Course Missive

Fall 2015

Course Staff

Professor	Phone	Office	Email (@cs.brown.edu)
Thomas Doeppner	863-7633	CIT 405	`twd`

Tom's Office Hours

Monday	4-5 pm
Wednesday	3-5 pm
Friday	3-4 pm

Head Teaching Assistants	@cs.brown.edu
Advik Iyer Guha	`aiguha`
Dylan Gattey	`dgattey`
Ian Reardon	`ireardon`

Teaching Assistants	@cs.brown.edu
Anne Rothen	`arothen`
Cesar Guerrero	`cguerrer`
Erik Ronning	`eronning`
Frances Chen	`flchen`
Frederick Rice	`frice`
Gareth Chen	`gdchen`
Grant Gustafson	`ggustafs`
Guillermo (Memo) Beltran	`gbeltran`
Guo Wang	`gw9`
Hassan Sufi	`hsufi`
Ian Wyszynski	`jw`
Paige Stoermer	`jstoerme`
James Cohan	`jfcohan`
John Adler	`jcalder`
John Yang	`zy15`
Jordan Hendricks	`jordan`
Joseph Stein	`jas14`
Justin Brower	`jbrower`
Kevin Cole	`kbcole`
Kyle Laracey	`klaracey`
Martin Zhu	`mjzhu`
Meryl Charleston	`mcharles`
Nick McKenna	`nmckenna`
Noah Webb	`nwwebb`
Peter Kirschner	`pkirschn`
Ping Hu	`ping`
Quinn Li O'Shea	`qoshea`
Scott Zellers	`szellers`
Sorin Vatasoiu	`svatasoi`
Surbhi Madan	`sm15`
Vessy Ratcheva	`vratchev`

Please see the course website for the current TA hours schedule.

Introduction

Welcome to CS 33 (officially known as CSCI0330), Introduction to Computer Systems!

This document provides you with a lot of important information about CS 33, and you **need** to read it to understand how this course works; you'll thank yourself later, and the TAs will love you for it.

You may also want to refer to the list of lectures and assignments, which can be found on the course website.

Announcements made during the semester will be sent to the listserv and posted on the web page.

The course is intended primarily as an intermediate course that prepares students interested in

computer systems for upper division courses in CS and Engineering. It fills a core requirement for the A.B. and Sc.B. tracks in computer science, and is required for the Computer Engineering concentration.

> **From the Course Announcement** High-level computer architecture and systems programming. The course covers the organization of computer systems (in terms of storage units, caches, processors, and I/O controllers) and teaches students assembly-language programming and C-language programming. Extensive programming exercises introduce students to systems-level programming on Linux systems, as well as to multi-threaded programming with POSIX threads. Students will learn the basics of how compilers work and will be introduced to the functions of operating systems.

Prerequisites

In order to take CS 33, you should have taken CS 15, CS 18 or CS 19 (or have Tom's permission). Familiarity with a C-like language (such as C++ or Java) will help you with this course. However, knowing C is not a prerequisite for the course.

Lectures

Lectures will be given by Professor Doeppner on Monday, Wednesday, and Friday at 2 pm in MacMillan 117. If the location changes, we will make an announcement at the preceding lecture and send a message to the listserv.

Note that the published syllabus is a plan, not a contract. It is subject to change without notice; *do not* rely on it to choose which lectures to attend.

Labs

In addition to weekly lectures you will be required to complete one lab assignment per week. Labs are designed to take approximately two hours, though some may take more or less time. The TAs will hold special "lab hours" which will be listed on the course website. Students may only check off labs at these "lab hours" and not during TA hours. However, there is no other mandatory requirement to come to lab hours. It is encouraged that students come to Lab hours, as these are times set aside by the TAs to help with labs and related material, but there will be no set schedule of which hours to attend.

Labs will be checked off as complete or incomplete, and each lab is worth 1.833% (repeating of course). If you do not finish a lab during the first week it is out you may turn it in for half-credit during the second week the lab is out. After 2 weeks, a lab becomes worth no points.

Requirements

Assignments for this class consist of 12 labs and 10 projects.

The plan for projects and labs can be found in the syllabus on the course website, and on the website itself in the assignments section.

Grading

Your grade for the semester will be determined as follows:

Clickers	6%
Labs (12)	22%
Maze	6%
Data	6%
Buffer	6%
Bomb	6%
Performance	6%
Strings	6%
Shell 1	6%
Shell 2	6%
Malloc	12%
Database	12%

In general, questions about homework or project grades should be sent to `cs033headtas@cs.brown.edu`, not the UTAs. If you have any specific questions about how you got graded on an assignment, please contact the TA who graded you. If you have any other questions about your final grade, please get in touch with the professor, **not** the TAs. All grading for CS33 is done by undergraduates.

Collaboration Policy

In order to help the course staff evaluate each student in CS 33 as fairly and individually as possible, we have written a collaboration policy by which we expect all students to abide. **Please read this policy carefully**, as it may differ from collaboration policies in CS classes you have taken previously. The policy is available on the course website, and you must complete the form online before you turn in any other work for the course.

Late Policy

You are allowed a total of 4 late days to be used on any assignment, free of charge. You may not use more than 2 late days on any one project. Beyond that, you are penalized one grade level each day it is late (A to a B, B to a C, etc.). You will not be penalized for more than the assignment's value. We will apply late days to assignments in an optimal fashion with respect to your grade at the end of the semester.

A dean's excuse or a note from health services is required for any kind of exception to be made to the rules above. Once you have one of these you should talk with Tom, who is the only person who may grant extensions.

