# University of International Business and Economics
# International Summer School

## CS 320 Introduction to java programming

**Term: July 10 to August 4, 2017**
**Instructor: Yongcai Wang**
**Home Institution: Renmin University**
**Email: ycw@ruc.edu.cn**
**Class Hours: Monday through Friday, 120 minutes each day (2,400 minutes in total)**
**Office Hours: To be determined**

**Teaching Assistant: TBD**
**Email: TBD**
**Discussion session: 2 hours each week**

**Total Contact Hours: 64 contact hours (45 minutes each, 48 hours in total)**
**Credit: 4 units**

### Course Description

This summer course is for international school, for undergraduate students. No prior knowledge on computer programming is required. The course starts from the very beginning of the introduction of computers, programs, and the design philosophy of JAVA. Then the lecture advances to cover topics including elementary programming, selections, mathematical functions, loops, methods, arrays, objects and classes, objected-oriented programming, I/O, abstract classes and interfaces, basic data structures, and networking.

The course is designed to be self-contained, which covers a prodigious range from the basic of programming knowledge to J2SE, data structure and advanced programming skills. Students are suggested to take self-study before and after each given lecture.

### Course Goals

The goal is to teach from the fundamentals of java programming to high-level network programing. The key is to teach students to master the programming design, coding, compiling, and debugging skills. It starts from very beginning, from the basic elements of programming until into high level methodologies and applications. The detailed goals include:

- ✧ Let students be competent with basic coding features provided by object-oriented programing.
- ✧ Be competent with writing computer programs to implement basic applications.
- ✧ Be familiar of using basic data structure such as arrays and maps.
- ✧ Be familiar of using basic algorithm provide by JAVA SE.
- ✧ Be familiar of using computer I/Os and network programing.
- ✧ Be familiar with abstract concepts and other advanced programming ideas.

## Required Text

Introduction to Java Programming, 10ed
Y. Daniel Liang
Prentice Hall

## Required course materials

- ✧ Introduction to Java Programming, Daniel Liang, 10nd Edition.
- ✧ Building Java Programs: A Back to Basics Approach, 3rd edition, by Stuart Reges and Marty Stepp

## Attendance

Require students to participate all the courses.

## Grading Policy

| Graded Item | % of Grade |
|---|---|
| Midterm Exam | 15% |
| Final Exam | 25% |
| Homework, Closed Labs, Quizzes | 35% |
| Project Assignments | 25% |

## Course Hours

The course has 20 class sessions in total. Each class session is 120 minutes in length for a total of 2,400 minutes of class time. The course meets from Monday to Friday.

## Grading Policy

Assignments and examinations will be graded according to the following grade scale:
A 90-100
A– 85-89
B+ 82-84
B 78-81
B– 75-77
C+ 72-74
C 68-71
C– 64-67
D 60-63
F below 60

## Class Rules

Require students to following the student rules of international school.

**Course Schedule**

| Date | Topics | Assignment |
|---|---|---|
| 10-July-17 | Introduction to computers, programs and java | Hw1 |
| 11-July-17 | Elementary programming | Hw2 |
| 12-July-17 | Selections | Hw3 |
| 13-July-17 | Mathematical functions, characters and strings | Hw4 |
| 14-July-17 | Loops | Hw5 |
| 17-July-17 | Methods | Hw6 |
| 18-July-17 | Single dimensional arrays | Hw7 |
| 19-July-17 | Multi-dimensional arrays | Hw8 |
| 20-July-17 | Objects and classes | Hw9 |
| 21-July-17 | Object-oriented design | Hw10 |
| 24-July-17 | Inheritance and polymorphism | Hw11, Midterm exam |
| 25-July-17 | Exception handling | Hw12 |
| 26-July-17 | Text I/O | Hw13,Project assignment |
| 27-July-17 | List, stack and queues | Hw14 |
| 28-July-17 | Sets and Maps | Hw15 |
| 31-July-17 | Java FX basics | Hw16 |
| 1-Aug-17 | Java Animations | Hw17 |
| 2-Aug-17 | Java UI and multimedia | Hw18 |
| 3-Aug-17 | Networking | Hw19 |
| 4-Aug-17 | Networking project | Final exam |