

Zerksis D. Umrigar

Office: EB N26 **Office Hours:** Mon, Wed: 4:45 - 6:15p.

Phone: 777-4326 (during office hours)

Email: umrigar@binghamton.edu

When sending email, please include the course and section you are registered for (either cs220A or cs220B) as a **single** word in your subject line.

Besides office hours, I will be available at other times by appointment. You are also welcome to drop by, more of a chance of getting me during the afternoons and evenings; please knock if the door is shut.

Teaching Assistants

Will be responsible for **all** grading. All questions regarding grading should first be addressed to the TA.

Section A:

Yongheng Li

Email: yli241@binghamton.edu **Office:** N0

Office Hours: Tue, Fri: 11:00 - 11:45a

Section B:

Raushan Raushan

Email: rrausha1@binghamton.edu **Office:** N0

Office Hours: Mon, Wed: 3:30 - 4:15p

Lab Sections:

Raushan: 10:05 - 11:30a, 11:40 - 1:05p and 4:25 - 5:50p.

Yongheng: 1:15 - 2:40p and 2:50 - 4:15p.

Randall E. Bryant and David R. O'Halloran, *Computer Systems: A Programmer's Perspective*, 3rd Edition, Prentice-Hall, 2015.

Required.

Brian Kernighan and Dennis M. Ritchie, *The C Programming Language*, 2nd Edition, Prentice-Hall, 1988. Known as K&R2.

Recommended

Evaluation

- Pop quizzes will test on material covered recently.
- 4-5 projects some of which will build on each other.
- 4-5 homeworks.
- 3 Exams: Two during regular class time at a time to be announced, the last during exam week at time determined by the university.
- Weekly tutorial labs.

Labs (each missed lab: -1):	9%
Pop Quizzes (lowest dropped):	11%
Projects (lowest dropped)	30%
Homeworks (lowest dropped)	20%
Exams (lowest dropped):	30%

- All exams and quizzes will be closed-book, closed-notes (absolutely no electronic devices) unless specified otherwise.

Pop Quizzes

- Pop quizzes will be closed-book, closed-notes.
- **You must bring a pencil to each class** to fill-in the scantron sheets for the quizzes. A pen will not work.
- You must fill-in your name and your B-number within the bubbles on the scantron sheet. Make sure you know your B-number.
- A quiz will usually have 5 questions with 2 points per question + 1 point for attempting the quiz.

Late Submission Policy

- You are allowed to submit assignments late by up to 3 days.
- You may not use more than 7 late days over all assignments over the entire semester.
- A day will count as 24 hours, irrespective of holidays or weekends.
- Late homeworks can be turned in during class or during office hours to either me or the grader. Alternatively, they can be submitted via my department mailbox or under my door, with the late submission date clearly mentioned on the submission. Please ensure that your course number (CS 220) and section (A or B) are also clearly mentioned.
- Late submissions will not be accepted for some assignments, especially before an exam or towards the end of the semester.

Academic Honesty

Cheating of any type will be penalized heavily.

- Minimal penalty: an F letter grade for entire course.
- Permissible to collaborate to understand course material, homework questions or project assignments. Not permissible to discuss solutions.
 - If you feel you may have inadvertently crossed the line, then let us know; will not be considered cheating.
 - If submitting an assignment late after the solution has been posted, you should obviously not be looking at the solution.
- All registered students must sign and complete an *Academic Honesty Statement*.

Letter Grade Assignment

- Letter grades will be assigned strictly monotonically based on the numeric course grade.
- A letter grade of A will be given only for consistent superior work.
- You will get an F only if you miss turning in a lot of work or submit consistently very poor quality work or if you cheat.
- TA *Grading Guidelines* are available.

- All course material on course web site at <http://zdu.binghamton.edu/cs220>.
- Course web site mirrored at <http://cs.binghamton.edu/~umrigar/cs220>. Dynamic portions of the web site will not be mirror'd.
- Slides usually available an hour before class. PDF's look better and will be used in class until HTML slides make better, but links from PDF version of slides do not always work.
- Course web site available via git repository at `ssh://user@remote.cs.binghamton.edu/~umrigar/git-repos/cs220.git`. Useful for tracking changes.

Course Mailing List

- All students registered for the course should have been subscribed to the CS220 mailing list.
- To change the email address via which you are subscribed to the list or would like to edit your subscription options, please visit
<<https://www.cs.binghamton.edu/mailman/listinfo/cs220>>.

- If you are having problems, please see me ASAP; **do not wait till the end of the semester.**
- Flexible regarding deadlines under exceptional circumstances.
- If you are experiencing undue personal or academic stress at any time during the semester or need to talk with someone about a personal problem or situation, I encourage you to seek support as soon as possible. I am available to talk with you about stresses related to your work in my class.

Contact Info for Help

Dean of Students Office 607-777-2804

Decker Student Health Services Center 607-777-2221

University Police On campus emergency, 911

University Counseling Center 607-777-2772

Interpersonal Violence Prevention 607-777-3062

Harpur Advising 607-777-6305

Office of International Student & Scholar Services 607-777-2510

University Ombudsman Main campus: 607-777-2388; University
Downtown Center office 607-777-2388

Services for Students with Disabilities 607-777-2686 (Voice, TTY)

The architecture and programming of computer systems. Data representation and computer arithmetic. Processor and memory organization. Assembly and machine language programming. Advanced C programming language constructs and their implementation in assembly language. Introduction to system software (assemblers, linkers, loaders, compilers). Supervised laboratory work involves programming and debugging using machine language, assembly language and C.

- To understand the details of a modern computer system.
- To understand the interaction between hardware and software.
- To develop expert proficiency in C.

Main Topics

Will delve into the software and hardware architecture of a modern computer system (exemplified by Linux running on a x86 architecture). Some of the topics covered will include (not chronological):

- Data representation.
- C programming constructs.
- C libraries.
- I/O devices.
- Use of basic programming tools within a Unix environment.
- Instruction-set architecture, assembly language.
- Memory hierarchies.
- Pipelining.