Fall 2011

CEG 320/520-01: Computer Organization

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Course Information

- Term: Fall 2011
- Title: Computer Organization
- Description: Organizational and sequential operation of a digital computer. Program control, memory organization and hierarchy, stacks and parameter passing, interrupts and traps, I/O devices, program structure, machine code and assembly language. Three hours lecture, two hours lab.
- Meetings times: TTh 6:05 p.m. - 7:20 p.m. in Russ Engineering Center 150
- Prerequisites:
  - CS 242 Minimum Grade of D, or
  - CEG 221 Minimum Grade of D and MTH 257 Minimum Grade of D

Textbook


Course Requirements

There will be four (4) assignments, a midterm exam, a final exam, and possibly a couple homework assignments.

Points

- Assignments: 35%
- Midterm Exam: 30%
- Final Exam: 35%

Grading

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

Policies

Attendance

- Attendance is expected.
- You are responsible for all material and announcements given in class.
- If you are absent for an exam and have good reason, notify the instructor before the answers are covered in the next class.
Lecture Material

- It is your responsibility to find a way to keep up with the notes in class. You may bring a computer or an audio recording device if necessary. However, the notes of this class may not be disseminated beyond students in this class this quarter.
- If you miss any material or announcements because of your absence or lateness, it is your responsibility to get the material from another student.

Deadlines

- Work is due at the specified deadline. Late work will not be accepted, apart from extenuating circumstances. If submitting the assignment appears to fail, email a copy of the assignment to the instructor before the deadline.
- If a project is only partially completed, you should submit what you have before the deadline.
- If you have an emergency causing you not to complete an assignment, submit what you have and contact the instructor about the situation.

Missing Grades

- If something is wrong with your grade on Pilot, it is your responsibility to notify the instructor within a couple weeks of posting.

Accommodations

Students with disabilities or any additional needs are encouraged to set up an appointment to discuss any accommodations that may be necessary.

Instructor Late

If the instructor is late for class, students are expected to wait for 15 minutes after the class period starts before leaving.

Academic Integrity

General

- Be honest at all times.
- Do your own work.
- Act fairly towards others. For example, do not seek an unfair advantage over others by cheating with or by looking at other individual's work.
- Passing off other people's work as your own is unethical in any setting. In an academic setting, it is a breach of the university's policies.
- All cases of plagiarism, cheating, or academic dishonesty will be reported to the Community Standards and Student Conduct Office. Penalties will be handled on a case by case basis, ranging from a zero on the assignment for all involved students to a failing grade in the course for all involved students.
- Those who are complicit in academic misconduct will receive the same penalties as the primary offenders.

What Is Allowed
• Students are allowed to discuss the general requirements of assignments to make certain that they understand the problem and its goal.

• A student is allowed to ask another student (who has submitted the assignment) or person for help with a syntax error or other minor problem that does not require extensive exploration of the solution. (Students are never to show another student their solutions until after the other student has submitted.)

• Students may receive direction from textbooks, references, the provided materials, and the instructor without documenting that the help took place.

• Any outside help should be documented in the comments for the assignment. Such documentation allows the instructor to comment on and correct the degree of collaboration if necessary. Unacknowledged collaboration will be considered a violation of course policy.

What Is Not Allowed

• Students who have not submitted their assignments may not look at other solutions or students' programs.
• Students who have looked at other solutions or code may not re-submit unless they first consult the instructor.
• Students may not use their own code from other classes or other quarters without first consulting the instructor.
• Students may not receive help beyond minor debugging from anyone but the instructor. You are to do your own work with the resources provided to you: textbooks, reference guides, and your instructor.

Course Outline

• Week 1: Introduction and representing data (chapters 1-2)
• Week 2: Digital Logic, von Neumann Model (chapters 3-4)
• Week 3: The LC-3 machine and Simulator (chapter 5)
• Week 4: Assembly Language and Low Level I/O (chapters 6-8)
• Week 5: Traps and Subroutines (chapter 9)
• Week 6: Stack, Interrupts, and C
• Week 7: Functions and Recursion
• Week 8: Memory and Cache
• Week 9: Pointers and Arrays (chapter 16)
• Week 10: Dynamic Memory, High-level I/O, and Review (chapters 18-19)

Instructor Information

• Name: Dr. Sarah Gothard
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• Office hours: MTTh 9:30 a.m - 1:30 p.m.
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