Math 2410-003 Fall 2009

Elementary Differential Equations

Text: **Differential Equations** , 3^{rd} edition, by Blanchard/Devaney/Hall, Brooks/Cole.

*Outline:*We will study the linear differential equation of first and second order derived from physics and engineering. You will learn some basic methods and techniques to find the exact solutions of some type of differential equations.

Time	MWF 2:00-2:50
Place:	MSB 411
Dr.	Pengwen Chen
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Office hrs	MWF 1:00-2:00 pm, and by appointment at least 24 hours ago.

Grading: Two mid-term exams 25%,25%; final exam 35%; 5 quizzes 15%.

Exams: Mid-terms Wed 10/07 and 11/11; Final exam 12/14, 3:30-5:30. Midterm 1 covers section 1.1 – 1.9. Midterm 2 covers Chapter 2.1 – 2.4 and 3.1 – 3.7.

Week	Dates	Content	Notes
1	08/31-09/04	1.1, 1.2	
2	09/07-09/11	1.3, 1.4	M: Labor day.
3	09/14-09/18	1.5, 1.6	M: last day to drop without W.
4	09/21-09/25	1.7, 1.8	
5	09/28-10/02	1.9, Review	
6	10/05-10/09	2.1, 2.2	Exam I
7	10/12-10/16	2.3, 2.4, 3.1	
8	10/19-10/23	3.2,3.3	
9	10/26-10/30	3.4, 3.5	
10	11/02-11/06	3.6, 3.7, Review	M: Last day to drop.
11	11/09-11/13	4.1,4.2	Exam 2
12	11/16-11/20	6.1, 6.2	
12	11/23-11/27	–	Thanksgiving recess
13	11/30-12/04	6.3, 5.1	
14	12/07-12/11	5.2, Review	

Notes

- Makeup exams will only be given in extreme cases such as a true emergency or illness with some proper document.

Math 2410

Course information.

Useful links:
1. Slope field or Directional field(1D plotter).
2. Vector field (2D plotter)
3. 2D Direction field.
4. Euler's method(systems).
5. 3D plot

Announcement:
Quiz: 1st quiz on Sep. 16.
2nd quiz on Sep. 30.
3rd quiz on Oct. 28.
4th quiz on Nov. 4.
5th quiz on Dec. 2.
Homework 1.6,1.7, 1.8 will be discussed on Sep. 28.
Exam II: Please study the assigned homework problems(except 2.2 #7, 2.4 #7 #8, 3.1 #35, and 3.3 #21,#27)
Final exam: Study exam I and II, and section 3.4,(about 50%).
Also, the homework assignments from 4.1 to 6.3,except
4.1: #19
4.2: #18,#19,
6.1: #1,#3,#5,
6.2: #15,
6.3: #21,#22

Homework assignments:

1.1	2,5,9
1.2	2,7,11,23,25,29
1.3	3,5,12,13,17
1.4	1,5
1.5	3,7,10,13,15,17
1.6	1,9,13,31,35
1.7	3,7,9,13
1.8	1,3,5,7,9,11
1.9	1,3,7,9,19,21
2.1	19, 20
2.2	7, 13, 17, 18, 19
2.3	7, 9, 15, 19
2.4	1,7,8
3.1	27, 34, 35
3.2	3,7,9,19,21
3.3	3,7,21,27
3.4	1, 3,5,7,9,11
3.5	5,7,17,19,23
4.1	5, 7, 9, 11, 19
4.2	1, 3, 13, 18, 19
6.1	1,3,5,13,15,17,23
6.2	1,3,7,11,15
6.3	17,21,22,29,31,33, 34