COMP 211 - Systems Fundamentals – Spring 2021

This is the first course in the introductory systems sequence. Students enter the course having taken an introductory programming course in a high-level programming language (COMP 110) and a course in discrete structures. The overarching goal is to bridge the gap between a students' knowledge of a high-level programming language (COMP 110) and computer organization (COMP 311). Prerequisites: COMP 210, COMP 283 or MATH 381 (grade of C or better is required in both prerequisite courses.)

The course website on sakai.unc.edu will be the primary means for distributing information such as lecture notes and videos, graded assignments, reporting scores, and announcements. Each student must have full use of a personal laptop computer.

Synchronous Zoom Lecture (will also be recorded and uploaded to Panopto)

Section 001:	T TH, 11:00 AM to 12:15 PM
Section 002:	T TH, 2:00 PM to 3:15 PM

Online resources

Piazza:	piazza.com/unc/spring2021/comp211/home
MyDigitalHand (MDH):	mydigitalhand.org (search Comp 211 Spring 2021)
Gradesope:	assessable through course site on Sakai
Panopto:	assessable through course site on Sakai
GitHub:	github.com (create your own account)

Instructor

Name:	Brent Munsell
Zoom:	https://unc.zoom.us/j/98727621599
Email:	munsell@cs.unc.edu
Office hours:	See Sakai (will use MDH)

Teaching and Learning Assistants (See Sakai for office hour days and times).

Role	Name	Email	Zoom
TA	Justin Do	justindo@live.unc.edu	https://unc.zoom.us/j/2833213312
TA	Cecilia Carter	celie@cs.unc.edu	https://unc.zoom.us/j/3481786567
LA	Omar Shaban	ohshaban@live.unc.edu	https://unc.zoom.us/j/93805589223
LA	Cindy Wang	cwindy@live.unc.edu	https://unc.zoom.us/j/4659184861
LA	Jenny Ewing	jenny13@live.unc.edu	https://unc.zoom.us/j/3291763333
LA	Keshav Shah	keshshah@live.unc.edu	https://unc.zoom.us/j/5610825703
LA	Dylan Binley	dbinley@live.unc.edu	https://unc.zoom.us/j/3295724251
LA	Eric Schneider	u1643364@live.unc.edu	https://unc.zoom.us/j/4809559725
LA	Pierre Perrin	pnperrin@live.unc.edu	https://unc.zoom.us/j/2667972516

Textbooks

- Kernighan and Ritchie, C Programming Language, 2nd Ed., ISBN-13: 978-0131103627, ISBN-10: 0131103628
- Patterson and Hennessy, Computer Organization and Design, 5th Ed., ISBN 9780124077263
- Arpaci-Dusseau, Operating Systems: Three Easy Pieces, 1st Ed. website: http://pages.cs.wisc.edu/~remzi/OSTEP/

General Overview

This course is intended to be an introduction to computer organization and design. Systems programming fundamentals including: data representation, programming concepts including pointers, execution models, memory organization and management, process models, input/output and redirection, and basic digital logic hardware design. You'll also be exposed to command-line interface tools including shell, editor, compiler, debugger, version control, and build tools.

Target Audience

Computer science majors will typically take this course in their first or second year. It serves as an introduction to lower-level programming and prepares students for courses in Computer Organization (COMP 311) and systems courses related to Internet Services and Protocols, Operating Systems, and Compilers.

Learning Objectives

The key objectives are:

1. fundamental concepts of systems programming and the execution model,
2. basic design and operation of memory (physical and virtual),
3. basic design principles of an operating system (process model and scheduling),
4. fundamental concepts of network communication.

Coding Assignments

There will be a coding assignment approximately every week that uses the C programming language. Coding assignments are individual assignments (i.e., not group assignments where you can work collaboratively with other students). Coding assignments will be available through GitHub and you'll submit your solution to Gradescope (detailed instructions will be provided). You'll be given at least one week to complete each coding assignment, and it will be announced at the beginning of the lecture and a Sakai announcement will also be posted. Regrade requests will only be accepted for the 72 hours following grade release.

