Capital University of Economics and Business
Overseas Chinese College
Course Syllabus

Year and Semester	2019 Spring (February 25, 2019 - July 14, 2019)
Course Name	Application Programming Design
Course Code	MIS224
Course Type	☑ General Education (Required) ☐ General Education (Elective) ☐ Professional Course (Required) ☐ Professional Course (Elective) ☐ Basic Disciplinary Course
Course Credits	4
Course Hours	64
Prerequisites	None
Instructor	Jingning Li
Contact Information	Office: C217 Tele: (010)83951082 Email: lijingning@cueb.edu.cn
Office Hour	M: 14:30-16:30; T: 15:30-16:30; Th: 10:00-12:00; F: 9:00-10:00
Learning Centre	T: 18:00-20:00; W: 14:30-16:30
Grade/Section	2017IT/Y01
Course Time/Place	TF: 10:10-12:00 / B312

Textbook

H. M. Deitel and P. J. Deitel. *Java How to Program.* Publishing House of Electronics Industry, Beijjing, ISBN 978-7-121-18188-7.

Reference Book

1. John Lewis and William Loftus. *Java Software Solutions Foundations of Program Design, 6th Edition*, ISBN 978-7-121-08808-7.

Course Description

This course is an introduction to programming computers. It is the main introductory course in the Information Technology department and is taken by students from a variety of disciplines wishing to have an understanding of computer programming as well as students wanting to continue on to further studies in Information Technology.

We teach programming using the cross-platform, object-oriented programming language Java. The main focus is on learning to understand the detailed requirements of a programming task, and writing programs that are well structured, correct, easy to read, and to maintain. In order to do these, students need to develop an understanding of how to represent information both as data and algorithms within the objects of a Java program.

By the end of the course students who succeed are able to design and implement a computer program as well as have some idea of the process of program execution.

Student Learning Objectives

At the completion of this unit students will have knowledge and understanding of:

- Java language
- data within a Java program
- the techniques and tools to design and implement a Java program suitable for an information system

Website Source

1. Java API: http://download.oracle.com/javase/1.5.0/docs/api/

Teaching Methods

This course consists of lectures, video preview, lab practice, group discussions, study groups, hands-on projects, group presentation, and lab quiz. Students must be prepared to finish some small questions, small quiz, and programming test about the assigned chapters during the class and the lab class.

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 multiple-choice questions, short answer questions, essay questions, problems, and preparation of financial statements. 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 within 15 minutes 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 will 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
Total	100%	

Detailed Grade Computation

	Before Midterm	After Midterm
Attendance	5%	5%
Participation	5%	5%
Homework/assignment	5%	10%
Quizzes/tests	5%	10%
Presentation		10%
Midterm test	20% (5% of critical thinking)	
Final exam		20% (5% of critical thinking)
Total	40%	60%

Grading Policy

A+ 97-100	A 93-96	A- 90–92	B+ 87-89	B 83-86	B- 80–82
C+ 75-79	C 70-74	C- 67–69	D+ 63–66	D 62-60	F 0- 59

Exam Schedule

Midterm Test: April 29-May 3, 2019;
Final Exam: June 17-21, 2019

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%.

Assignment should be printed out. Anything that cannot be read will be marked wrong. Printing requirements are as followed: single space between lines, double space between paragraphs, font size is 12 (maximum). Grammar error can reduce 20% of your score.

☞ ***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.

