

MATH 10B, LECTURE 1 – TALASKA

SYLLABUS, SPRING 2018

Basics

Instructor: Kelli Talaska (acceptable names to call me: Kelli, Dr. Kelli, Dr. Talaska)

Lecture: 245 Li Ka Shing, Tuesdays and Thursdays 12:30-2pm

Discussion: MWF, various times

Textbooks:

Discrete Mathematics and its Applications, by Rosen. (Notes: 7th edition preferred, but 6th might be okay. Standard or UC custom version is fine. Physical or ebook is fine. Many used copies should be available, as this book is also used in Math 55, and it's also possible to rent the ebook from Amazon for under \$40.)

Calculus for the Life Sciences, by Schreiber/Smith/Getz. You should already have this book from 10A. Physical or ebook is fine.

Both books will have copies on 2-hour course reserves at the Math/Stat library in Evans Hall. Additional course notes will be provided on bCourses.

Course Website: <https://www.math.berkeley.edu/~talaska/10B.php>

Content

This is the continuation of Math 10A. It is expected that you have already completed 10A. In this course, you will learn various mathematical techniques AND learn how to explain why your work makes sense.

Topics: Elementary combinatorics and discrete probability theory. Introduction to matrix algebra, difference equations, and differential equations. A more detailed list of topics is provided on the Lecture Calendar.

Grading

Grades will be assigned according to the following breakdown:

Homework and quizzes, 15% total

Two midterms, 25% each

Final exam, 35%

Discussion Sections

- There are 12 discussion sections for our class. YOU ARE EXPECTED TO ATTEND THE DISCUSSION SECTION FOR WHICH YOU ARE REGISTERED. If space allows, GSIs may be slightly flexible during the first two weeks of class, as some students may be trying to switch sections.
- There are no exceptions to the policy above. You will not receive credit for HW or quizzes turned in for a section you are not enrolled in. All section changes must be done officially through CalCentral.

Reading

There will be reading assignments before each class. You are expected to do the reading to get the basics down before lecture, so that we can be efficient and spend our time on harder questions and ideas.

If it seems that students are not taking the reading seriously or are having a hard time processing it, I may institute reading check assignments on Webwork. These would be very short and relatively simple if you have done the reading.

Homework and Quizzes

- You may only turn in homework and take quizzes in the section **for which you are registered**. Do NOT ask GSIs to make exceptions.
- There will be homework due most Mondays and Wednesdays. Homework assignments will be posted on bCourses. Each homework assignment may have written problems (due in section, graded on completion) and online Webwork problems (due at midnight, graded for correctness). The balance between written and Webwork problems will vary from week to week.
- Late homework: Written HW is due at the *beginning* of discussion section. GSIs are authorized to accept written homework one section meeting after it is due, but only for half credit. Webwork deadlines will not be extended for any reason except major technical issues (in which case they will be extended for all students in the class).
- We do not have the resources for written homework to be carefully graded. Thus, it is up to you to review the homework solutions (which will also be posted on bCourses) and make sure you understand the ideas.
- This is the first time there will be Webwork problems for this class. We will inevitably encounter some roadbumps. Let me know when you have trouble, and trust that I will fix things.
- There will be quizzes most Fridays (in section). Any material covered on homework which has already been turned in is fair game. There are no make-up quizzes, but only your top ten quizzes for the semester will count towards your grade. (This holds even for students who join the course late.)

Exams

There will be two midterms and a final. Midterms are not cumulative, except to the extent that previous material is used to solve newer problems. The final will be cumulative. Exam dates are NOT NEGOTIABLE, so do not make any plans conflicting with the exams. If you miss a midterm, your final exam will replace it; there will NOT be a makeup exam. If you do better on the final exam than on a midterm, I will replace that midterm grade with your final exam grade. It is possible for your final exam score to replace both of your midterm scores. If you miss the final exam for any reason other than an extreme, unpredictable, and unavoidable emergency (with documentation), you will almost certainly fail the course.

Exams are written assuming you have: 1) attended lecture and paid attention, 2) attended and participated in discussion section, 3) visited office hours and asked questions when you need help, and 4) given serious thought to all assigned problems and reading.

Midterm 1 (in class):

Tuesday, March 6, 12:30-2pm

Midterm 2 (in class):

Thursday, April 12, 12:30-2pm

Final exam (location TBA):

Thursday, May 10, 3-6pm

Schedule and attendance

- There is a separate document with lecture and section calendars. The lecture calendar contains the tentative schedule, listing topics we expect to cover each class. The section calendar lists HW due dates and quiz dates.
- You are expected to attend every lecture and discussion section meeting. We will cover quite a bit of material, and it will be very hard to catch up if you fall behind.
- It's important that you show respect for yourself and your classmates at all times. Come to class prepared and ready to participate. Be respectful when someone else is presenting.
- Electronic devices such as computers or phones are NOT permitted during lecture or discussion section. Exceptions are rare – to request one, you must come talk to me personally.

