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**National Taiwan University of Science and Technology**

**2020 Summer Program**

**CSC 180 Computing and Society in History**

**Course Outline**

**Term: July 06-August 07,2020**

**Class Hours: 16:00-17:50 (Monday through Friday)**

**Course Code: CSC 180**

**Instructor: Dr. Suman Saha**

**Home Institution: Pennsylvania State University**

**Office Hours: TBA**

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

**Credit: 4**

**Class Hours:**

According to the regulations of Minister of Education, R.O.C, 18 class hours could be counted as 1 academic credit in all universities in Taiwan. This course will have 72 class hours, including 40 lecture hours, professor 10 office hours, 10-hour TA discussion sessions, 2-hour review sessions, 10-hour extra classes. Review sessions are designed to provide additional coverage (not lectures) of material covered in class. They will be scheduled outside of class. Dates, times, and locations will be announced in class.

**Course Description:**

This course introduces students to the history of computing from early counting machines and mechanical devices to the internet, and beyond. Students will learn to identify the major epochs in the development of modern computing, as viewed through the lens of popular fiction, academic research, and news publications. Students will work in pairs to complete in-class exercises that illustrate the progression of technological



development, and write papers that reflect on how computing has impacted society over time.

### Required Textbooks:

Campbell-Kelly, Martin, William Aspray, Nathan Ensmenger, and Jeffrey R Yost. Computer: A History of the Information Machine, Third Edition, Westview Press, 2013.

This course will include readings of academic papers, news articles, short fiction, and video. Assigned material will be found online, or will be made available directly as needed by the instructor.

### Grading & Evaluation:

- Attendance 10%
- Home Work 40%
- Midterm/Essay: 25%
- Final Exam 25%

### Grading & Evaluation:

Letter grades will be assigned per the following scale which will be strictly followed

- 90 – 100 % A
- 80 – 89% B
- 70 – 79% C
- 60 – 69% D
- 0 – 59% F

### Course Schedule:

The course outline is tentative, and it will be modified depending on the pace of the class.

#### Week1: Before the Computer

Session 1: When Computers Were People (Chapter 1)

Session 2: The Mechanical Office (Chapter 2)

Session 3: Babbage's Dream Comes True (Chapter 3)

Session 4: Society without Computer (Academic papers/Articles)

#### Week2: Creating the Computer

Session 1: HW 1 is due // Inventing the Computer (Chapter 4)

Session 2: The Computer becomes a Business Machine (Chapter 5)

Session 3: The Maturing of the Mainframe: The Rise of IBM (Chapter 6)

Session 4: Programming Languages and Compilers (Academic papers/Articles)

#### Week3: Innovation and Expansion

Session 1: HW 2 is due // Real Time: Reaping the Whirlwind (Chapter 7)

Session 2: Software (Chapter 8)

Session 3: New Modes of Computing (Chapter 9)

Session 4: Midterm Exam / Essay



**Week4: Getting Personal**

Session 1: HW 3 is due // The Shaping of the Personal Computer (Chapter 10)

Session 2: Broadening the Appeal (Chapter 11)

Session 3: The Internet (Chapter 12)

Session 4: Computer Games (Academic papers/Articles)

**Week5: Modern Technology**

Session 1: HW 4 is due // Artificial Intelligence (Academic papers/Articles)

Session 2: Big Data (Academic papers/Articles)

Session 3: Cyber Security (Academic papers/Articles)

Session 4: Final Exam / Essay

