# Computer Organization

1 July 2020

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| **Instructor:** | Songrit Kitisriworapan | **Time:** | Thu 9:00 – 12:00 |
| **Email:** | songrit@npu.ac.th | **Place:** | EN1303 (Network Lab) |

**Course Pages:**

1. https://github.com/Lecture-CPE/321

**Office Hours:** After class, or by appointment, or E-mail.

**Main References:**(recommended, not required)

- Shimon Schocken and Noam Nisan "The Elements of Computing Systems: Building a Modern Computer from First Principles" (2005)

**Objectives:** This course is primarily designed for undergraduate students. Students become familiar with digital logic implement, computer architecture and organization.

**Prerequisites:** None

**Grading Policy:** In-class project (50%), Quizzes (10%), Major services (15%), Midterm (25%),

**Important Dates:**

Midterm ..... 24-30 Aug, 2020

**Course Policy:**

- Grading A, B+, B, C+, C, D+, D, F(< 50%)

**Class Policy:**

- Regular attendance is essential and expected.

**Academic Honesty:** Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation.

**Tentative Course Outline:**

| Week | Description |
|---|---|
| 1 | Course orientation<br>Boolean Logic |
| 2 | Boolean Arithmetic |
| 3 | Sequential Logic |
| 4 | ALU |
| 5 | Machine Language |
| 6 | Machine Language |
| 7 | **Midterm Exam** |
| 8 | Computer Architecture |
| 9 | Assembler |
| 10 | Virtual Machine I: Stack Arithmetic |
| 11 | Virtual Machine II: Program Control |
| 12 | High-Level Language |
| 13 | Compiler I: Syntax Analysis |
| 14 | Compiler II: Code Generation |
| 15 | Operating System |
| 16 | **Reserved** |