

MATH 489-X13 DIFFERENTIAL EQUATIONS II

SPRING, 2005

Instructor	Office	Office Hours	Phone	E-mail and Homepage
Dr. Young-Ran Lee	227 B Illini Hall	Mon 9:30-10:30 am Wed 3:30-4:30 pm	265-6756	yrlee4@uiuc.edu http://www.math.uiuc.edu/~yrlee4

Classes: Mon/Wed/Fri 12:00-12:50 pm in 148 Henry Bldg.

Text: “Dynamical Systems: Differential equations, maps and chaotic behavior”, by Arrowsmith and Place.

We will cover Chapters 1, 2, 3 and 5, and some parts of 4 and 6. The goal of the class is to get you to a point where you could learn more advanced topics on your own, and so rather than trying to lightly cover the entire book, we aim for a thorough understanding of selected topics.

Chapter 1: Introduction

Chapter 2: Linear systems

Chapter 5: Applications I: planar phase spaces (Sec. 5.1, 5.2)

Chapter 3: Non-linear systems in the plane

Chapter 5: Applications I (Sec. 5.3, 5.4)

Chapter 4: Flows on non-planar phase spaces (e.g. 4.1.1, 4.1.2, 4.2.3, 4.3.1, 4.4.1)

Chapter 6: Applications II: non-planar phase spaces (e.g. 6.1, 6.3.1, 6.3.3)

Prerequisite: Math 385 (formerly Math 285: Intro Differential Equations) or 441

1. Grading Policy:

Your grade will consist of homework, two in-class tests and the final exam. **Unreadable or disorganized work will not be graded. All work must be shown - a bare answer never suffices.**

Item	Weight
Homework	20%
Class Participation	5%
Tests	40%
Final Exam	35%

2. Homework:

Homework assignment will be assigned every Wednesday due on the following Wednesday. It is desirable to submit your homework in the class. However, if you miss a class but want to hand in your homework, you must bring your homework to my office by 5:00 pm. Late homework will be penalized. Clarity of exposition will always be a factor in the grading. You can drop your two lowest homework scores.

3. Tests and Final Exam:

There will be **two major in-class tests** (each counting 20% of your total grade) and a final exam (35% of your total grade) given during the term. Tests are given as follows:

Test	Date	Time
Test 1	in the week of Feb 28	in class
Test 2	in the week of Apr 11	in class
Final exam	May 13, Friday	8:00-11:00 am

4. Test and Exam Make-Up Policy:

Policy in this course is not to give make-up tests. In the event that you **have to** miss one of these tests because of an emergency, you must contact the instructor immediately and you may, **at the instructor's discretion and with written documentation of the cause of your absence**, count the final exam 20% more to make up the missing grade. However, this is not recommended since the final exam covers on the entire course and as a result a bit more difficult than in-class tests. Vacation and leisure plans are never a valid excuse. No make-up for the final exam.

5. Office Hours in 227 B Illini Hall:

All students are encouraged to visit the instructor during office hours which are **Monday 9:30-10:30 am and Wednesday 3:30-4:30 pm**. It is available to make an appointment for more help. E-mail yrlee4@uiuc.edu or call 265-6756.

6. Work outside class:

The university expects you to work at least 2 hours outside class for each hour in class. That means at least 6 hours per week on Math 489, outside class. Use this time to read the textbook and your notes, to do homework and to prepare for tests (e.g. make study summary notes).