Incomplete Policy

Incompletes are granted only under exceptional circumstances (e.g. severe illness, death in the family, kidnapping, etc.; too heavy of a course load is not sufficient reason for an incomplete). Getting a dean to certify your reason for requesting an incomplete helps, but is not sufficient.

Course Materials

Lecture slides will be made available on the course website for you to print out and take to class if you wish. It is recommended that you take notes on and save these copies, as they will be a valuable resource in studying for exams and doing homework.

Audio from lectures will also be recorded and made available for you to download and replay. Please note that this is *not* a substitute for attending class, and you should not rely on recordings for your initial exposure to the material. Recordings are intended to help you review and clarify material while completing assignments or studying.

The required textbook for this course is *Computer Systems: A Programmer's Perspective, 2nd Ed.* by Bryant and O'Hallaron, Prentice Hall/Pearson, 2011 (ISBN: 978-0136108047) (Third addition is also okay). Course material is based heavily around the textbook, and you will find it **very** advantageous to keep up with the chapter readings corresponding to the current week's lectures. If you are purchasing the book, be sure that you buy the **2nd or 3rd Edition**, as these versions vary greatly from other editions.

You may also find online resources and the Linux `man` pages (enter `man <function>` into a terminal) helpful. Keep in mind, however, that these resources are full of things that have not been covered in class. You may find the perfect function while digging through the vast reserves of knowledge on the internet; however, if you elect to use such a function, be aware that it may have unintended hidden consequences on your program behavior. If this is the case, your grade for the relevant assignment *will* be reduced, depending on the infraction. It is safest to restrict yourself to the syntax and functions which have been covered in class and in assignment handouts.

Getting Help

TA Hours

TA hours will be held throughout the week in the Moon Lab, CIT 227. The exact hours are posted on the course website. TAs will gladly help clarify homework questions, explain concepts covered in homeworks, and help with general questions about course material.

TAs are here to help you, but remember, TAs are students too. **Please don't ask questions outside of official TA hours.** This includes talking to them in person or electronically while they are at home or in the lab.

In addition, please only ask for help from the course staff listed above (this means no former students or Sunlab consultants). Some of your TA's may also happen to be Sunlab consultants. If they are on duty in Row 9, they should only be approached with appropriate non-course related questions. Take the elevator upstairs to TA hours instead!

If you feel that you can't possibly make the scheduled TA hours, please get in touch with the head TAs.

Gear Up Sessions

Project Gear Up Sessions are a new concept this year, and helps you get more generalized help and a roadmap for the beginning of an assignment. Gear Ups will be held in Barus and Holley 166 each Thursday after an assignment is released, from 7-9pm. The TAs holding the sessions will give you a general timeline and roadmap of the newly-out project, and answer frequently asked questions about the content and structure, as well as any overarching questions you specifically have. Note that specific questions about assignment concepts, or pointed questions about content in the assignment handout must be asked at hours. If the question is too specific for Gear Ups, the TAs in charge will direct you to hours.

Tom's Office Hours

Professor Doeppner will hold office hours in CIT 405, at the times listed on the first page and/or as published on the course website.

Piazza

We will be using Piazza to manage course announcements and allow students to get quick questions answered. Here, you can see any updates that we post as well as ask clarification questions.

Please use Piazza only for quick clarification questions and save in-depth questions for TA hours. Additionally, **do not post any code to Piazza**. Doing so is a violation of the collaboration policy. A good rule of thumb is that if a question is specific to your implementation of the project, it should be asked on hours rather than on Piazza.

Communication

You will need a **CS account** to complete the course assignments. When you turn in your signed collaboration policy, you will automatically be given a CS account if you do not already have one. Alternatively, you may fill out the survey under Quick Links on the webpage and we'll get you an account as soon as possible.

The **course website** is an indispensable resource you will want to take advantage of. You can find online postings of assignments, solutions, lecture slides, announcements, TA hours, and other miscellania. The course website can be found at:

`http://www.cs.brown.edu/courses/cs033/`

I have a question. Where do I ask it?

Since we have so many means of communicating and getting feedback, we want to lay out the types of questions you may have and how you should go about getting them answered.

General Clarification Questions: Post these to Piazza, so other students can see the answers and don't have to wait to talk to a TA.
Example: Is it okay to use `strtok()` in the shell assignment?

Implementation-specific Questions: Bring these to office hours, or, if the question can be answered in two sentences or less, you may email the TA list (`cs033tas@cs.brown.edu`). When emailing the list, please be respectful of the TAs' time and consider whether your question is *really* answerable in a few lines. We reserve the right to ask you to come to hours to get your question answered.
Example (TA hours): I am receiving a segmentation fault. I have debugged the code and narrowed down where the error is occurring, but I need help pinpointing the issue.
Example (Email): I want to use a library but it may give away the design of my code. I want to make sure I can use it without posting to Piazza and revealing the design to the whole class.

Conceptual Questions: Quick questions may be posted to Piazza, but if you need a longform answer, they should be brought to TA hours.
Example (TA hours): I am having a tough time understanding signals. I read through the textbook and slides but need another explanation and to be able to ask specific questions.
Example (Piazza): Is the memory of a child process shared with the process that spawned it, or does it have its own?

Administrative questions or issues with TAs: These should be sent to the HTA list (`cs033headTAs@cs.brown.edu`). Note that the professor is on the HTA list. If you feel your question merits being seen by only the professor, email Tom directly (`twd@cs.brown.edu`).
Example: I have a personal matter keeping me from completing an assignment on time. May I have an extension?