Midterm 1 information

Date

Wednesday, September 15, at usual lecture time. Arrive early if you can. The exam ends promptly at the end of class.

Location

12pm lecture (Prof. Ahlgren):
- Sections BD0, BD7, BD8 (TAs: Alex Duda or Vyron Vellis): room 269 Everitt Lab
- All other sections: usual class room.

1pm lecture (Prof. Laugesen):
- Sections CD5, CD7 (TA: Sujana Chandrasekar): room 1310 Digital Computer Lab (DCL)
- All other sections: usual class room.

Basic information

- The exam covers material through the lecture on Friday, September 10.
- The section meeting on Tuesday September 14 will be for practice and review (no worksheet).
- You are responsible for all topics covered in homework, lectures, and discussion section worksheets.
- Except: the exam problems will not use complex numbers, and will not use L'Hospital's rule - any limit evaluations on the exam can be done with methods from class (algebra, Taylor series, etc.).
- You are responsible for all topics in the text which have been mentioned in class (for example, differentiation rules).
- See the course web site.
- No notes, calculators or electronic aids of any sort, on the test.
- Any act of academic dishonesty (e.g. looking at another student's paper) will be dealt with under the student code of conduct.

Studying

We recommend that you prepare your own summary of what you need to know, using the schedule of topics, the book, the lecture notes, and the discussion worksheets.
Be particularly aware of material which was stressed in the lectures, and material which is not in the book.
For example, you need to know how to use Taylor series and polynomials, and you need to know the series for e^x, sin( x), and cos( x).
If you need to know the series for ln( x) on the exam, then it will be provided.

Then, do new problems. For the written and online homework problems, you can do nearby problems from the textbook. The chapter review sections are another good source.

Check your answers to odd-numbered problems in the back of the book, or in your Student Solution Manual.
Be strict with yourself about whether you got a correct answer, and whether you knew what you were doing.
If you got the wrong answer, it may have been careless, but it may also have been because you really are doing something wrong.
Get help from your TA, or the Tutoring Room (345 Altgeld, 5-7pm Mon-Thu).

Some practice problems.

This is not a complete list of the sort of problems we have covered. Do problems in the areas where you need practice.

- Practice problems on differentials and solutions
- Practice problems on epsilon-delta and solutions
- Practice differentiation skills:
  1. Section 3.4 problems 7-45 odd, 61-73 odd.
  2. Section 3.5 problems (implicit differentiation): 25-29.
  3. Section 3.6 problems (involving logarithms): 3--19 odd, 41-47 odd
  4. Section 3.10 problems (use differentials for all of these): 23--26, 33-36. The problems from sections 3.5 and 3.10 are available as an optional webassign assignment.
  5. Chapter 3 review: Problems 1-49 odd, 57-61, 69-81
- Practice taking limits:
  2. Section 4.4: 15, 16, 19, 21, 22, 26, 28, 29, 30, 31, 36, 37, 40, 43, 49, 50, 51. DO NOT use l'Hopital's rule. Do these either using Taylor series, or using what you know about the order of growth of logarithmic, exponential, and polynomial functions.
- Practice exam
  1. This exam from 2009 with solutions shows the level of work expected.
  2. Ignore problem 4 because this year the "related rates" material is not covered in Midterm 1.
  3. The overall format will be similar this year (though some topics will change). Some questions might be multiple-choice, with no partial credit.