**Spring 2019: Outline of CSE Standard Course Syllabi**

- **Course number:** EECS 314
- **Course title:** Computer Architecture
- **Prerequisites:**

  EECS 281 Logic Design and Computer Organization
- **Course objectives:**

  Today processors are used in all forms of electronic equipment and hence the course is relevant for computer engineers as well as software developer designing cross-platform embedded systems and IoT services where they are often important to make efficient use of the resources of the processor in order to optimize performance, cost, and energy consumption. This course provides students the opportunity to study and evaluate a modern computer architecture design. The course covers topics in fundamentals of computer design, performance, cost, instruction set design, processor implementation, control unit, pipelining, memory hierarchy, and computer arithmetic.
- **Course description:**
  - Principles of computer architecture: CPU, data path, and control unit design
  - Assembly language programming
  - Pipelining
  - Memory hierarchies and design
  - Possible advanced topics

  During weekly lectures, students are expected to learn the organizational structure that determines the capabilities and performance of computer systems, to understand the interactions between the computer's architecture and its software, and to understand cost performance trade-offs. A student who has met the objectives of the course will be able to describe the internal structure of a processor, including pipeline, cache memory, memory hierarchy, virtual memory and explain how hardware (technology and architecture) and software (instruction set, compiler and operating system) forms a whole, and that the interface between the two is a key element in all systems.

- **Time and day of class meetings:** MWF 4:25pm – 5:15pm
- **Class meeting location:** Bingham 103
- **Instructor name:** Prof. Ming-Chun Huang

- **Instructor phone number and email and office location:**

  Email) ming-chun.huang@case.edu; TEL) 216.368.0397; Office) Glennan 514B

- **Instructor office hours:** MWF 5:15pm – 6:00pm or by appointment

- **TA information:** TBD

- **Text Book**

  Computer Organization and Design "The Hardware/Software Interface" by John L. Hennessy & David A. Patterson Morgan Kaufmann Publishers, 5th Edition – Required! Should be available in the Bookstore.

- **Grading policy (Close Book Exams)**

  Total 100 points

  - 5 Assignments – 3% for each
  - 5 Exams – 12% for each
  - Comprehensive Final Exam – 25%

- **Cheating**
  Cheating in no form will be tolerated. All students found to be cheating will be reported.

- **Course Website**
  You will need to download slides and miscellaneous supplements from CANVAS website.
  It is your responsibility to check the course website for any important announcement.

- **CSE Academic Integrity Statement**

**Academic Integrity Statement:** All students in this course are expected to adhere to University standards of academic integrity. Cheating, plagiarism, misrepresentation, and other forms of academic dishonesty will not be tolerated. This includes, but is not limited to, consulting with another person during an exam, turning in written work that was prepared by someone other than you, making minor modifications to the work of someone else and turning it in as your own, copy other students' computer code, or engaging in misrepresentation in seeking a postponement or extension. Ignorance will not be accepted as an excuse. If you are not sure whether something you plan to submit would be considered either cheating or plagiarism, it is your responsibility to ask for clarification.

The academic integrity policies and procedures governing all CWRU students can be found at

https://students.case.edu/groups/aiboard/policy.html

https://students.case.edu/groups/aiboard/studentresources.html