

<b>Class</b>	Math 22.23	<b>Instructor</b>	Bert Lo
<b>Lecture</b>	MTWThF 10:30am – 11:20am		Room S54A
	Room S54		(408) 864-8268
<b>Office Hours</b>	Room S54A		<a href="http://tinyurl.com/BertLo">http://tinyurl.com/BertLo</a> OR
	MTWThF 7:30am – 8:20am		<a href="http://nebula2.deanza.edu/~bert">http://nebula2.deanza.edu/~bert</a>

**Text** Discrete Mathematics: An Introduction to Mathematical Reasoning  
Susanna Epps  
Brooks/Cole 2011

**Grades** Your grade will be determined by your points scored on weekly quizzes, 3 midterms and a final exam, and personal development exercises.

Weekly Quizzes	210 points (30 points $\times$ 7)		
Midterms (3)	450 points (150 points $\times$ 3)		
Final Exam	300 points		
Personal Development Exercises	40 points		
A+	at least 970 points	A	930 – 969 points
B+	870 – 899 points	B	830 – 869 points
C+	770 – 799 points	C	700 – 769 points
D	600 – 699 points		
F	0 – 599 points		
		A–	900 – 929 points
		B–	800 – 829 points

**Calculator** NONE REQUIRED OR ALLOWED

**Attendance** Regular and punctual attendance is important to succeeding in any math class.

- You are expected to attend all classes, arrive on time, and stay for the entire class.
- When you come into class, you will sign in on a spreadsheet at the front of the class. The spreadsheet will keep a running total of how many days you are late, and how many days you are absent.
- If you are absent on the first day, or twice during the first week, I will drop you from the class, unless you have contacted me beforehand.
- If you are absent more than 5 times or late more than 7 times (by even 1 second according to the spreadsheet) before the end of the 7<sup>th</sup> week, you will be withdrawn from the class. Excused lates and absences for serious issues must be accompanied by documentation (eg. accident, medical or police report). However, you will not be withdrawn if you score more than 75% on every midterm.
- The only other circumstance under which I will drop or withdraw students myself is disruptive classroom behavior (see below). If you do not want to stay beyond the 8<sup>th</sup> week, you must officially withdraw from the class at Admissions and Records before the end of the 8<sup>th</sup> week. If you stop attending and do not officially withdraw yourself, you will receive an F for the course.
- If you are not present during any part of any lecture, you are responsible for getting all lecture notes, homework assignments, handouts and announcements missed. You should arrange to get these from your fellow classmates. (I will not repeat lectures, during office hours or at any other time.)

**Readings** Reading the textbook every day helps you understand what we discuss in class. It also helps clarify the material by giving examples which you can study at your own pace.

- You are expected to read the sections of the textbook every day, before the corresponding lecture. You may not understand everything the first time you read it, but it will help you be more comfortable with the language used in class, and make it easier for you to focus during lecture. It will also give you a chance to prepare your questions to ask in class.
- Some concepts are presented differently in the textbook than in lecture, in ways which you may find more in line with your learning style.
- Some explanations are given in more detail in the textbook than in lecture. I will say things in lecture which I might not write on the board – you will find most of those “missing” notes in the textbook.
- Examples, definitions, theorems and proofs from the textbook will appear on tests.
- I believe that reading the textbook daily accounts for about 20% of your learning in a math class. If you do not read the textbook each day, you should not expect to score higher than a C, and you may likely score worse.

## Homework

Doing homework on a daily basis helps you to really understand the material, and makes lectures easier to follow. It allows you to discover and correct your confusions and misunderstandings, so you'll be less likely to make the same mistakes during quizzes and exams. Homework also develops critical thinking, since **you will be asked to consider problems which are not explicitly discussed in lecture.**

