

# Syllabus for Math 2280 Spring, 2004

## Introduction to Differential Equations

- **Text:** The text for this course is *Elementary Differential Equations with Boundary Value Problems* by C. Edwards and D. Penney.
- **Instructor:** Jesse Ratzkin
  - **Office:** JWB 217
  - **Office Hours:** Tuesdays 11:00–12:30, Wednesdays 12:00–1:30 and by appointment
  - **phone number:** 581-5231
  - **email:** ratzkin@math.utah.edu
  - **webpage:** <http://www.math.utah.edu/~ratzkin/m2280>
- **Tentative Schedule:** I should emphasize that this is very tentative. I have listed a time span in the first column, the subject in the second column, and the appropriate sections of the text (third edition) in the third column.

January 12–16	introduction, definitions, and separable first order equations	1.1–1.4
January 20–23	linear first order equations	1.5
January 26–30	mathematical models and numerical methods	2.1–2.4
February 2–11	higher order linear equations	3.1–3.3, 3.5, 3.7
February 17–20	applications	3.4, 3.8–3.9
February 23–March 5	linear systems of equations	5.1–5.6
March 8–26	nonlinear systems of equations	6.1–6.5
March 29–April 7	Fourier series	9.1–9.4
April 9–16	the heat, wave and Laplace equations	9.5–9.7
April 19–28	the Laplace transform	7.1–7.6

There will be three exams in this course, including the final (which is **Thursday, May 6, 8AM**). The midterm exams will be on **Friday, February 13th** and **Friday April 2nd**. In addition to regular homework assignments, I will ask you to complete some computer projects, using the computer medium of your choice (e.g. Maple, Matlab, or Mathematica).

Here is a list of some other dates you might want to keep in mind:

- Martin Luther King Day: January 19
  - Presidents' Day: February 16
  - Spring Break: March 15–19
  - last day to drop classes: January 21
  - last day to add classes: January 26
  - last day to withdraw from classes: March 5
- **Grading:** To assign grades, I will form a weighted sum of all the grades you receive throughout the semester. The weighting will be

midterm exams	20% each
homework and computer projects	20%
final exam	40% .

I anticipate that the median grade for this class will be around a B.

- **Homework Policy:** I will assign homework approximately every week and a half or two weeks. I do not accept late homework assignments. I will grade three or four problems from each assignment which I will select after you turn the assignment in.
- **Exam Policies:** I do not allow reference materials (e.g. a page or index card of notes) during exams. I do allow non-graphing calculators, but they are not required.
- **ADA Statement:** The Americans with Disabilities Act requires that reasonable accommodations be provided for students with physical, cognitive, systemic, learning and psychiatric disabilities. Please contact me at the beginning of the semester to discuss any such accommodations you may require for this course.
- **General Comments:** Please ask me questions. In general, this is the best way for you to learn the material, and the best way for me to tell how well the class is following the lectures. Asking many questions makes you happier and my job easier. I also encourage you to come to my office hours, or just drop by my office. Additionally, the Math Tutoring Center, inbetween JWB and LCB (see <http://www.math.utah.edu/ugrad/tutoring.html> for more information) is available as a study aid.

Please keep in mind that mathematics is not a spectator sport! You can only learn math by doing it, so it is imperative that you do the homework.

Good luck.