

Course Missive

Spring 2012

Course Staff

Professor	Office	Email
Prof. Caroline Klivans	182 George St Rm 323	Caroline.Klivans@brown.edu
Teaching Assistants		Email
Aimee Lucido (Head TA)		aimee@cs.brown.edu
Hannah Rosen (Head TA)		hdrosen@cs.brown.edu
Alison Gale		agale@cs.brown.edu
Jingtao Huang		jh20@cs.brown.edu
John Connuck		j1connuc@cs.brown.edu
James Walsh		jmw7@cs.brown.edu
Ryan Roelke		rroelke@cs.brown.edu
Snow Li		sl90@cs.brown.edu
Vivian Hsiao		vhsiao@cs.brown.edu
Vishesh Jain		vj1@cs.brown.edu
Zachary Fischer		zfischer@cs.brown.edu

Introduction

Welcome to CS 22, Introduction to Discrete Structures and Probability. This course is intended primarily for first- and second-year computer science students and has no prerequisites. The course fills a core requirement for the A.B. and Sc.B. tracks in computer science, and is a prerequisite for CS 51 and several upper-level CS courses. From the course announcement:

Seeks to place on solid foundations the most common structures of computer science, to illustrate proof techniques, to provide the background for an introductory course in computational theory, and to introduce basic concepts of probability theory. Introduces number theory, logic, graph theory, combinatorics, probability, and Markov chains.

No prerequisites.

Lectures

Lectures will be given by Professor Klivans on Mondays, Wednesdays, and Fridays from 10:00 - 10:50 in Kassir House FOX. Course-related announcements may be made in class, and, while you are not required to attend, you are responsible for anything covered in lecture. To that end, you are encouraged to ask questions in lecture and we suggest that you write down definitions and theorems presented in class. Professor Klivans will not follow the text, may skip topics in the book, or lecture on subjects not in the text.

Recitations

There will be recitations held throughout the semester. At each recitation, two TAs will present the highlights of the current topic, go through a few example problems, then provide practice problems for you to work through with others. You are encouraged to attend these for more practice and understanding, but they are not required. Recitation dates will be announced during the semester.

Assignments

Homework

Homework is assigned each week, and you will have approximately one week to complete it. Homework will go out each Wednesday by the end of class and will cover material given in lecture up to that day. (It may occasionally include material that will be taught on the Friday of that week.)

All written homeworks are due Wenesdays at 9:45am in the CS 22 bin on the 2nd floor of the CIT.

Late homeworks will receive no credit.

Problems may be given partial credit. If you have an idea on how to solve a problem but are unable to provide a complete solution or proof, please explain your approach and your reasoning as clearly as you are able. However, please do not list random facts and theorems without good reasoning.

Written solutions to the homeworks will be posted on the course website after all student handins have been graded.

Second Chance Policy

We want you to learn something even from problems that you are unable to complete by the time a homework is due. Thus, we will provide an opportunity to receive points back up to half credit on certain problems for which you receive less than half of the points the problem was worth. When solutions for a homework are posted, problems which are eligible for this second chance policy will be marked. To get points back, you must come to the hours of Prof. Klivans or one of the Head TAs and fully explain your mistakes and the correct solution to the problem. You are allowed to first discuss the problem and posted solution with any TA to get help in understanding what you may have done wrong and how to solve the problem correctly. To get points back, however, you must, in the end, explain the complete solution on your own without additional assistance. Be prepared to answer any questions about the problem or your solution. Points will be awarded only when we are convinced that you have fully understood the problem.

Regrade Policy

If you believe a mistake was made in grading some of your work, you may request a regrade. To make a request, please see the TA who graded that problem at his or her office hours. If you still have a dispute after speaking with the TA who graded the problem, please see an HTA or the professor during their hours.

Legibility of Homework

We will pay considerable attention to the presentation of your work. We do not care if you type or handwrite as long as your work is legible. Please keep this in mind if you choose to handwrite your homework. Even if you type your homework, it could still be illegible. For example, please do not spell out numbers or mathematical operations. If we deem your homework illegible, you will get a strike and a note explaining why you have received the strike. If you have two strikes and your homework is still illegible, we reserve the right to not grade it.

We encourage you to learn \LaTeX , a type-setting program especially useful for writing up mathematically-intensive documents. Links are provided to \LaTeX resources from the course webpage. In addition, we have provided a template that you may use as a starting point for type-setting your assignments. \LaTeX is a tool that you will probably have to learn at some point if you plan on studying computer science or math, so we suggest you learn it now. You may also opt to use Lyx, which is free software with a nice GUI that you can use to typeset your homework. It's fun!

Exams

There will be two midterms and a final. The first midterm will be held during class on Friday, February 24th. The second midterm will be held during class on Friday, April 6th. The final is on May 11th from 9am to 12pm, location to be announced. If you have any conflicts with the exams, please email cs022headtas@cs.brown.edu as soon as possible and at least one week before the scheduled exam time.

Grading

Your grade for the semester is determined by your grades on individual assignments as follows. The lowest homework grade will be dropped. The following is an *approximate* guide to the grading breakdown,

Type	Percentage
Homeworks (11)	45 %
Midterm Exams (2)	30 %
Final Exam	25 %

TA Hours

TA hours will be held throughout the week in CIT 227 (the "Moon Lab"). Hours are posted on the course website. If any changes are made to the hours schedule, an announcement will be emailed to the class list. TAs will gladly help clarify homework questions, explain concepts covered in homeworks, and help with general questions about course material. While we do expect you think about the problems individually first, we encourage you to come to hours for help. TA hours can help you gain great understanding of the

material and problem-solving strategies—they are not just intended as a last resort. Bottom line: utilize this resource!

TAs are here to help you, but remember, TAs are students too. Please don't ask questions outside of official TA hours. TAs have their own classwork to do. If you feel that you can't possibly make the scheduled TA hours, please get in touch with the Head TAs.

Communication

The **course web page** is an indispensable resource. You can find online postings of assignments, solutions, course notes, announcements, TA hours, and other miscellanea. The course web page can be found at:

<http://www.cs.brown.edu/courses/cs022/>

If you have administrative questions, comments about the course, or have a problem with a TA, you should email Prof. Klivans and the Head TAs at cs022headtas@cs.brown.edu or show up for their hours.

Collaboration Policy

In order to help the course staff evaluate each student in CS 22 as fairly and individually as possible, we have written a homework collaboration policy by which we expect all students will abide.

You may discuss problems with your classmates. However, the presented solution must be **EXCLUSIVELY** your work. You may not take away notes from preliminary discussions, nor keep collaborating (with classmates) while preparing your write-up: at this stage only consultations with course staff are permitted.

This policy is described in more detail as part of Homework 0. Note that we will not grade any of your work until we have received a signed copy of the collaboration policy as part of Homework 0.

Course Materials

The recommended textbook for this course is *Discrete Mathematics with Applications. Fourth Edition* by Susan S. Epp. It is available at the Brown Bookstore and from online booksellers such as Amazon. There will be supplemental material posted on the website for the probability section of the course.