- Homework will be assigned each day but will not be collected or graded. It is your responsibility as college students to check that your answers and solutions are correct, and to correct any mistakes or misunderstandings.
- You should work in groups of 2 to 4 people on homework. Everyone should do all the homework separately, then discuss the questions you could not do or had difficulty with. Do not copy from one another. Do not simply split the assignment, then do a fraction of the total work and exchange solutions. (This splitting method usually results in everyone in the group failing from lack of practice.)
- Homework will be assigned for each lecture section. You should do as much of it as possible that day, ask questions about it the next day, and have it completed by the second day after the lecture.
- You should expect to spend at least 10 hours a week outside of class on homework, or an average of at least 2 hours per day. Each day, you should be finishing yesterday's homework, doing as much of today's homework as possible, and reading ahead for tomorrow's lecture.
- Don't let the homework pile up. Because we operate on the quarter system, we will cover the material fairly quickly. If you fall behind in homework by even just a few days, the lectures will get harder to understand, and the homework will take more and more time the further behind you get. So, a 2 hour homework set might take 6 hours to complete if you are behind by a week, and that still doesn't include all the other old homework you have to finish up.
- Give each question a solid effort before you start looking at the solution manual or asking someone for help. You will learn much more from trying to solve a problem yourself, than from watching someone else solve it for you. (I can watch other people play basketball all day long, but I will only really improve when I pick up a ball and start shooting baskets myself.) Reread the notes or textbook, or search for similar examples for ideas on how to proceed, then try again. **IF YOU ONLY FOLLOW THE SOLUTIONS IN THE SOLUTION MANUAL, BUT YOU DO NOT LEARN TO SOLVE THE PROBLEMS WITHOUT HELP, YOU WILL PROBABLY FIND THAT YOU HAVE GREAT DIFFICULTY WITH THE PROBLEMS THAT APPEAR ON TESTS.**
- Homework assignments will only represent part of what you are expected to master. If you only do the assigned problems, you might or might not be able to achieve a C in the class. If you want a higher grade, you should do extra problems on your own, in order to get enough practice to truly master the material. Once you know how to do a certain type of problem, do another similar one to make sure you can do it without an example to follow. Then do another one. The more practice problems you do, the more confident you will feel, and the better you will do on the tests.
- I believe that homework accounts for about 50% of your learning in a math class. You should not expect to pass the class if you do not keep up with the homework. If you don't think you can commit at least 10 hours a week to this class, take it another quarter when you can make that time commitment.

## Quizzes

Quizzes are designed to motivate you to keep up to date on the homework.

- Quizzes will be given each week in which there is no midterm or final exam, and may last from 15 minutes to 30 minutes. The exact day will be announced 2 days in advance. There are no make-ups for missed weekly quizzes. Some quizzes will require you to work in teams of two, so you should find a partner and begin studying together starting the first day.
- There will be at least 240 total points available across all quizzes combined. So, you can miss or do very badly on one quiz without impact to your grade.
- Quizzes will cover sections up to and including 2 days before the quiz. If you do the homework the day of the lecture, and ask questions the next day, you should be ready for the quizzes.
- All quizzes end at the time stated. If you continue writing on your quiz, midterm or final exam after that time, you will receive a 0 for it.
- Some quizzes will be graded by you. This will help you get a better understanding of your errors, how to improve, and how to present mathematical work (especially proofs) correctly. I reserve the right to give you a 0 on a quiz, if it appears that you are being overly generous in grading yourself. If you alter the work on your quiz during grading, that is considered cheating (see Academic Honesty).

## Midterms

There will be three midterms during the quarter.

- Midterm dates will be announced at least 3 days before the corresponding midterm is given.
- Midterms will begin promptly when class starts, and will last 50 minutes.
- There will be no makeup midterms. No midterm scores will be dropped. I will not reschedule midterms for individuals.
- The expectations for midterms and quizzes are very different. Because quizzes are given 2 days after material is taught, you may be given more time, because you are just starting to incorporate the subject matter. For midterms, I assume that you have had enough practice with the material, so that you are able to identify and execute solutions within a much shorter timeframe.

- To be fully prepared for the midterms (and final exam), consider creating individual strips of paper, each with a different problem, definition or theorem, throw them all in a hat, then draw them out in random order and solve each. This will give you practice in identifying solution techniques without benefit of knowing which section the solution might be found in. Also consider creating and solving your own problems within your homework group.
- There will be demerits if your phone, pager, PDA or other noisemaking device makes a distracting noise (subject to my definition) during a midterm or final exam. The demerit will consist of 10% of all points available on the test.
- If you score higher on your first midterm than on your second or third midterm, I will replace the lower of your scores on your second and third midterms with the average of that score and the score on your first midterm. So, it is to your benefit to begin studying regularly right away. Only one of your second or third midterm scores can be replaced in this way. The first midterm score cannot be replaced.