Topical Course Outline

Week	Date	Topics	Homework
1	Feb. 26	• Syllabus • Introduction to Java (using the *Java Coffee Can*), setup Java environment, and make the first Java program - FirstProgram.java, Escape sequence (Textbook: Chapter 1, Chapter 2)	• Ask students to buy the textbook, Supplementary Materials, and homework book
	Mar. 1	• Introduction to computer system, computer languages, Java programming language (Textbook: Chapter 1)	• Check the textbook, Supplementary Materials, and homework book • Paper test on knowledge Escape sequence • Paper test on Ex1 (submit the homework book)
2	Mar. 5	• Pre-test • Checking test • Details of Java syntax, variables, symbolic constants, displaying output, operators (part 1: Slider 16) (Textbook: Chapter 3, Appendix A, Appendix D)	
	Mar. 8	• Details of operators (part 2) and data type conversion	

		• Lab Practice: Ex1-4 (Textbook: Chapter 3, Appendix A, Appendix D)	
3	Mar. 12	• Pre-test • Checking test • Details of Java variable types, flow of control, Boolean expressions, conditional statements (Part 1: Slider 20) (Textbook: Appendix G, Chapter 4)	
	Mar. 15	• Details of conditional statements (from Slider 20) • Details of iteration, repetition statements • Lab Practice: Ex3-7 (Textbook: Chapter 5)	
4	Mar. 19	• Details of comparing data • Checking L3 Exercises • Details of classes and methods • Details of static methods (such as Integer class, Double class, String class, Math class) (Textbook: Chapter 6)	• Start Assignment 1
	Mar. 22	• Mini-Test (covers week1 - 3 knowledge) • Review the static methods from the last class • Details of instance methods, and the return statement (Textbook: Chapter 6, Chapter 18)	• Submit Assignment 1 Step 1
5	Mar. 26	• Show up the last lecture's answers • Quick check: random, switch • Introduce Flow Chart • Details of the return statement • Details of Java API packages, user input • Exercise 6-9 (Textbook: Chapter 3.9, Chapter 6, Chapter 21)	
	Mar. 29	• Check Exercise 6-9 answers one by one (L4) • Exercise 4 (p.36-37) • Method case study – Part 1 (L5) • Method case study – Part 2 (L5) • Check Exercise 4 answers • Method case study – Part 3 (L5 homework) • Self-study details: exception handling (Textbook: Chapter 6, Chapter 21)	
6	Apr. 2	• Check method case study – Part 1-3's answers (L5) (Textbook: Chapter 6, Chapter 21)	
	Apr. 5	**Qingming Festival**	• Details of exception handling • Lab Practice on exception handling • Answer students questions on L5

			Exercises and exception handling
7	Apr. 9	• Answer students questions on L5 Exercises and exception handling • Cover: Java syntax, variables, symbolic constants, displaying output, operators, data type conversion, Boolean expressions, conditional statements, repetition statements, comparing data, static methods (such as Integer class, Double class, String class, Math class), instance methods Closed-book, and one hour quiz	
	Apr. 12	• Show up Quiz's answers and answer students' questions • Details of objects • Details of instance classes (Textbook: Chapter 8, Chapter 9, Chapter 10, Chapter 11)	
8	Apr. 16	• Details of arrays, creating arrays, accessing array elements (Textbook: Chapter 7, Chapter 13)	
	Apr. 19	**Spring Sports**	• Details of instance classes • Self-study details: UML diagrams (Textbook: Chapter 8, Chapter 9, Chapter 10, Chapter 11)
9	Apr. 23	• Details of two-dimensional arrays, the ArrayList class (Textbook: Chapter 7, Chapter 13)	• Start to submit Assignment 1 version 1 (within one class) • Start Assignment 1 version 2 (with Array)
	Apr. 26	• Review: Java syntax, variables, symbolic constants, displaying output, operators, data type conversion, Boolean expressions, conditional statements, repetition statements, comparing data, static methods (such as Integer class, Double class, String class, Math class), instance methods, arrays • Answer 5 questions from classmates	
10	Apr. 30	**Midterm Test**	
	May 3	• Show up the Mid-Term Exam's answers • Answer students' questions	• Start to submit Assignment 1 Version 3 (with instance methods, classes, arrays, and classes inheritance)