Quizzes

There will be quiz approximately every week that will include material covered in lectures,

reading assignments, or coding assignments. The quiz will be online through Gradescope and will be timed (e.g., 15 minutes to complete). The online quiz maybe given at the beginning of class or one that will be available to take over a fixed number of days (e.g., can take the quiz over the weekend). The quiz will be announced at the beginning of the lecture and a Sakai announcement will also be posted. Quizzes are open course textbook unless otherwise stated. Regrade requests will only be accepted for the 72 hours following grade release.

Project

There will a single coding project that will be assigned near the end of the semester. The project will be an individual assignment (i.e., not group assignment where you're able to work collaboratively with other students). The project will be available through GitHub and you'll submit your solution to Gradescope. You'll be given at least two weeks to complete the project, and it will be announced at the beginning of the lecture and a Sakai announcement will also be posted. Regrade requests will only be accepted for the 72 hours following grade release.

Exams

Exams will be online through Gradescope and will be timed (e.g., 1 hours and 15 minutes to complete). Exams I and II will be administered during the Thursday lecture period. Exams are open course textbook unless otherwise stated. There will be two exams and a final exam. The official exam date will be announced at the beginning of the lecture and a Sakai announcement will also be posted. Regrade requests will only be accepted for the 72 hours following grade release.

- Exam I: Last week in February (TENTATIVE)
- Exam II: Second to last week in April (TENTATIVE)
- Final : UNC Spring 2021 final exam schedule date.

Grading Criteria

Coding Assignments:	25%
Quizzes:	15%
Project:	5%
Exam I:	15%
Exam II:	15%
Final Exam:	25%

Late Policy

Coding assignment and project late submission will not be accepted. If a coding assignment or project is submitted after the due date/time, it will not be scored. No exceptions will be made for out-of-town trips, job interviews, computer crashes, mild sickness, etc. If you have a serious medical situation, documentation and approval from The Office of the Dean of Students will be needed for any accommodation.

Drop Policy

In order to allow for situations that arise from time to time that hinder a student's ability to turn in an assignment on time (or do well on it), some of the lowest scores will be dropped. Specifically, two of the lowest code assignment scores will be dropped, and the two lowest quiz scores will be dropped.

Topic Schedule

Posted on course site on Sakai.

Honor Code

You are allowed to (actually, encouraged to) discuss basic concepts as well as assignment tasks with other students. However, you are required to write the solutions and code assignments individually: i.e., what you hand in must be your own work. Also, you cannot use solutions from previous offerings of the course. Not following these rules is a violation of the Honor Code.

Collaboration on quizzes and exams is a violation of the Honor Code. This includes discussion of questions on a quiz, midterm, or final with students who have not yet taken that assessment.

Honor Code violations will be prosecuted.

Title IX Resources

Any student who is impacted by discrimination, harassment, interpersonal (relationship) violence, sexual violence, sexual exploitation, or stalking is encouraged to seek resources on campus or in the community. Please contact the Director of Title IX Compliance (Adrienne Allison – Adrienne.allison@unc.edu), Report and Response Coordinators in the Equal Opportunity and Compliance Office (reportandresponse@unc.edu), Counseling and Psychological Services (confidential), or the Gender Violence Services Coordinators (gvsc@unc.edu; confidential) to discuss your specific needs. Additional resources are available at safe.unc.edu.

Accessibility Resources and Service (ARS)

The University of North Carolina at Chapel Hill facilitates the implementation of reasonable accommodations, including resources and services, for students with disabilities, chronic medical conditions, a temporary disability or pregnancy complications resulting in barriers to fully accessing University courses, programs and activities. Accommodations are determined through the Office of Accessibility Resources and Service (ARS) for individuals with documented qualifying disabilities in accordance with applicable state and federal laws. See the ARS Website for contact information: https://ars.unc.edu or email ars@unc.edu.

Counseling and Psychological Services (CAPS)

CAPS is strongly committed to addressing the mental health needs of a diverse student body through timely access to consultation and connection to clinically appropriate services, whether for short or long-term needs. Go to their website: https://caps.unc.edu/ or visit their facilities on the third floor of the Campus Health Services building for a walk-in evaluation to learn more.

Disclaimer

The professor reserves to right to make changes to the syllabus, including project due dates and test dates. These changes will be announced as early as possible.