**Final Exam** There will be a comprehensive final exam during the 12<sup>th</sup> week of the quarter.

- The final exam will last 2 hours.
- No arrangements will be made to reschedule the final exam. If you do not take the final exam, you will automatically receive an F for the quarter, regardless of your other scores. Do not plan on traveling out of the area before the final exam. (If a serious personal emergency prevents you from taking the final, you may request an incomplete beforehand.)

**Personal Development** Keeping a journal encourages you to take responsibility for your own progress and success.

- You will be given a diary to help you track your attendance, scores, and preparation time. Completing the diary is optional. However, if you ever wish to discuss your grade with me, you will be required to bring your completed up-to-date diary with you.
- You will complete self-assessment questionnaires regarding your study habits, including identifying suggestions for improvement and mistakes to avoid repeating.

**Enrolment** You are responsible for handling all issues related to your enrolment.

- If you wish to drop/withdraw from the class, do so at Admissions and Records before the end of the 3<sup>rd</sup>/8<sup>th</sup> week.
- If you do not pay for your classes on time, you will be dropped from the class. If you then wish to re-enroll, you will be moved to the end of the waiting list.
- I will check the class list frequently. If you are not enrolled, I will not grade your work, and I will give your seat away.

**Classroom Behavior** Respectful participation in the classroom learning process is strongly encouraged.

- Feel free to ask questions to the instructor, and answer questions asked by the instructor. Discussions are to be focused on the class material, concepts, homework and policies. Private conversations can wait until after class. (If you feel you might need a friend to translate during lectures, please talk to me about your situation this week.)
- In order to encourage participation, you may earn up to 20 bonus points based on your level of participation, which will be added directly to your score for the quarter. If you are uncomfortable with speaking up in class, you can also earn the bonus points by asking questions during office hours.
- Disruptive, distracting or disrespectful behavior in the classroom is unacceptable. (This includes anything resembling sleeping or doing homework from this or another class.) You will be asked to leave. If I have to ask you to leave twice (for the same or separate incidents), I will act to have you suspended/withdrawn from my class.
- If you arrive late, wait until the end of class to sign in.
- Turn off all noisemaking devices before you enter the classroom. This includes phones, PDAs, pagers, and other such items. You may set them to vibrate mode only if you are expecting an urgent call.

**Academic Honesty** Cheating is the act of trying to get credit for work that is not yours. I have a **zero tolerance** policy towards cheating.

- Cheating includes (but is not limited to): communicating with anyone else during any type of test; copying or submitting work from someone else or from any source (eg. book, website); altering or interfering with grading or attendance taking; using any electronic equipment during quizzes and exams that has not been authorized (eg. phones, PDAs, pagers, calculators); helping another student cheat. (This is not an exhaustive list.)
- My zero tolerance policy towards cheating is: if you are caught cheating, I will give you an F for the course (no second chances).
- In addition, if you are caught cheating, you will be reported to the division dean and Student Development, who may impose much stricter consequences (eg. probation, suspension, expulsion).

## Help

DeAnza College wants you to succeed, and we will help you as much as possible.

- Get help as soon as possible. Don't wait until you are 2 or 3 weeks behind class before asking for assistance.
- I will do all I can to help you, if you ask for help first. You must take responsibility for seeking assistance – it will not come looking for you.
- Some students begin using the help services during the 1<sup>st</sup> week. To start, learn where the services are located, when they are available, and if you have to follow any special procedures to use them.

There are three primary sources of help if you are having difficulty with the material in this class.

