

Introduction to combinatorics (Math 142), Fall 2002
MacQuarrie 234, MWF 1:30pm (Sec. 1, code 10543)

Instructor: Dr. Tim Hsu (pronounced “shoe”).

Office and phone: MacQuarrie 419, (408)924-5071.

Office hours: MWF 12:30–1:20, MW 3:30–4:50, subject to change. For a current schedule, see: <http://www.math.sjsu.edu/~hsu/courses/generic/sched.pdf>

E-mail: hsu@math.sjsu.edu. I can be reached by e-mail at most times of the day, and will often answer within a few hours.

Course web page: <http://www.math.sjsu.edu/~hsu/courses/142/>

Text: *Applied Combinatorics* (4th edition), by Alan Tucker. Make sure you get the 4th edition, which has a blue/green/yellow cover.

Grading: Your semester grade consists of:

Homework:	21%
Exam 1–3:	17% each
Final exam:	28%

What this course is about. In combinatorics, we study finite objects, like graphs, or the set of all possible poker hands, and we answer questions like:

- *Do there exist objects of a certain type?* For example, is there a graph that you can’t draw on a piece of paper without its edges overlapping?
- *If so, how many such objects are there?* For example, how many ways are there to get a “full house” in poker?

Problem-solving. As you can see from the above examples, combinatorics is all about problem-solving. One of the main goals of the course is to help you develop your problem-solving abilities. There’s no better (and probably no other) way to do this than to do problems, which means that you should expect to put a lot of time and effort into the weekly homework (see below).

Class is a cell/beeper-free zone. Please turn off all cellphones and beepers before you get to class.

Homework. Homework will be due roughly once a week, with a first draft of problem set 01 due **Fri Aug 30**, and the final version due **Fri Sep 06**. For more details on homework content and the process of doing homework (including revisions), see the handout on homework.

Specific homework assignments will be determined as the term progresses. For a complete list of all homework assigned to date, and downloadable versions of almost all handouts from class, you can always check the course web page.

Exams. We will discuss this topic in more detail before the first exam, but briefly, the material on exams will mostly resemble the material from the homework. All exams are closed-book.

Calculators. You will *not* be allowed to use calculators for *any* in-class exams. The numerical work on exams will be simple enough that a calculator shouldn’t be necessary, and even if you make numerical mistakes, you won’t lose a lot of points on them.

Exam dates. The dates of our three in-class exams and final exam are found on the syllabus below. In particular, the final exam will be held on **Tue Dec 17**, from **12:15pm–2:30pm**. Please make sure that you are still on campus at that time (e.g., don’t buy a plane ticket that leaves town on Dec 16).

How to add this course. If you are not registered for this course, and you would like to add it, you must first put a full effort into completing all of the work in the course. Second, if you are a graduating senior, you need to produce documentation to verify that.

I'll make a waiting list, which you can get on by filling out the information form for the course. I'll give out add codes starting **Mon Sep 09**, mainly based on completeness of homework and attendance. Note, however, that graduating seniors have the highest priority, and that Open University students have the lowest priority.

How to drop this course. Until **Fri Sep 13**, you can drop by Touch-SJSU. Nothing will appear on your transcript. However, please tell me if you drop, so someone else can add the course.

To drop after Fri Sep 13, you must go to the student services center and submit a Course Drop form to the Director of Academic Services. Dropping under these circumstances is only allowed for "serious and compelling reasons" (course catalog). A low grade is not a serious and compelling reason.

Syllabus

Date	Reading	Date	Reading
Mon Aug 26	Intro, 1.1	Mon Oct 21	5.3
Wed Aug 28	1.1–1.2	Wed Oct 23	Review
Fri Aug 30	1.2–1.3	Fri Oct 25	Exam 2
Mon Sep 02	Labor day	Mon Oct 28	5.4
Wed Sep 04	1.3	Wed Oct 30	5.4
Fri Sep 06	1.4	Fri Nov 01	5.5
Mon Sep 09	1.4, 2.1	Mon Nov 04	6.1
Wed Sep 11	2.1	Wed Nov 06	6.1
Fri Sep 13	2.2 (drop date)	Fri Nov 08	6.2
Mon Sep 16	2.2–2.3	Mon Nov 11	6.2–6.4
Wed Sep 18	2.3	Wed Nov 13	6.4
Fri Sep 20	Review (add date)	Fri Nov 15	7.1
Mon Sep 23	Exam 1	Mon Nov 18	7.2
Wed Sep 25	3.1	Wed Nov 20	7.3
Fri Sep 27	3.1–3.2	Fri Nov 22	Review
Mon Sep 30	3.2	Mon Nov 25	Exam 3
Wed Oct 02	3.3	Wed Nov 27	TBA
Fri Oct 04	3.3	Fri Nov 29	Thanksgiving
Mon Oct 07	3.4	Mon Dec 02	8.1
Wed Oct 09	5.1	Wed Dec 04	8.1
Fri Oct 11	5.1	Fri Dec 06	8.2
Mon Oct 14	5.2	Mon Dec 09	8.2
Wed Oct 16	5.2	Tue Dec 17	Final exam,
Fri Oct 18	5.3		12:15pm–2:30pm