



## Beijing Jiaotong University

### 2022 Summer Session

## CSC 170 Introduction to Computer Science

### Course Outline

**Course Code: CSC 170**

**Instructor: TBA**

**Office Hours: TBA**

**Email: TBA**

**Credit: 4**

#### **Course Description:**

The course introduces high-level introduction to the field of computer science as well as Introduction to programming like fundamentals of structured and object-oriented programming using Java. The intended audience of this course are non-CS or undeclared majors who are interested in learning how computers work and what the field of computer science encompasses. No prior experiences with computers are assumed.

#### **Required Textbooks:**

1. *Understanding the Digital World: What You Need to Know about Computers, the Internet, Privacy and Security*. Brian W. Kernighan. Princeton University Press, 2017, ISBN: 9781400884803
2. Java Illuminated third edition by Anderson.

#### **Grading System (1 ~ 100)**

A+:4.3——95-100

A :4.0——87-94

A-:3.7——82-86



B+:3.3——78-81

B :3.0——75-77

B -:2.7——71-74

C+:2.3——68-70

C :2.0——65-67

C -:1.7——61-64

D :1.0——55-60

E :0.0——49-54

X :0.0——0

### **Course Schedule:**

#### **Week1**

- *Hardware:*

- Session 1: What's in a computer?
- Session 2: How computer work/inside the CPU

- *Software:*

- Session 3: Algorithm
- Session 4: Programming Languages and Concepts of programming

(Quiz 1 and HW1)

#### **Week2**

- *Writing Program*

- Session 1: Expression, Statement, Variables and Data Types
- Session 2: Branches
- Session 3: Loops



- *Exam*

- Session 4: Midterm Exam

### **Week3**

- *Object Oriented Programming*

- Session 1: Introduction to Object Oriented Programming
- Session 2: Implementing Classes and Methods
- Session 3: Inheritance
- Session 4: Polymorphism

(Quiz 2 and HW2)

### **Week4**

- *Advanced Topics*

- Session 1: Arrays
- Session 2: File Input/Output
- Session 3: Exception Handling

- *Exam*

- Session 4: Final Exam

contain problems to solve and definitions, brief explanations of concepts, and simple proof.