MA573 - Qualitative Differential Equations - Fall 2014

Contact Info

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Class details:	10-11 MWF, PSY B39

Grading

Graded Item	Weighting	Date
Homework	40%	Assigned every 1-2 weeks
Midterm	30%	Friday, October 17
Final Exam	30%	Please see BU exam schedule

Textbook and topics covered

The main book we will use is "Nonlinear Dynamics and Chaos with Applications to Physics, Biology, Chemistry, and Engineering," by Steven H. Strogatz (paperback edition published in 2000). The original version was published in 1994. If you would prefer to use the older version that should be fine, but please double check with me first.

We will start by discussing one-dimensional flows, before moving on to two-dimensional flows, and then chaotic systems. The primary emphasis will be the theory of dynamical systems and how to understand their evolution qualitatively, even if one cannot explicitly write down a solution. However, we will also discuss a variety of applications throughout the course.

Homework

Homework assignments will be given approximately every 1-2 weeks. You are encouraged to work together on these, but please make sure that you write up the solutions on your own.

Midterm and Final Exam

The midterm will be held during lecture on Friday, October 17, and the final will be held during the time specified by the BU final exam schedule. I will tell you exactly what material they will cover at least one week in advance and post this information on the website. You may not use your book, notes, or a calculator on either the midterm or the final exam.

Make-up tests/exams

I do not give make-up tests unless you have a legitimate excuse, such as a serious illness or family emergency. In such a circumstance you must provide a written (not email) excuse. If possible, please discuss this with me in advance. Please note the date and time of the final exam and make your travel plans accordingly. University policy states that you must take the final exam at that time.

Extra help

Please get help from me or any other appropriate source if you do not understand something. Please don't be afraid/embarrassed/etc to ask for help. It is most effective if you do so as soon as you feel you need it. Waiting until just before the final exam is generally not a good idea.

Ways to get help; all of these are free:

1. Come to my office hours or email me.

2. Go to the tutoring room, MCS B24, where there are graduate students to help you most days from 10am-4pm. The full schedule is at

   http://www.bu.edu/math/undergraduate/resources/tutoring-room-schedule/

   Note that, because this is a 500 level course, not all of the graduate students will be familiar with the material. If you would like advice about which graduate students would be best able to help you, please ask me or them.

3. Prof. Diane Meuser also offers math help in the Rich Hall Cinema Room, First Floor of Rich Hall, West Campus, on Tuesdays from 7:30-10:30pm. For more details, check her webpage

   http://math.bu.edu/people/dmm/FacRes/mathhelp.html

4. In addition, you can get peer tutoring from the Educational Research Center. For more information, see

   http://www.bu.edu/erc/tutoring/

Academic conduct

Plagiarism and cheating are not tolerated under any circumstances. Please refer to the BU academic conduct code if you are unclear about what constitutes appropriate behavior.