Shanghai Jiao Tong University

AU420 Introduction to Java Programing

Instructor Information	Soon Phei, Tin Home Institution: Xi'an Jiaotong-liverpool University Email: 909994584@qq.com Office Hours: Determined by Instructor

Term	June 28, 2021 - July 23, 2021	**Credits**	4 units

Class Hours	Monday through Friday, 120 mins per teaching day
Discussion Sessions	2.5 hours each week, conducted by teaching assistant(s)
Total Contact Hours	66 contact hours (1 contact hour = 45 mins, 3000 mins in total)
Required Texts (with ISBN)	W. Savitch, Pearson （2015）Java, An Introduction to Problem Solving & Programming, 7th edition ISBN-13: 978-0133766264 ISBN-10: 0133766268
Prerequisite	MA077 Linear Algebra

The course might be moved to online delivery due to COVID-19 pandemic. Students will be notified once the decision is made.

Course Overview

This course offers an introduction to computer science and computer programming in Java. With emphasis on object-oriented programming practice and problem-solving skills, the course presents a balanced coverage of Java language basics, programming concepts and techniques, standard algorithms and applications.

Learning Outcomes

On successful completion of the course, the student should be able to

1. Provide an overview of the Java programming language;

2. Describe the basic techniques of computer program in general and object-oriented in particular;

3. Define Java classes and methods;

4. Design and implement simple computer programs in Java that are correct, clear, well organized and well-documented;

5. Apply simple data structures and algorithms to solve problems;

6. Use Linux systems to write, debug, and execute programs.

Grading Policy

Class Attendance and Participation: You are expected to attend each class session. You will be responsible for all material covered during any absence. Your active participation in class discussions is very much encouraged and it will definitely enhance the learning process.

Reading and Preparation: You are expected to read the assigned chapters/sections before the class session in which they will be discussed.

Programming Projects: Programming projects will be assigned during the term in order to facilitate your understanding of the material, and will be due on a designated date and time. They will be collected and graded. Projects will be graded based on their correctness and completeness, the efficiency and presentation. In general late projects will not be accepted for credit.

Quizzes: A number of quizzes will be given throughout the summer course

Exams: There will be a midterm exam and a final exam. Exams will be comprised of questions and problems based upon textbook, topics covered in the class.

Grading Policy

Quizzes	15%
Participation & Professional Classroom Conduct	5%
Programming Projects	20%
Midterm Exam	25%
Final Exam	35%

Grading Scale

Number grade	Letter grade	GPA
90-100	A	4.0
85-89	A-	3.7
80-84	B+	3.3
75-79	B	3.0
70-74	B-	2.7
67-69	C+	2.3
65-66	C	2.0
62-64	C-	1.7
60-61	D	1.0
≤59	F (Failure)	0

Academic Dishonesty

a) Acts of academic dishonesty include

b) unauthorized assistance on an examination;

c) falsification or invention of data;

d) unauthorized collaboration on an academic exercise;

e) plagiarism;

f) misappropriation of resource materials;

g) any unauthorized access of an instructor's files or computer account; or

h) any other serious violation of academic integrity as established by the instructor."

Notes

You may find the following link useful: http://java.sun.com/docs/books/jls/html/index.html (Java Language Specifications)

Class Schedule

Date	Lecture	Readings
Day 1	Overview of computer hardware, software, computer programming and applications	Chapter 1: 1.1, 1.2, 1.3 Chapter 2: 2.1
Day 2	Overview of computer hardware, software, computer programming and applications	Chapter 2: 2.2, 2.3, 2.4
Day 3	Java flow of control and basic programs-1	Chapter 3: 3.1, 3.2, 3.3
Day 4	Java flow of control and basic programs-2	Chapter 4: 4.1, 4.2
Day 5	& On class Project I	
Day 6	Quiz 1, Java classes and methods-1	Chapter 5: 5.1
Day 7	Java classes and methods-2	Chapter 5: 5.2, 5.3
Day 8	Closer look at OOP-1	Chapter 6: 6.1, 6.2, 6.3
Day 9	Closer look at OOP -2	Chapter 6: 6.4, 6.5, 6.6, 6.7
Day 10	& On class Project II	
Day 11	Arrays, and applications-1	Chapter 7: 7.1, 7.2
Day 12	Arrays, and applications-2 Quiz2	Chapter 7: 7.3
Day 13	Simple sorting algorithms-1	Chapter 7: 7.4
Day 14	Simple sorting algorithms-2	
Day 15	& On class Project III	
Day 16	Java streams and file I/O-1	Chapter 10: 10.1, 10.2, 10.3
Day 17	Java streams and file I/O-2	Chapter 10: 10.4, 10.5, 10.6
Day 18	Recursion and applications-1	Chapter 11: 11.1
Day 19	Recursion and applications-2 Quiz 3	Chapter 11: 11.2
Day 20	& On class Project IV	