

CS 2200 – (Computer) Systems and Networks Syllabus – Fall 2016

Prof. Tom Conte conte@gatech.edu

Office Hours [*held in 2334 KACB*]: **1:30-2:30 Tuesdays and 11:00-noon Thursdays**

Description: 4 Credit Hrs. *A broad exposure to computer system structure and networking including software abstractions in operating systems for orchestrating the usage of the computing resources.*

Website: <http://t-square.gatech.edu> --Check the website often (at least once per week). All assignments, course notes, etc/ will be passed out via the website only.

Prereq: (1) ECE 2030 & CS2130 *or* (2) CS2110; *and* (3) Programming in C, machine language (eg, LC-3)

Books: (1) [Computer Systems: An Integrated Approach to Architecture and Operating Systems, Ramachandran & Leahy: ISBN # 978-0321486134](#)
 (2) My class notes (made available “just in time”)

Goals: This course is designed to give you an overview of computer systems structures, both hardware architecture and software layers. The focus is on performance issues.

Topics:

1. Introduction and Overview	9. Memory hierarchy (caching)
2. Processor architecture	10. Parallel systems
3. Datapath architecture	11. I/O and disks
4. Interrupts	12. Networking
5. Performance	13. Disk scheduling
6. Pipelining	14. File systems
7. Process scheduling	15. Advanced topics (time permitting)
8. Memory management	

Course Workload:

30%	Projects I-VI (6 total)
20%	Exam I (Thursday, September 15th)
20%	Exam II (Thursday, November 18th)
25%	Final exam (Thursday, Dec 15, 11:30am-2:20pm, in classroom)
5%	Homeworks

***Homework #0:** You are required to visit my office at least once during my office hours and before the second exam (Exam II) (Nov. 18th). You must announce that your visit is “for homework 0.” This counts as a real homework! *If for some reason you cannot meet this requirement, please contact me via email.*

Course Rules

1. **There is no extra credit provided in this course.**
2. Some assignments will be due during the final instructional days of the semester.
3. If you have any major personal problems (family/illness/etc.), please go to the Division of Student Life office.
4. **All assignments must be turned in on time.** Only excuses approved by the Division of Student Life are valid.
5. You are also responsible for insuring that what you turned in is what you meant to turn in. T-Square includes a “retrieve” feature: This allows you to retrieve exactly what you submitted and insure that it works. Always use this feature to confirm what you have submitted. If you have any problems submitting via T-Square, email your grading TA what you would have submitted BEFORE the deadline of the assignments. After the deadline is a 0, no exceptions.

6. **Diagrams** may be submitted as JPEG files and *must be legible*. **Submit all text as plain ASCII text**. Do NOT submit word/excel/image/etc. files. Wrap text to 80 characters or less. Put your name and GT ID number at the top of each file (if a code file, include it as a comment).
7. **Demos are required for all projects**. Sign up for demo times with TAs via T-Square. If you cannot attend one of the predetermined demo time slots, e-mail the Head TA. You must contact the Head TA before the demo period for that project ends. If you sign up for a demo and miss it without a valid excuse you will get 50% of the points off. Only excuses approved by the Division of Student Life are valid. If you know you are going to miss a demo ahead of time, remove your name from the list and email the TA you signed up with. Then make other arrangements with the TAs.
8. **Tests must be taken at the scheduled date and time**. Failure to attend an exam results in a 0.
9. **The deadline for re-grades is 1 week** after an assignment grade is posted or returned to the class. Regrades are only for correct answers accidentally marked as wrong. **There are no regrades for higher partial credit**.
10. The T-Square announcements should be read every day.
11. The course piazza forum is only for posting technical questions about assignments, tests, etc. Do not give away answers to questions on piazza!
12. **Computer, tablet and phone usage is not permitted during lecture**. There is much research that handwritten note taking is a fundamental and important way to integrate information. Use a paper notebook. If you don't understand something, ask a question. I don't bite (much).
13. **Electronic recording of lecture is not permitted without prior consent**.
14. **Reasonable accommodations will be made for students with verifiable disabilities**. In order to take advantage of available accommodations, students must register with the ADAPTS Office, located in the Office of the Dean of Students.

Coding guidelines

15. You must turn in ALL files that are used to build your executable, including the files which we provide you.
16. You must provide a *Makefile* that compiles and links your code by default.
17. Your code must compile with **gcc**. If your code does not compile, you will receive a 0 for the assignment.
18. You will be penalized if your code produces warnings when compiled with the following flags:

```
gcc -Wall -pedantic -O2
```
19. Code should be well commented and use a clean, consistent (readable) style (i.e., proper indenting, etc.). This is not an obfuscated code competition!

Plagiarism (cheating)

20. Students are expected to have read and agreed to the Georgia Tech Honor Code, see <http://osi.gatech.edu/content/honor-code>
21. Suspected plagiarism will be reported to the Division of Student Life office. It will be prosecuted to the full extent of Institute policies.
22. A student must submit an assignment or project as his/her own work (this is what is expected of the students).
23. Using code from github, via googling, from stack overflow, etc., is plagiarism and is not permitted.
24. Although discussion among the students through piazza and other means are encouraged, the sharing of work is plagiarism. If you are not sure about it, please ask a TA or stop by the instructor's office during the office hours.
25. TAs and Instructor determine whether the project is plagiarized. **Trust us, it is really easy to determine this...**

Statement for not mentioned policies and issues: Any policies and issues not mentioned in this syllabus will follow policies and procedures according to the Georgia Institute of Technology: <http://policylibrary.gatech.edu>