

Ideas for Section Leaders

Math 21a

Fall 2002

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1 First Day of Class

- Come early to class. Bring chalk. Talk with the first few people who arrive.
- Write down the name of the course, your name, contact info, office hours.
- You are encouraged to hold office hours at the Math Question Center (8-10pm at Loker).
- Always start on time (6 or 7 minutes after announced time).
- Say something about yourself, where you are from, what you are doing and how it might connect with the course, why you are delighted to be teaching this course in particular.
- Find out something about them, preferably by distributing a questionnaire that asks about their background, plans, interests, etc.
- Begin learning their names. Use their names in class. Make eye contact.
- Get to some new or unusual mathematical material quickly on the first day.
- Look for a topic you find interesting to bring up. Your enthusiasm will be infectious.
- Discuss a brief overview of the course and what they will be able to do by the end.
- Get them talking early. As you go through the overview, you can ask them about what they remember, what this reminds them of, etc. Always be encouraging, positive, and upbeat. Never let the class feel discouraged, dumb, or ill prepared. It gets in the way of learning.

- Make good on the fact that this is a small and potentially interactive section rather than a big lecture. Use activities, group work, polling, debates, in class exercises, demos, etc.
- Pay attention to the fact that there are many implicit and explicit contracts set up between you and the students on the first day. Try to make your expectations clear.
- Keep administrative discussions to a minimum. Refer to handouts and the web.
- When asked for clarification of policies, stress the sound pedagogical reasons for them.
- Be very careful about abbreviations, technical terms, or notation that you take for granted but they may never have seen before. Check in with them constantly to make sure.
- Introduce your Course Assistant and have them say a few words.
- Encourage students to check the course web site regularly.
- The CA should count the number of people in the room and tell Susan how many were there.

2 First Week or so

- Have your CA arrange a recitation time and room. Not everyone will be able to make it, but they can go to the recitation for another section since all will be posted on the web.
- Give a 5 or 10 minute diagnostic quiz on prerequisites that does not count, but that they should pick up graded from you in your office by appointment or during office hours. It makes a huge difference once you have exchanged a few sentences with each of your students one-on-one.
- Try to start each class with an overview of your goals for that day with lots of motivation. Writing down the main topic together with an agenda on the board is always a good idea.
- See if you can pose a compelling problem for them to think about at the beginning of class that they can see how to do by the end.
- Make good on the fact that this is a small and potentially interactive section rather than a big lecture. Use activities, group work, polling, debates, in class exercises, demos, etc.
- Pay attention to the assignments and let them know that you do. That does not mean that you have to do a problem just like the ones assigned, but you should make sure they are adequately prepared to tackle the homework. Refer to and jump off from problems.
- Don't hesitate to give them advice about how to study and what it takes to learn mathematics. Some students think it is all a matter of cranking formulas and do not realize that you have to think about what you are doing, sometimes even for more than a few minutes. Encourage them to work with others and seek help, but to write up answers in their own words.

3 Be on the Look Out

- Your CA can be an extremely valuable set of eyes and ears. The CA should write a very short homework score report each week indicating problem students and problem topics, as well as good students and trends, and send it to you with a copy to the course head.

- The CA should also attend your class regularly so they can talk about and answer questions about what has been going on.
- Be on the look out for students who are improperly placed and flag them for the course head. Getting them into the right course quickly will avoid lots of problems later.
- If there are students who hand in no or totally unsatisfactory homework for the first two weeks, the CA should contact them, ask what is going on, offer help and encouragement. The CA should flag such students after the third assignment and you should contact them with the same message. The CA and you should flag any such students after the fourth assignment so the course head can contact them. After the fifth week, it becomes very hard or impossible for them to drop the course.
- While most of your students probably do not think they want to concentrate in mathematics, a few might, and a few more might be inspired by your class to do so. Look out for them and encourage everyone to take more math courses.
- Injecting a little history of math can add color. Many students do not have any idea what mathematicians do or why. Your course may leave a lasting impression on them about all this. Remember that any one of your students could end up in Congress, for example.

4 Always

- Prepare. Even simple examples should be worked out in advance rather than on the fly.
- Plan your board. Use headings and labels. Practice sketches or make a handout.
- Write down on your notes about how much time you want to spend on each big topic.
- Have some extra examples ready. Try to anticipate what questions they may ask.
- After you prepare the subject matter, make sure your notes also contain guidelines and reminders to yourself about choreography and management: What questions do you want to ask when? Where and how do you want to summarize, pause for questions, invite participation, or check in with them to probe what they are and are not understanding? Who do you need to encourage or discourage about speaking up in class?

5 Every So Often

- Make good on the fact that this is a small and potentially interactive section rather than a big lecture. Use activities, group work, polling, debates, in class exercises, etc.
- Do a minute paper. At the end of class ask them to write down on paper, without their names, their answers to: What was the most important thing you learned today? And what are the most important questions you still have? Reading these is a tremendously eye-opening experience. Make sure to respond (broadly) on the web or during the next class.
- Have the Bok Center videotape one of your classes and view the tape with a consultant.

6 Citizenship

- Running a multisection course is hard, so be a good team player.
- Try to keep up with the syllabus. Let the course head know if you are falling behind.
- Do not miss class. Get a substitute if you really have to be away once or at most twice.
- Come to weekly meetings with ideas and suggestions.
- Share your handouts, examples, and what not with all the other section leaders.
- Contribute potential examination questions. Help proofread carefully.
- Show up on time for proctoring and grading exams.
- Let the course head know right away about any unusual incidents or students, even if it is just something wonderful or something that you feel funny about. Our job is to teach mathematics, and to alert others to anything that may get in the way of that. You should not have to be a psychotherapist or a disciplinarian, but it is your responsibility to let the course head know if there are signs of anything strange.
- Maintain professional conduct. No favoritism or fraternizing with individual students!
- Keep records of what you have done for your teaching portfolio, since this may be useful for you when applying for jobs.
- Keep records of what students do, too, since they are likely to ask you for letters of recommendation at some point in the future. The students are almost all very interesting, responsible, busy, and accomplished in something (not necessarily math), so enjoy getting to know them and helping them learn some mathematics.