



## Shanghai Jiao Tong University

### AU420 Introduction to Java Programing

<b>Instructor Information:</b>	Chentao Wu Home Institution: Shanghai Jiao Tong University Email: wuct@cs.sjtu.edu.cn Office Hours: Determined by Instructor		
<b>Term:</b>	May 25, 2020 - June 19, 2020	<b>Credits:</b>	4 units
<b>Class Hours:</b>	Monday through Friday, 120 minutes per teaching day		
<b>Discussion Sessions:</b>	2 hours each week, conducted by teaching assistant(s)		
<b>Total Contact Hours:</b>	66 contact hours (1 contact hour = 45 mins, 3000 mins in total)		
<b>Required Texts (with ISBN):</b>	W. Savitch, Pearson (2015) Java, An Introduction to Problem Solving & Programming, 7th edition ISBN-13: 978-0133766264 ISBN-10: 0133766268		
<b>Prerequisite:</b>	MA077 Linear Algebra		



## 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

Acts of academic dishonesty include

- unauthorized assistance on an examination;
- falsification or invention of data;
- unauthorized collaboration on an academic exercise;
- plagiarism;
- misappropriation of resource materials;
- any unauthorized access of an instructor's files or computer account; or
- 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
Day 1	Overview of computer hardware, software, computer programming and applications
Day 2	Overview of computer hardware, software, computer programming and applications
Day 3	Java flow of control and basic programs-1
Day 4	Java flow of control and basic programs-2 & On class Project I
Day 5	Quiz 1 Object-oriented programming practice-1
Day 6	Object-oriented programming practice-2
Day 7	Java classes and methods-1
Day 8	Java classes and methods-2 & On class Project II
Day 9	Arrays, and applications-1
Day 10	Arrays, and applications-2 Quiz2
Day 11	Simple sorting algorithms-1
Day 12	Simple sorting algorithms-2 & On class Project III
Day 13	Java streams and file I/O-1
Day 14	Java streams and file I/O-2
Day 15	Recursion and applications-1
Day 16	Recursion and applications-2 Quiz 3 & On class Project IV
Day 17	Basic GUI programming-1
Day 18	Basic GUI programming-2
Day 19	Summary
Day 20	<b>Final Exam</b>