CSc 252 Computer Organization — Final Version
Spring 2016
Tuesday, Thursday: 5:00-6:15 p.m.

Description:
Basic machine organization; elementary hardware concepts; interrupts. Machine operations and instructions; assembly language concepts and programming.

Instructor:
Patrick T. Homer
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Cell: see the syllabus on D2L. Please do not call after 9:00 p.m.
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Teaching Assistants:
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Class Web Page and D2L:
Web site: www.cs.arizona.edu/classes/cs252/spring16
You can access D2L at: d2l.arizona.edu
You will login with your UA NetID and password.

D2L will have the lecture notes, homework and program assignments, sample quizzes, solutions to home works and exams, and will be used for submission of programs and home works.

Prerequisite:
CSc 127B or CSc 227 or equivalents from other institutions. If you do not meet the prerequisites, please talk to me immediately or you may be administratively dropped from the course.

On-line:
The lectures for the course will be recorded using Panopto. Panopto records what is showing on the screen of my computer and what I am saying. This allows the slides, examples, etc., to be recorded along with the explanations.
Links to the recordings will be posted on D2L (in the content area) on each Tuesday and Thursday as soon as the recordings are available.

**Office Hours:**
See the class D2L page. Office hours are subject to change during the semester. The D2L page will be updated and the change posted to Piazza.

You are welcome to stop by or call at times other than during posted office hours. If we have time, we will answer questions. If not, we will make an appointment with you for a later meeting (in-person or on the phone).

**Required text:**
David A. Patterson, John L. Hennessy
Computer Organization and Design: The Hardware/Software Interface.
Morgan Kaufman Publishers
5th edition, 2013
ISBN 9780124077263 (print)
ISBN 9780124078864 (eBook)

The 4th edition, or 4th edition Revised Printing, may be available as used books. Both would be usable for this course.

Editions of the book prior to the 4th edition should not be used. There have been too many changes since those earlier editions.

**Grading:**
The final grade, subject to modification, will be determined by:
- 45% from the programming assignments (5 to 7 planned)
- 10% from the homework assignments (6 to 7 planned)
- 30% from the quizzes, and
- 15% from the final exam.

The two lowest quiz grades will be dropped. No other grades will be dropped.

The final grades may be curved, but a weighted total of 92% and above is guaranteed to be an ‘A’, 80% and above at least a ‘B’, 70% and above at least a ‘C’, and 60% and above at least a ‘D’.

**Quiz and Exam Policies:**
There are seven quizzes given on alternate Thursdays during the course, and a Final Exam. Each quiz is 30 minutes in length; the final exam is two hours.
- Each 30-minute quiz will be handed out promptly at 5:00 p.m. and collected at 5:30 p.m. A five minute break and a lecture will follow each quiz.
- Late arrivals will not be granted extra time. Quizzes will be collected at 5:30 p.m.
- The final exam will be handed out at 7:00 p.m. on Wednesday, May 11th, and collected at 9:00 p.m.
• Missed quizzes may not be made up.
• Your lowest two quiz grades will be dropped.

Quiz Dates:
Quiz 1: Thursday, January 28th.
Quiz 2: Thursday, February 11th.
Quiz 3: Thursday, February 25th.
Quiz 4: Thursday, March 10th.
Quiz 5: Thursday, March 31st.
Quiz 6: Thursday, April 14th.
Quiz 7: Thursday, April 28th.

Final Exam:
Wednesday, May 11th, 7:00 to 9:00 p.m.

Important Dates:
Wednesday, January 13th: First day to file for grade replacement option (GRO).
Sunday, January 27th: Last day to drop resulting in deletion of course enrollment from transcript.
Tuesday, February 9th: Last day to file for GRO.
Tuesday, March 8th: Last day to submit change of schedule that involves adding a new class or changing from one class to another. Changes after this date require a Dean’s signature.
Tuesday, March 29th: Last day for dropping class through UAccess. Drops after this date require a Dean’s signature.

Email:
Email questions should be sent to 252spring16 (email domain: cs.arizona.edu). This alias will send your email to all of us. This is the preferred email address regarding questions about assignments, grading, etc. Note that we will cc each other when responding to your email.