11	May 7	• Details of Inheritance, the protected modifier, the super reference, multiple inheritance, overriding methods , class hierarchies, the object class, abstract classes, interface hierarchies, visibility revisited, designing for inheritance (Textbook: Chapter 9)	
	May 10	• Details of Inheritance, the protected modifier, the super reference, multiple inheritance, overriding methods , class hierarchies, the object class, abstract classes, interface hierarchies, visibility revisited, designing for inheritance (Textbook: Chapter 9)	
12	May 14	• Details of GUI, JFrame, Graphic Objects, drawing with graphics, drawing shapes (such as lines, rectangles, ovals, arcs, polygons and polylines) (Textbook: Chapter 12)	
	May 17	• Details of drawing images, drawing Strings, font control, color control (Textbook: Chapter 21)	• End Assignment 1 Version 3
13	May 21	• Details of loading, display and scaling images, animating a series of images, loading and playing audio clips • Make a Card using JFrame, Fonts, Shapes, Colors, Pictures and audio clips (Textbook: Chapter 21)	
	May 24	• Details of Swing package, layout managers, null layout, FlowLayout, BorderLayout, GridLayout, BoxLayout, GridBagLayout (Textbook: Chapter 11)	• Start Assignment 2
14	May 28	• Details of basic GUI components, JLabel, JButton, JComboBox, JTextField, JTextArea, JCheckBox, JRadioButton, JList, JSlider (Textbook: Chapter 11, Chapter 22)	
	May 31	• Details of event handling, mouse event handling, key event handling, adapter classes • Quiz Cover: JFrame, Graphic Objects, drawing with graphics, drawing shapes (such as lines, rectangles, ovals, arcs, polygons and polylines), drawing images, drawing Strings, font control, color control, loading and playing audio clips Closed-book, and one hour quiz (Textbook: Chapter 11, Chapter 22)	• Continue doing Assignment 2
15	Jun. 4	• Details of Panels, JDesktopPane and JInternalFrame, JTabbedPane (Textbook: Chapter 22)	
	Jun. 7	**Duanwu Festival**	• Details of menus, JPopupMenu, user dialogs

			(Textbook: Chapter 22, Chapter 11)
16	Jun. 11	• Details of input & output streams, InputStream class, OutputStream class, Buffered Streams, File class, Read from Files, Write to Files, File methods, Readers & Writers, Reading Text Files, Writing Text Files (Textbook: Chapter 14)	
	Jun. 14	• Review: Java syntax, variables, symbolic constants, displaying output, operators, data type conversion, Boolean expressions, conditional statements, repetition statements, comparing data, static methods (such as Integer class, Double class, String class, Math class), instance methods, arrays, GUI, JFrame, Graphic Objects, drawing with graphics, drawing shapes (such as lines, rectangles, ovals, arcs, polygons and polylines), layout managers, null layout, FlowLayout, BorderLayout, GridLayout, BoxLayout, GridBagLayout, basic GUI components, JLabel, JButton, JComboBox, JTextField, JTextArea, JCheckBox, JRadioButton, JList	• Submit Assignment 2: Report (Introduction – background, problem, purpose; design; results; conclusion – bugs and sth. haven't made), PPT, Program (Greenfoot/Alice3 – 10min Flash), Video (5-15 min)
17	Jun. 18	**Final Exam**	——
	Jun. 21	**Final Exam**	——

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

Spring Semester, 2019	February 25, 2019— July 14, 2019
Feb. 24	Registration
Feb. 25	Classes Begin
Apr. 5	Qingming Festival (tentative)

Apr. 19	Spring Sports (tentative)
May 1	Labor Day Holiday (tentative)
Jun. 7	Duanwu Festival (tentative)
Jun. 17-21	Sophomore and Junior students' Final Exam
Jun. 24- Jul. 14	Sophomore and Junior students' Social Practice
Jun. 29-Jul. 7	Revision and Final Exam Period
Jul. 8-Jul. 12	Freshmen's Final Exam
Jul. 15	Summer Vacation Begins

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: Jingning Li **Department Head: Jingning Li**