CC 322:
COMPUTER ARCHITECTURE

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Course Staff

☐ Instructor:

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        ■ 4th Floor ECE Building

☐ TAs:

    ☐ TBD

☐ Office hours :

    ☐ Thursday: 10:00-11:30AM

Basic Info.

- Textbooks
  - "Digital Design and Computer Architecture", David Harris, Sarah Harris, 2nd Edition
- Supplementary References
  - *"Computer organization and architecture: designing for performance".* William Stallings, 8th Edition
- Prerequisites
  - Digital and Logic design
  - Computer Organization
- Computer tools:
  - https://www.aldec.com/en/products/fpga_simulation/active_hdl_student

Course Outline

- Design principles associated with modern computer architectures

- Performance and cost considerations

- Processor Design using Hardware Description Languages

- RISC Instruction Set Architecture

- MIPS Micro-Architecture

- Memory and I/O Systems

Course Work

- □ 5 Labs: Using HDL to design a small MIPS processor
  - ❑ Lab work: 10 marks
- □ Project: Design and testing of various processor architectures using HDL
  - ❑ 10 marks
- □ Homework Assignments
  - ❑ 10 marks
- □ A Midterm exam
  - ❑ 20 marks
- □ A Final Exam
  - ❑ 50 marks

Course Webpage

□ All course materials and lecture slides will be published to the following website:

http://eng.staff.alexu.edu.eg/~mmorsy/Courses/Undergraduate/CC322_Computer_Architecture/CC322.html

□ Announcements and course updates will be published on the course webpage