When sending email, always include a subject line. The subject line must have 252 at the start, and must be “reasonable”. Bad examples include “help”, “a question”, “prog 1 help”, etc. Good examples include:
252 - Help on mips add error
252 - Clarification on turnin time
252: Need help with hexadecimal conversions
Email is a *very* useful tool in helping you understand the course material. This is true for other courses as well. Having a good subject line helps immensely in filtering the important email (that related to class work) from less important email.

Email should contain information that is relevant. Including previous email’s on a topic can be useful, but can also be a waste of time. Include information that is relevant; remove that which is not. Note that this means you should not automatically include previous email in the message.

Provide your name in the message. Do not rely on us knowing who you are based only on
your email address.

Use full sentences and write as clear a message as possible. Email that is poorly written simply results in us sending a reply that asks for more information. As an example, tell us specifically what your program is doing wrong, where (what line) it fails on, what output is wrong, which test case(s) do not work, etc. Tell us what you already know about the problem as this saves us troubleshooting time and prevents us from telling you something you already know.

Email summary:
- subject line contains 252 and a short version of the contents
- include your name
- provide as much information as possible
- include previous email only when useful in understanding your message

Email that does not follow these guidelines will be returned unanswered.

Piazza:
We will use Piazza this semester. I will submit email addresses and you should then get an email to join the Piazza page for the course.

Re-grades:
If grading seems incorrect, unfair, or inconsistent on a program, homework, or exam, you may appeal for a re-grade. You may talk with the TAs or me about the re-grade. Re-grades on homework, programs, and quizzes will only be accepted during the one week following their return. The re-grade does not necessarily have to be fully resolved, but the initial request must be made during the one-week period. Re-grades on the last homework/program will be accepted through 9:00 p.m. on Sunday, May 8th.
You have a final appeal that is available to students in any class. See the website: [catalog.arizona.edu/2015-16/policies/gradappeal.htm](catalog.arizona.edu/2015-16/policies/gradappeal.htm)

Program Grading:
Assembler programs will be graded based primarily on whether the program does, or does not, work. In general, your program will be run against a set of test cases. For each test case, you will receive the points for the test case if your output is correct; you will receive zero points if your output is not correct. Note this is a binary function, you will get all or none of the points for each test case.

There will also be points available for style (comments, indenting, readability), error-free assembly, and for satisfying specific requirements of the assignment (such as correct use of the stack, use of recursion when specified, etc.).

In general, 70% to 80% of the grade will be based on the test cases. Some test cases will be provided, along with the output of my solution prior to the due date of each assignment. Additional test cases may be used during the grading process.

You will be able to request a re-grade on a program. Points lost due to factors other than test cases cannot be reclaimed by a re-grade.
Points lost due to failing test cases can be partially regained, depending on the amount of change in your code from the original submission. In general, the formula for this is:

- 90% for less than 2% changed,
- 70% for less than 10% changed,
- 50% for less than 25% changed.

The amount of change will be based on the lines of code; comments and blank lines will be not be counted. Variations to this formula may be applied to specific assignments; see the class D2L site.

To request a re-grade on a program, you will first need to fix your code (we are available to help with this!). Use the D2L dropbox for the program and put your program in the appropriate re-grade folder.

**Computer accounts:**

Computer accounts on CS department machines will be created automatically for you. The account name will be the same as your UANetId. You will be sent an email that your account has been created. The email will contain the initial password for the account. When you first logon, you will be prompted to change your password.

If you do not yet have a UANetId and/or an email.arizona.edu email account, you need to create these. Go to [https://account.arizona.edu/](https://account.arizona.edu/) to create them. Both are needed in order to get CS computer accounts.

The CS department has two computer labs: Gould-Simpson 228 and 930. You will have 7/24 access to both labs. Your cat card can be used to enter the southwest door of Gould-Simpson after hours and on weekends. If you are not yet officially enrolled, note that it may take up to 48 hours after enrollment for your Cat Card to work to gain access.

If you lose the initial email about your password, or forget your password, you can request a new password. Go to [https://www.cs.arizona.edu/computing/services/](https://www.cs.arizona.edu/computing/services/). After you authenticate with your UANetId and password, you will see a list of choices. Click on the choice about resetting your Unix password.

