4 Working with Lists <ul style="list-style-type: none"> <li>-- Looping Through an Entire List</li> <li>-- Avoiding Indentation Errors</li> <li>-- Mini-test</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Improve the last homework using for loop</li> </ul>
4	<ul style="list-style-type: none"> <li>● Chapter 4 Working with Lists <ul style="list-style-type: none"> <li>-- Making Numerical Lists</li> <li>-- Working with Part of a List</li> <li>-- Tuples</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Improve the last week homework using list()</li> <li>● 7 programming homework from the textbook</li> </ul>
	<ul style="list-style-type: none"> <li>● Chapter 5 if Statements <ul style="list-style-type: none"> <li>-- A Simple Example</li> <li>-- Conditional Tests</li> <li>-- If Statements</li> <li>-- Using if Statements with Lists</li> <li>-- 2 programming homework</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Write 2 program using if statement with for loop and list</li> </ul>
5	<p><b>Qing Ming Festival</b></p>	
	<ul style="list-style-type: none"> <li>● Chapter 5 if Statements <ul style="list-style-type: none"> <li>-- Share the last lecture homework answers</li> <li>-- 2 programming homework</li> <li>-- Mini-test</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Write a program for Universal ticket prices (ager, bus, take photos)</li> <li>● Pick up one question to do from the textbook (5-3 to 5-7)</li> </ul>
6	<ul style="list-style-type: none"> <li>● Chapter 6 Dictionaries <ul style="list-style-type: none"> <li>-- A Simple Dictionary</li> <li>-- Working with Dictionaries</li> <li>-- Looping Through a Dictionary</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Write 2-3 programs using dictionary</li> </ul>
	<ul style="list-style-type: none"> <li>● Chapter 6 Dictionaries <ul style="list-style-type: none"> <li>-- Nesting</li> <li>-- Mini-test</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Write 1 program using nesting dictionary</li> </ul>
7	<p><b>Quiz 1</b> <b>Midterm Test</b></p>	
	<p><b>Midterm Test – Answer Time</b></p>	<ul style="list-style-type: none"> <li>● Write 1 program for game</li> </ul>
8	<ul style="list-style-type: none"> <li>● Chapter 7 User Input and while loops <ul style="list-style-type: none"> <li>-- How the input() Function Works</li> <li>-- Introducing while Loops</li> <li>-- Using a while Loop with Lists and Dictionaries</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Start Assignment 1 in groups</li> </ul>
	<ul style="list-style-type: none"> <li>● Chapter 7 User Input and while loops <ul style="list-style-type: none"> <li>-- Assignment 1 in groups</li> <li>-- Mini-test 6</li> </ul> </li> </ul>	
9	<p><b>Labor Day Holiday</b></p>	
	<ul style="list-style-type: none"> <li>● Chapter 8 Functions <ul style="list-style-type: none"> <li>-- Defining a Function</li> <li>-- Passing Arguments</li> <li>-- Return Values</li> <li>-- Passing a List</li> <li>-- Passing an Arbitrary Number of Arguments</li> <li>-- Storing Your Functions in Modules</li> <li>-- Styling Functions</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● 2 programming homework</li> </ul>

10	<ul style="list-style-type: none"> <li>● Chapter 8 Functions</li> <li>-- Assignment 1 in groups</li> </ul>	<ul style="list-style-type: none"> <li>• 3 tasks</li> </ul>
	<ul style="list-style-type: none"> <li>● Chapter 9 Classes</li> <li>-- Review functions</li> <li>-- Creating and Using a Class</li> <li>-- Working with Classes and Instances</li> <li>-- 1 programming homework</li> </ul>	<ul style="list-style-type: none"> <li>• 1 programming homework (Java -&gt; Python)</li> </ul>
11	<ul style="list-style-type: none"> <li>● Chapter 9 Classes</li> <li>-- Inheritance</li> <li>-- Importing Classes</li> <li>-- Prepare Presentation - Assignment 1</li> </ul>	<ul style="list-style-type: none"> <li>• 1 programming homework (Java -&gt; Python)</li> </ul>
	<ul style="list-style-type: none"> <li>● Chapter 10 Files and Exceptions</li> <li>-- Reading from a File</li> <li>-- Writing to a File</li> </ul>	<ul style="list-style-type: none"> <li>• 2 tasks</li> </ul>
12	<ul style="list-style-type: none"> <li>● Chapter 10 Files and Exceptions</li> <li>-- Reading from a File</li> <li>-- Writing to a File</li> <li>-- Exceptions</li> </ul>	<ul style="list-style-type: none"> <li>• 2 programming homework</li> </ul>
	<ul style="list-style-type: none"> <li>● Chapter 10 Files and Exceptions</li> <li>-- Share the last lecture homework answers</li> <li>-- Exceptions</li> <li>-- 1 programming homework</li> </ul>	<ul style="list-style-type: none"> <li>• 1 programming homework</li> </ul>
13	<ul style="list-style-type: none"> <li>● Chapter 10 Files and Exceptions</li> <li>-- Reading from an excel File</li> <li>-- Writing to an excel File</li> <li>-- Exceptions</li> </ul>	<ul style="list-style-type: none"> <li>• 2 programming homework</li> </ul>
	<ul style="list-style-type: none"> <li>● Chapter 10 Files and Exceptions</li> <li>-- Share the last lecture homework answers</li> <li>-- Reading from an XML File</li> <li>-- Writing to an XML File</li> <li>-- 1 programming homework</li> </ul>	<ul style="list-style-type: none"> <li>• 1 programming homework</li> </ul>
14	<ul style="list-style-type: none"> <li>● Basic information of Web Spider</li> <li>● Regular expression</li> </ul>	
	<ul style="list-style-type: none"> <li>● Quiz 2</li> </ul>	
15	<ul style="list-style-type: none"> <li>● Presentation – Part 1</li> </ul>	
	<ul style="list-style-type: none"> <li>● Presentation – Part 2</li> </ul>	
16	<ul style="list-style-type: none"> <li>● Review</li> <li>● Mock Exam</li> </ul>	
	<ul style="list-style-type: none"> <li>● Q&amp;A Time</li> </ul>	

*Note: Some chapters or sections may leave for self-study, this is the students' duty to learn and understand, they may also be included in the quizzes or exams. A review in Chinese may be held during L.C. and O.H. in the semester.*

### **Teacher's Office Hour**

- ◆ The instructor's office hour is shown in the front of the office door.
- ◆ Students are suggested to use the instructor's office hour and learning center to ask questions or talk with the instructor once at least per week for good communication and effective learning, which is recorded in the students' participation.

- ♦ The time can be scheduled by instructors or students, or both.

### **Cheating and Plagiarism**

Cheating is not tolerated. Any student caught cheating on a quiz; test or exam will be given a mark of zero (0) for the particular work. At the beginning of the semester the definition of plagiarism will be carefully explained, when any thoughts or writings of another person are used, they must be clearly identified (usually one uses quotation marks) and the source notes. **If any student is caught cheating on any homework assignment, the highest score the student can earn in that course is a "C".**

### **Important Dates**

<b>Midterm Test</b>	<b>Week 9 or 10</b>
<b>Final Exam</b>	<b>Week 17 (Refer to the notice of the Academic Affairs Office)</b>

*Note: This syllabus is tentative and may be changed or modified throughout the semester. All students will be notified and a new syllabus will be given.*

**Instructor: Changjun Ru, Jingning Li**

**Department Head: Jingning Li**