Office hours and general advice

- A calendar of office hours will be posted separately.
- Office hours are for ALL students in the course. If you are struggling, obviously you should come. If you feel you are doing well, come and discuss problems with other students anyway; you will know the material much better if you have some practice explaining things to other people.
- You may attend the office hours of any GSI, as well as mine, but be aware that GSIs may sometimes need to give priority to students in their own sections.
- My best advice for doing well in this class is to find a study buddy or small study group and **FREQUENTLY DISCUSS MATH WITH THEM**. It is especially nice if you can make a math buddy in your section. (I am assuming you already know attendance at lectures and discussion sections is rather important.)
- **Seriously**, talk to other people about the math you are working on. Talk to me, talk to GSIs, and talk to your fellow students.
- You should definitely discuss homework problems with other students! The best way to learn is to think hard about a problem on your own until you get really stuck or solve it, then ask someone else how they thought about it. However, when it comes to writing down your solutions, you must do this by yourself, **in your own words**, without looking at someone else's paper or any other source.
- I expect all students to have rather high homework scores. Even when the problems are difficult, you have MANY resources you can take advantage of. It is important that you figure out how to do all the homework, even if that means getting help.
- Please save your homework, quizzes, and midterms. They will be useful for studying.
- Last year I asked my students on the final exam what advice they would give to future students. (There is always some sort of "freebie" question on my finals.) The following answers came up repeatedly:
 - Go to lecture!
 - Take the adjunct course, and if you can't take the adjunct course, at least go to the SLC to work with other students and get help from each other and the tutors.
 - Start homework earlier.
 - Go to office hours, and then go to office hours some more.

Contact information

- Assignments, course notes, and any official announcements will be posted to bCourses. Please make sure you can access our course info.
- Please direct math and logistics questions to our Piazza site. The GSIs and I will check Piazza somewhat frequently, but most likely, your classmates will answer questions even faster.
- If you need to get in touch with me, come by during office hours or talk to me after class. If you cannot make my office hours and need to speak to me about something, talk to me after class to set up a time.
- Due to the size of the class, it will not be feasible to use email for communication. Please reserve email for emergencies and times when I specifically tell you personally to email me about a specific issue. Other emails may not receive a response.
- My personal/business phone number is easy to find online, but DO NOT call or text me for any reason. I do not have an office phone.
- Your GSI will let you know the best way to contact them.

Miscellaneous information

- If you will need special accommodations approved by the Disabled Students' Program, make sure you discuss these with me as soon as possible. At the very latest, I need notice two weeks before the first midterm. I must receive official letters from DSP to make accommodations for exams.

DSP students must speak to me and to their GSI in person to confirm the details on any special arrangements that need to be made.

- Incomplete "I" grades are almost never given. The only justification is a documented serious medical problem or genuine personal/family emergency. Falling behind in this course or problems with workload in other courses are not acceptable reasons. In addition, you must be passing the course and have completed a majority of the assignments before the unusual circumstances. This is a university-wide policy, and it is not flexible.
- Academic dishonesty will not be tolerated. Any such incidents will be reported to Student Conduct and will almost certainly result in you failing the course.
- Posted course materials are for your personal use only. You do not have permission to post them on outside websites or to distribute them in any other way. Violations will be reported to Student Conduct.

Using Piazza responsibly

Having a Piazza page with an instructor and GSIs who respond quickly is a VERY BIG PRIVILEGE. Do not abuse this. Before you post a question, consider the following:

- Is your question answered in the syllabus or lecture notes? No need to post; just look it up yourself!
- Has someone else already asked about the same problem? Scan/search for related questions before you post, and read the posted answers to see if they help with your issue (or wait for posted answers).
- If you determine you really do have a new question, include the following info: which homework set or reading assignment it's from and which problem it is (including the problem number and statement). We are not mind readers, and we don't carry our books everywhere we go. Describe what you have tried already, and where you are stuck. We are happiest to help students who are trying to help themselves first.
- If you are really struggling with trying to even articulate what it is you don't understand, probably it is best to go see someone in person during office hours or at the SLC.

Also note:

- Please feel free to discuss current homework assignments with each other on Piazza, but DO NOT post any complete solutions for homework sets until after the due date. Just give hints or ideas for what to try next.
- Sometimes Webwork will be set up so that everyone has different numbers, but still essentially the same problem. This is part of why it is essential to explicitly say what your question is. Another large part is that in figuring out how to phrase your question or describe your work, you will often discover the answer yourself.
- Piazza is not a proofreading service. Do not post questions of the form "Here's all my computation work. Where's the error?" It is fine to bring this sort of thing to office hours if you are having trouble spotting your own mistakes, but I don't want to see it on Piazza. (In OH, you'll be asked to explain what you tried, and often that will help you find your own errors.)
- We don't guarantee that we'll be checking Piazza at any particular time. Don't put homework off to the last minute and expect to get help in time. You might get lucky, but you might not.