MATH 286: Differential Equations with Linear Systems and Orthogonal Functions

PROFESSOR: Jared C. Bronski (jared@math.uiuc.edu)

OFFICE HOURS: MT 11:00-12:00 W 2:00-3:00 (331 Illini Hall) or by appointment

LECTURES: MTWTh 1:00 – 2:00 (141 Altgeld Hall)

TEXT:

WEB PAGE: http://www.math.uiuc.edu/~jared/Math286

SCHEDULE: See attached sheet

Labs: In this course we will also try to incorporate some computer-based labs into the standard lecture-based format. These labs will use a package called IODE, which was developed by Peter Brinkman, Robert Jerrard, and Richard Laugesen at the U of I. IODE runs under Octave, a free version of Matlab, although no knowledge of matlab is necessary.

The labs are optional, though strongly encouraged. If you choose to do the labs they will count as a third midterm. Doing the labs cannot count against you - in the event that your grade with the labs figured in is lower than the grade without the labs then you will receive the higher of the two grades.

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1You are welcome to come by any time with questions, and I will either answer them on the spot (if I am not busy with something else) or schedule a time to answer them.

2It is worth noting that I have not had this happen to any student who has actually completed all of the labs.
GRADING: Final grade will be based on homework, two midterms (or two midterms and a lab) and a final.

The grading scheme will be roughly as follows: For student who do not choose to do the labs the final grade will be calculated as

- Final Exam at 100 points ($\approx 33\%$ of the course grade)
- 2 Midterms at 75 points each ($\approx 25\%$ of the course grade for each Midterm)
- Homework worth 50 points ($\approx 17\%$ of the course grade)

For students who choose to do the labs the

- Final Exam at 100 points ($\approx 33\%$ of the course grade)
- 2 Midterms and Labwork at 50 points each ($\approx 17\%$ of the course grade for each midterm and the labwork)
- Homework worth 40 points ($\approx 17\%$ of the course grade)

Homework will be assigned (more or less) every week. Though homework only counts for a relatively small part of your grade I recommend actually doing the homework, since this is the only way to learn the material. Students who do not do the homework are unlikely to do well on the exams. You are ENCOURAGED to work together on the homework. In fact up to three people may submit a single homework, and all will receive the same grade. It is expected, of course, that all students whose names appear on a homework actually worked on it. If you have questions on any homework problems I will be happy to work them in class or during office hours. Also note that many of the problems from the quizzes will be taken from the homework!

Homework is due IN CLASS on the due date. If you cannot make it to class you should have a friend turn your homework in for you or put it in my mailbox before class. Late homework will not be graded. I will, however, drop the lowest homework grade.

EXAM DATES:   Exam 1: Thursday Feb. 26 (Entire Class Period)  
Exam 2: Thursday April 8 (Entire Class Period)  
Final: Thursday May 13 8:00-11:00 am
(Note: No alternate time is possible for the final. Alternate times for the exams are only possible with a \textit{VERY} good excuse, and only by prior arrangement.)

The exams will emphasize the material covered since the previous exam, although any material will be considered fair game. The exams will take the entire class period. The final exam will cover \textbf{ALL} of the material covered in the course. It will last three hours.

\textbf{HOMEWORK:}
Again I highly recommend that you do the homework, and that you work together with a friend. I may also hand out an occasional extra credit problem. These will typically be more challenging. These will also \textbf{NOT} be counted towards your grade, though students solving these problems will be accorded bragging rights. I may also look at the extra credit problems for students on the border between two grades, so if you do the extra credit problems you should turn them in.

I also \textbf{strongly} recommend that you make use of my office hours. It is best if you think about problems first, then come to my office with questions. Almost no one understands mathematics on the first exposure. You must combine the lecture and the textbook with working on homework and going to office hours to maximize your chances of doing well in the class.

If you are unable to make my office hours you may come by any time, and I will either help you on the spot (if I am not too busy) or I will arrange a time when we can meet.

Here is the first assignment.
Math 286 Homework # 1
Due Friday September 6 in class.