Final Exam Information

The regular exam will be held on the morning of Monday, December 13, 8-11 am.

- Please arrive by 7:50 am at the latest
- Bring the following items to the final exam:
  - Pencil and eraser (part of the exam is multiple choice).
  - University ID

Conflict Exam is scheduled for Tuesday, December 14, 7-10 pm.

- You must sign up for the conflict exam by 5 pm on Tuesday, December 7
- Email your professor, and provide
  - Name
  - NetID
  - Description of conflict.
- Your professor will confirm that you are registered for the conflict by 5 pm on Wednesday, December 8, and will provide the location of the conflict.

Location of regular exam:

### 12pm lecture (Professor Ahlgren)

- BD0, 11am (TA: Alex Duda) - 141 Wohlers Hall
- BD2, 10am (TA: Eunmi Kim) - 141 Wohlers Hall
- BD3, 11am (TA: Eunmi Kim) - 141 Wohlers Hall
- BD6, 3pm (TA: Jan Vervoost) - 141 Wohlers Hall
- BD7, 1pm (TA: Alex Duda) - 141 Wohlers Hall
- BD1, 9am (TA: Scott Ahlgren) - 134 Temple Hoyne Buell Hall (Plym Auditorium)
- BD4, 12pm (TA: Brian Schertz) - 134 Temple Hoyne Buell Hall (Plym Auditorium)
- BD5, 1pm (TA: Brian Schertz) - 134 Temple Hoyne Buell Hall (Plym Auditorium)
- BD8, 3pm (TA: Vyron Vellis) - 134 Temple Hoyne Buell Hall (Plym Auditorium)
- BD9, 12pm (TA: MTip Phaovibal) - 134 Temple Hoyne Buell Hall (Plym Auditorium)

### 1pm lecture (Professor Laugesen)

- CD1, 8am (TA: Alok Tiwari) - 228 Natural History Building
- CD2, 10am (TA: Alok Tiwari) - 228 Natural History Building
- CD4, 2pm (TA: Christopher Stocker) - 228 Natural History Building
- CD5, 1pm (TA: Sujana Chandrasekar) - 228 Natural History Building
- CD7, 3pm (TA: Sujana Chandrasekar) - 228 Natural History Building
- CD3, 11am (TA: MTip Phaovibal) - 134 Temple Hoyne Buell Hall (Plym Auditorium)
- CD6, 2pm (TA: Jan Vervoost) - 141 Wohlers Hall

Basic information

- The exam covers the entire course.
- The material which has been covered since Midterm 3 will make up approximately 40% of the exam.
- Part of the exam will be multiple choice.
- You are responsible for all topics covered in homework, lectures, and discussion section worksheets.
- You are responsible for all topics in the text which have been mentioned in class.
- See the schedule of topics covered, along with links to worksheets, announcements and so on, at 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

- For material covered earlier in the course, see the advice for Midterm 1, Midterm 2 and Midterm 3.
- You should study the major topics which you missed on the midterms. The midterms are available here.

- Following is a list of major topics covered since Midterm 3:
  1. Comparison Test
  2. Alternating series, and error estimate
  3. Absolute convergence,
  4. Ratio and Root Tests
  5. Strategy for testing series
  6. Power series, radius of convergence
  7. Functions as power series: substituting, differentiating, integrating,
  8. Taylor series
  9. Binomial series
  10. Taylor's remainder theorem
  11. Parametric curves
  12. Calculus with parametric curves
  13. Polar coordinates
  14. Area and length in polar coordinates

- Memorize the series for \(1/(1-x)\), \(e^x\), \(\sin(x)\), \(\cos(x)\), and the binomial series.
- Be aware of material which was stressed in the lectures.
- Be sure that you understand the worksheet problems.
- Be sure that you understand all of the assigned homework problems and suggested practice problems.
- Get help from your TA or your professor.

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.

Tutoring room 345 Altgeld Hall.

- Monday-Thursday 5-7pm through the last day of class.
- Extra Tutoring sessions (same location):
  - Thursday 9 December, 5-7pm
  - Friday 10 December, 5-7pm
  - Saturday 11 December, 2-4pm (note different time)
  - Sunday 12 December, 2-4pm (note different time)

Practice exam problems

- For material covered earlier in the course, see the advice for Midterm 1, Midterm 2 and Midterm 3.
- Suggested practice problems from Chapter 10 (not collected) are available on the Assignments page.
- Sample problems from old Math 231 exams and solutions.
  - These are sample questions taken from a final in a previous non-engineering lecture of Math 231.
  - This will give some indication of your preparation for the basic course material in chapters 6–11.
  - This does not cover material from chapters 1–5
  - This is not a comprehensive list of problems.

Following are a large number of additional practice problems on Chapters 10 and 11, which you can do as necessary.

1. Chapter 10 review (Page 669-): Concept checks 1-5, exercises 1-18, 21-24,28-42.
2. Chapter 11 review (Page 758-): Concept checks 2,3,4,7,11, exercises 1-8, 10, 11-27, 30-31, 35-38, 40-43, 45-46, 47-54, 55-56, 59