- Homework group: Contact the other members of your homework group electronically or by phone, or arrange to meet up for more in-depth discussions.
- Office hours: I have office hours every weekday (except holidays), no appointments necessary. If my office hours are not convenient, I can occasionally schedule other times to meet. Just ask.
- Math Tutorial Center: Free tutoring is available on either a drop-in basis, or a regular weekly basis (with a designated tutor). Ask in S43 about schedules and applications. If enough people ask for it, I will work with the tutorial center to get a special group tutoring set up for this class. NOTE: Because Math 22 is a specialized class, tutors may be in short supply, so group tutoring may be the only option.
- Additionally, if you have or think you might have a disability, the Disability Support Services (DSS) and Educational Diagnostic Center (EDC) offer additional services. In addition to helping students with dyslexia, attention deficit disorder and other commonly recognized learning disabilities, these services are also designed to help students whose abilities and efforts significantly exceed their actual achievement. If you feel this describes your situation, please talk to me, so I can put you in touch with the appropriate people.

## Other Notes

Some specific advice on succeeding in Math 22.

- There is a heavy emphasis on theorems, proofs and definitions in Math 22, and much less algebraic manipulation than in other math classes. You are expected to know the definitions and theorems precisely, and to write proofs using proper English and mathematical notation. If English is not your first language and you do not feel your English is strong enough, I encourage you to form a homework group with other people who speak a common language that you feel strong in. Also, make use of office hours to help you perfect your proofs.
- I cannot stress enough the need to learn how to solve problems (especially writing proofs) without looking at the solution manual. If you must refer to the solution manual before you can solve an assigned problem, then you must do an additional unassigned problem which has no solution in the manual. Like writing computer programs, you can start learning to write code by imitating and borrowing, but eventually, you must learn to design programs on your own.

Some general advice on succeeding in my classes.

- Check my website daily. Any updates are usually made before 7pm. You are responsible for all announcements and handouts on my website regardless of whether they are also announced in class.
- I talk a lot (to explain almost everything I present), and I write a lot (for non-auditory learners). If you spend the entire class taking notes, it is no different than copying from the textbook, and you may miss out on the spoken clarifications of what is being explained. Consider scheduling with your homework group, so that each day, a different person is responsible for writing down all lecture notes while everyone else in the group pays attention and participates in lecture. After class, make copies of the notes as soon as possible, distribute them to the group, and clarify any details the note taker might have missed.
- When taking tests of any type, first glance quickly at all questions and their point values, so you have a sense of what is expected.
- Try not to spend too much time on a problem in excess of its point allocation. For example, if a quiz lasts 30 minutes and is worth 30 points, each minute is roughly worth 1 point, so you should spend about 15 minutes on a 15 point question. If a midterm lasts 50 minutes and is worth 150 points, each minute is worth roughly 3 points, so you should spend about 5 minutes on a 15 point question. If a final exam lasts 120 minutes and is worth 300 points, each minute is worth roughly 2.5 points, so you should spend about 6 minutes on a 15 point question.
- I do not curve any tests, even if the class median is an F. I have found that when I curve, students actually do worse later on. When I don't curve, the students who are serious about getting A's and B's make adjustments to their study habits and earn those grades outright anyway.
- If you do not start studying regularly during the first week, you should probably consider dropping the class today and give someone from the waiting list an opportunity to succeed. If you fail the 1<sup>st</sup> midterm, that score will **NOT** be replaced (see **Midterms** section above), and could result in an overall drop of an entire grade for the quarter.
- As room scheduling permits, if a midterm or weekly quiz is given at the beginning of class, you may start the moment you enter the classroom, even if it is before the official class start time.

- Things which really annoy me to no end, and which I will address in no uncertain terms:
  - ▶ students who cheat – they have no regard for their fellow students' efforts, nor for the time I waste dealing with the disciplinary actions (FAIR WARNING: in order to save time dealing with these issues, I collect evidence throughout the quarter, but may only confront students at the end)
  - ▶ students who don't read the greensheet, and then ask me something which is clearly spelled out there
  - ▶ students who don't stop writing on their tests when I tell them to, and then whine when I give them a 0 even though it is clearly spelled out in the greensheet
  - ▶ students who don't study during the first third of the quarter, fail the 1<sup>st</sup> midterm, and then complain that the midterm is too hard, even when it looks pretty much like their homework
  - ▶ students who don't read the book, do their homework and attend class regularly, yet walk into class late, make a spectacle of themselves, and act as if the instructor, the material and the rest of the class are not worthy of respect

Despite the length and language of my greensheet, I'm actually very supportive of students who are serious about learning and working hard. If that doesn't describe you, you might find me overbearing and obnoxious.