**Late work:**

Students are strongly encouraged to complete the programming and homework assignments on time. There are two reasons:

- You will not have time to work on an assignment after its due date is passed. It is more important that you proceed to the next assignment.
- Late assignments are burdensome, and detract from time otherwise available to help students with the current assignment.

Do not feel that your program or homework assignment must be complete to be turned in. Fair partial credit will be given.

However, exceptional circumstances do sometimes occur. For this reason, each student may use three (3) late days for programming/homework assignments. A “late day” is defined as one minute up to 24 hours after the due date/time. Weekend and holidays count as late days.
You may use one late day per program or homework assignment. Thus, you cannot use two or three late days on the same assignment. Once your late days have been used, work turned in late will receive a grade of zero.

Machine and network down-time will be taken into account in extending the due dates for programs only if persistent and repeated outages occur over the life-span of the assignment. You should therefore endeavor to complete each program well before the deadline.

See also the section on “Variances” below.

Cooperation & Cheating:
I encourage you to talk with your friends about the course work; both giving and receiving advice will help you learn. However, students are responsible for understanding and following the University’s Code of Academic Integrity.

Briefly, you will not accept solutions from other persons, you will not give solutions to others, and you will not tamper with graded papers, code, or exams. It is OK to talk with other students about algorithms and general approaches, but each student must develop and write her/his own code and homework solutions. Each student must turn in her or his own work. I also consider misuse of your computer account a violation of academic integrity.

The one exception is for test cases. You are allowed to share test cases and expected results of these test cases for the programming assignments.

Students who violate the Code should expect a penalty that is greater than the value of the work in question up to and including failing the course. A record of the incident will be sent to the Dean of Students office. If you have been involved in other Code violations, the Dean of Students may impose additional sanctions.

The CS department policy can be found at: [http://www.cs.arizona.edu/policies/collaboration.html](http://www.cs.arizona.edu/policies/collaboration.html)

The UA’s “Code of Academic Integrity” can be found at: [http://deanofstudents.arizona.edu/codeofacademicintegrity](http://deanofstudents.arizona.edu/codeofacademicintegrity) for further details on what constitutes cheating, the penalties that may result, and the procedures involved.

Students with Disabilities:
If you anticipate barriers related to the format or requirements of this course, please meet with me so that we can discuss ways to ensure your full participation in the course. If you determine that disability-related accommodations are necessary, please register with Disability Resources (621-3268; drc.arizona.edu) and notify me of your eligibility for reasonable accommodations. We can then plan how best to coordinate your accommodations.

Conduct: The Department of Computer Science is committed to providing and maintaining a supportive educational environment for all. We strive to be welcoming and inclusive, respect privacy and confidentiality, behave respectfully and courteously, and practice
intellectual honesty. Disruptive behaviors (such as physical or emotional harassment, dismissive attitudes, and abuse of department resources) will not be tolerated. The complete Code of Conduct is available at [http://www.cs.arizona.edu/codeofconduct.pdf](http://www.cs.arizona.edu/codeofconduct.pdf). We expect that you will adhere to this code, as well as the [UA Student Code of Conduct](http://www.cs.arizona.edu/codeofconduct.pdf), while you are a member of this class.

**Exams:**

The dates/times for the quizzes and the final exam are firm. Each student must be careful to present a self-contained effort during each exam and quiz, and to keep the exam/quiz paper from easy display. Violations will be dealt with severely, with penalties that may exceed the value of the exam/quiz.

**Attendance:**

Attendance is not recorded. However, each student is fully responsible for all material covered by reading assignments, lectures, and handouts.

**Variances:**

Exceptional circumstances do sometimes arise. If such occurs in your case, please get in touch with me (not the TAs) as soon as practicable. This can be done in person, in writing, by phone, and/or by email.

Missed quizzes cannot be made up. However, if there is an exceptional circumstance that causes you to miss a quiz, please let me know: email to patrick@cs talk to me in office hours/by appointment/right after class. If you miss more than two quizzes when exceptional circumstances are involved, I will adjust the formula used to determine your grade for the course.