



## National Taiwan University of Science and Technology

### 2021 Winter Program

### CSC 170 Introduction to Computer Science

### Course Outline

**Course Code:** CSC 170

**Instructor:** Dr. Suman Saha

**Home Institution:** Pennsylvania State University

**Office Hours:** By appointment

**Email:** [szs339@psu.edu](mailto:szs339@psu.edu)

**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 & Evaluation:**

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