Cornell College

CSC 218: Computer Organization
Block 6 - 2022

Instructor: Lauren Jepsen
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Classroom: West Hall 201

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Office Hours: M, Th-F 11-11:30, M-F 3-3:30 or by appt.

Course Description:

A view of the layers in the design of modern computers that begins at the level of individual logic gates, and progresses upward through elementary circuits, the design of a microprocessor, and programming at the lowest levels. An examination of costs and advantages gained by shifting functions from hardware to software, or vice versa.

Some of the topics covered include:

- Boolean Logic and Algebra
- Logic Gates
- Assembly Language
- Machine Language

- Instruction Set Architecture
- RISC
- Compilers

Class Meetings:

Class will generally meet from 9-11 and 1-3 Monday through Friday. We will not hold class Wednesday afternoons.

Text:

"The Elements of Computing Systems" by Noam Nisan and Shimon Schoken. (ISBN: 9780262640688)

Educational Priorities and Outcomes:

During this course, we will give special attention to the following of Cornell College's Educational Priorities and Outcomes:

- **Knowledge** – During this course you will develop a working understanding of computer organization, how a processor works, and how the computer executes a user's commands.
- **Reasoning** – You will practice breaking big problems down into smaller subtasks. You will also gain experience evaluating different solutions to a problem and determining the advantages of one solution over another.
- **Citizenship** – As a group-work based class, you will gain experience effectively collaborating with your peers to complete assigned tasks. Peer-to-peer learning will be a large part of the class.

Grading Policies:
Quizzes (10%)
Exams (40%)
Class Participation (15%)
Lab Assignments (10%)
Homework Assignments (25%)

Quizzes (10%):
Daily quizzes will be given at the end of the morning session. The purpose of these quizzes are to give me an idea of where the class is and to assess your understanding of the course material. Each quiz will be worth 10 points. Your lowest quiz grade will be dropped. In the event you miss class, you will be responsible for scheduling a makeup quiz.

Exams (40%):
Exams will be given on the 2nd and 4th Wednesday of the course. Exams will be designed to take 1.5 hours but you will have until 11:30 am to complete the exam.

Class Participation (15%):
Your presence and participation in class is essential for your learning and engagement with the course. With this in mind, I expect you to be present in class. If you are ill and need to isolate, I expect you to attend and participate in class over zoom - unless you are seeing a health professional. Zoom sessions are reserved for serious illness and COVID concerns. If you need to be absent due to illness or emergency, let me know as soon as possible so we can make other arrangements. Participation goes beyond attendance. It includes, asking and answering questions in class, actively participating with in-class activities, constructively contributing to small-group work, and paying attention for the duration of each session.

For this category, I will ask you to assign yourself a grade from 0 - 100. You absolutely can give yourself a 100. At the end of the block, I will ask you to support the score you assign yourself with a reflective response of about 200 words: why did you assess yourself in this way? Although you do not need to address them directly, please keep in mind other factors in your life that may have impacted your ability to participate fully and/or be the best classroom citizen you could be during this block. What matters to me is an honest reflection of how you feel you did given all of this. I will use your self-assessment to determine the score for this category, but I do reserve the right to alter it if I think your estimate is way off (either too high or too low).

Lab Assignments (10%):
During class you will frequently be asked to work in small groups to complete assignments. It is expected that every member of the group will participate and work together to complete assigned tasks. You are expected to learn with and from one another.

Homework Assignments (25%):
Homework will be assigned most nights and will be due at 1:00 pm before the start of the following afternoon class session. Late homework will not be accepted without prior approval.

Academic Integrity and Honesty

Cornell College expects all members of the Cornell community to act with academic integrity. An important aspect of academic integrity is respecting the work of others. A student is expected to explicitly acknowledge ideas, claims, observations, or data of others, unless generally known. When a piece of work is submitted for credit, a student is asserting that the submission is her or his work unless there is a citation of a specific source. If there is no appropriate acknowledgment of sources, whether intended or not, this may constitute a violation of the College's requirement for honesty in academic work and may be treated as a case of academic dishonesty. The procedures regarding how the College deals with cases of academic dishonesty appear in The Catalogue, under the heading "Academic Honesty."

Mental Health

As a college student, you may sometimes experience stress, anxiety, or other mental health challenges that affect your mood, energy level, concentration, and mental ability. Cornell recognizes that you may experience these challenges and provides resources to help you take charge of your mental health and overall well-being. If you, a classmate, or a friend experience mental health challenges at Cornell, please check out the Counseling Center's website (www.cornellcollege.edu/counseling) for many resources on and off campus, and you can call the Counseling Center at 319-895-4292 for more information or to make an appointment. Visit the Student Gateway (https://www.cornellcollege.edu/students/index.html) and the Cornell Well-being Network (https://www.cornellcollege.edu/well-being-network/) websites for additional student re- sources.

Disabilities and Accommodations

Cornell College makes reasonable accommodations for persons with disabilities. Students should notify the Office of Academic Support and Advising and their course instructor of any disability related accommodations within the first three days of the term for which the accommodations are required, due to the fast pace of the block format. For more information on the documentation required to establish the need for accommodations and the process of requesting the accommodations, see http://www.cornellcollege.edu/academic-support-and-advising/disabilities/index.shtml.

COVID Policies
Optional Mask Policy

At this time, masks are not required during in-person instructional time in this class. However, there are many good reasons to wear a mask, and many of us will choose to do so. Not all members of our community are able to be vaccinated, and masking is an effective way to protect these individuals. Regardless of any individual's decision to wear a mask, I expect that we will all be considerate of each other.

If evolving COVID-19 conditions warrant, I reserve the right to require masks during all in-person instructional time in this class, regardless of the individual immunity status of members of the class. If we do need to shift to a required mask policy, I expect that all students will comply. Non-compliance would result in a conduct report to the Dean of Students, which could result in removal from the course.

Illness Policy

If you are experiencing COVID-19 symptoms, *do not attend class*. Perform a home test or contact Director of Student Health Services Lynn O'Brien at student_health@cornellcollege.edu immediately to arrange a COVID-19 test at the Health Center.

If you need to isolate due to COVID-19, or if you become unable to attend class for any other health reason, contact me as soon as possible to determine if you are able to continue in the class. A Withdrawal for Health Reasons may be required.

Positive COVID Test Policy

If you test positive: Please isolate yourself in your room, contact Director of Health Services Lynn O'Brien at student_health@cornellcollege.edu and wait for instructions. A representative from Student Health will contact you to discuss your test and provide you with instructions for isolating and begin contact tracing of on-campus interactions.

If you test positive for COVID-19 during the block and need to isolate, you need to inform me directly; the Health Center cannot inform me on your behalf.

Close Contact Policy

If you are named as a close contact of someone who has tested positive on campus, you will be notified by Student Health. (If you learn that you have been in contact with someone who has tested positive from an off campus exposure, you must inform Director of Health Services Lynn O'Brien at student_health@cornellcollege.edu. We will determine your status and next steps using the CDC guidelines.

Caregiver Statement

I am a caregiver for unvaccinated children. If they must quarantine or isolate during the block, I may need to shift portions of the course online. If this happens, I will communicate with you as soon as possible via email and provide a Zoom link to our next class meeting.

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