



**National Taiwan University of Science and Technology**

**2021 Summer 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:** 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