

**Math 181 C1 MWF 10 341 Altgeld Hall**  
**Class Organization, Fall 2008**

**Instructor:** Prof. Bruce Reznick, 327 Altgeld Hall, 333–4284, reznick@math.uiuc.edu. My phone has voice mail and I frequently check and reply to my email, including weekends. Office hours are by appointment. I take them seriously, and they can usually be arranged within 24 hours. You are also encouraged to ask me questions immediately before, after and during class. I'm terrible with names; don't take it personally.

Class attendance is expected, but will not be recorded. You are responsible for the material covered during each class. This course has a webpage–

<http://www.math.uiuc.edu/~reznick/classes/math181F08.html>.

There will be a “class diary” on this page, summarizing each class period, as well as .pdf links to handouts, when possible. If you email me a course question, I will post your anonymized question and my reply on the web page, for the benefit of the entire class. It will be impossible for me to post exam solutions in advance.

**Text, Syllabus and Philosophy:** The text is *For all practical purposes: mathematical literacy in today's world*, (7th ed., 2006), by COMAP, W. H. Freeman. The official course description is “Introduction to selected areas of mathematical sciences through application to modeling and solution of problems involving networks, circuits, trees, linear programming, random samples, regression, probability, inference, voting systems, game theory, symmetry and tilings, geometric growth, comparison of algorithms, codes and data management.” We'll see how far we get. I plan to start with Chapter 13 on “fair division” because it shows how mathematics can be used to find “win-win” outcomes. After that, we'll cover Chapters 5, 6, 7, 8, 1, 2, 3, 9, 10, 11. If there is time, I will rely on your preferences for the rest of the semester. You are encouraged to bring up mathematical topics you find interesting, and I'll try to work them into the course. The prerequisite is “three years of high school mathematics, including two years of algebra and one year of geometry”. This course is designed to satisfy the General Education Criteria for a Quantitative Reasoning course, and does not serve as a prerequisite for any other mathematics course. This is a “Discovery Section”, which is designed to help “Illinois students enhance their education through greater interaction with faculty in small classes ... It is intended for first-year students only.”

Education is not a zero-sum game when done correctly. I do not consider you my adversaries, and hope the feeling is mutual. Become an active participant in this course. The amount of interaction in this class will depend on **you**. It was my preference to teach this class. I know that some of you will be counting the days until you're done with the last math class you'll ever take, but give Math 181 a chance! Let it get under your skin and visit your dreams. If you find yourself falling behind, please talk to me as soon as possible. Many undergraduates who feel they are over-matched in the first week of a math course are, in fact, not giving themselves enough credit and will succeed. Many who feel a course is pretty easy, and don't work very hard, find out later that they are seriously mistaken.

**Homework Policy:** You will be given reading assignments in advance of each class period. It is much more useful to read the sections from beginning to end than it is to look backwards for help on particular problems in a piecemeal way. Written homework will be due weekly, and usually on Fridays; the first homework is due September 5. Please staple or paper-clip your homework sheets (no folding over corners), and consider writing more than one draft. I am the homework grader. You are expected to spell correctly and write complete, grammatical sentences when possible in this and all your university assignments. **Collaboration in studying and working the homework is strongly encouraged! Collaboration without comprehension is a waste of time. At very least, put the homework solutions into your own words!** A phone and e-mail list will

be distributed to aid the formation of study groups once the class stabilizes. You will be assigned a unique number  $N$  (see below), and some homework problems will involve this number. In this way, a group can work together on the same problem and come up with different correct answers.

I don't give specific homework help to individuals before an assignment is due. However, if you ask a question in class or in email, I can explain to *everybody* the underlying mathematics. Homework solutions will be distributed at the beginning of each class. No late homework is accepted, but the lowest homework score (possibly zero) will be omitted in computing your homework average. Excuses are possible in rare cases, but this policy is intended to cover ordinary illnesses, weddings, etc.

**Class Project:** We will decide in class (majority rules!) whether some part of the end of the semester will be devoted to group projects..

**Exam Policy:** There will be three Hour Exams and no quizzes. (A project would substitute for the third Hour Exam.) The Exams will probably be in late September, late October and early December. Exact times will be announced a week in advance. If we can all agree on a time, the Exams *might* be in the evening. All exams will be closed-book and closed-note and non-collaborative. I will never bite your head off in class for asking a question of any kind. I *will* bite your head off for cheating.

Painful recent experiences cause me to remind you that the dates of exams are not subject to individual negotiations; you will need serious documentation in order to qualify for a makeup! The Final Exam is comprehensive, and somewhat harder than the hour exams. The Final **must** be held at the scheduled time, which is 8:00-11:00 AM, Friday December 19. Yes, this is the last day of finals, and no, I'm not powerful enough to get the date changed. We're stuck with it.

**Grading Policy:** Keep in mind that I am grading your work; I am not grading you as a human being. Each Hour Exam counts 20%, the Final Exam counts 35% and the Homework counts 15%. This adds up to 110%. The score with the lowest percentage will be weighted 10% less. (Painful recent experiences cause me to state that a missed exam cannot be dropped from the computation of the grade.) All grades are numerical. The highest possible grade cutoffs are: A/B – 90%, B/C – 80%, C/D – 70%, D/F – 60%. I will try to keep you posted on any curving as the semester progresses. There are two exceptions to the numerical grading: anyone who gets 96% on the Final (and took all the tests) gets an A and anyone who gets 75% on the Final will pass. Experience has shown me that these exceptions rarely occur. However, my intention is that anyone who faithfully tries to work during the semester (and makes a visible effort to deal with his or her difficulties) will pass the course. The last time I taught this class, the vast majority of students got A's and B's. I hope you hard as the last group did.

**For Your Records:**

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