This course provides an introduction to digital logic, computer components, memory, computer arithmetic, instructions sets, interrupts, and microprogramming.

Prerequisites

Course Objectives

- Present material on understanding both combinational and sequential circuits.
- Discuss the behavior of the computer memory hierarchy and different processor designs.
- Develop a machine-level understanding of C, analyzing and enhancing programs to improve performance.

Course Outcomes

After the course, students should have:

- An ability to apply knowledge of computing and mathematics appropriate to the discipline.
- An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.
- Recognition of the need for and an ability to engage in continuing professional development.
- An ability to use current techniques, skills, and tools necessary for computing practice.

Course Schedule

An evolving schedule, along with assignments and lecture slides, may be found on the course webpage.

Midterm: Monday, October 18th.

Final: There will be a final – wait for the date to be announced by the registrar before scheduling any trips!

Assessment Information and Grading Policy

The course grade (subject to change with notice) will be based on:

- 10% homework,
- 10% class participation,
- 40% from projects/labs,
- 20% midterm, and
- 20% final.

Attendance is strongly encouraged --- if you are not in class, you cannot participate in the discussion. Just a warning, one of my pet peeves is students arriving late. Please make every effort to arrive on time, but I’d rather have you come in late than miss the class altogether!
Reading assignments will be announced in class and posted on the course webpage. *For every class that has a reading assignment, a reading response must be emailed to the professor by 6am the morning of the class.* These responses may contain

- reflections on the reading,
- questions the reading generates,
- and/or summaries of the reading.

I expect responses to be ½ to 1 page in length and should not take you longer than 20 minutes to write. The responses will help the instructor shape the upcoming class but they will not be individually graded. However, not submitting a response will reduce your class participation grade.

With the exception of reading responses, late work will be accepted, but the grade will be reduced by 10% for every day that it is late (i.e., if a homework is handed in 40 hours late and it is graded as 85/100, the student will receive a 65/100).

**Academic Honesty Statement**

All students are expected to adhere to the college policy on academic honesty as listed in the Student Handbook. Homework will be done individually unless otherwise specified in writing on the assignment. You are allowed to discuss projects and labs with other students but may not share code. *Any work that is not fully done by an individual must list all collaborators.*

**Request for Accommodations**

In compliance with Lafayette College policy and equal access laws, I am available to discuss appropriate academic accommodations that any students with a disability require. Requests for academic accommodations need to be made during the first two weeks of the semester, except in unusual circumstances, so that arrangements can be made. Students must register with the Office of the Dean of the College for disability verifications and for determinations of reasonable academic accommodations.

**Course Reading List**

- Additional readings will be distributed in class and/or made available on the course website.