

MATH 2243, Fall 2005
Differential Equations and Linear Algebra
Lecture 020

Instructor Information

Sookyung Joo

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Discussion Sessions

021	TTh 10:10am – 11:00am	VinH 2	Zuniga, Jose
022	TTh 10:10am – 11:00am	VinH 207	Ho, Chung-I
023	TTh 11:15am – 12:05pm	VinH 6	Zuniga, Jose
024	TTh 11:15am – 12:05pm	VinH 113	Ho, Chung-I

Course Information

Lecture: MWF 11:15-12:05, Phys 166

Text: *Differential Equations and Linear Algebra*, by Fralow, Hall, McDill, West.

Course description: The course is divided into two somewhat related parts.

Linear Algebra: matrices and matrix operations, Gaussian elimination, matrix inverses, determinants, vector spaces and subspaces, dependence, Wronskian, dimension, eigenvalues, eigenvectors, diagonalization

ODE: Separable and first-order linear equations with applications, 2nd order linear equations with constant coefficients, method of undetermined coefficients, simple harmonic motion, 2x2 and 3x3 system of linear ODE's with constant coefficients, solution by eigenvalue/eigenvectors, nonhomogenous linear systems; phase plane analysis of 2x2 nonlinear systems near equilibria.

4 credits, 3 lectures, 2 recitations per week

Homework : Homework will be assigned in class and collected in the recitation sections on Tuesdays. Most homework assignment will be taken from the enclosed list. The solutions to all homework and exams questions should be written clearly with sufficient work shown to justify the answer. Whenever possible, check your answer.

Quizzes : A quiz will be given each week except possibly during exam weeks.

Tests : There are three one-hour exams (during recitation sections) and a final exam. The dates are as follows:

Test 1 : Thursday, October 6, 2005

Test 2 : Thursday, November 3, 2005

Test 3 : Thursday, December 1, 2005

Final: Thursday, December 15, 2005, 1:30 – 4:30pm

“All students must have their official University I.D. Card with them at the time of the final exam and must show it to one of the proctors when handing in their exam. The proctor will NOT accept a final exam from a student without an I.D. Card.”

Calculators: Scientific calculators will be allowed during the exams, but will not be necessary. Graphing calculators or calculators that can perform symbolic algebra will not be permitted.

Make-up Exam: No make-up tests without rigorous emergency reasons. If you expect to miss any of the hour exams and have a reasonable excuse, notify me as soon as possible. If you do not have a reasonable excuse, your grade on a missed exam will be zero.

Drop Dates: Students may drop the course without permission before the end of the 8th week of the semester (October 31). If you drop before the end of the 2nd week, no mention of the course appears on your transcript. Otherwise, you receive a “W”. Starting November 1, you need permission to drop the course.

Student Conduct: Statement on Scholastic Conduct: Each student should read the college bulletin for the definitions and possible penalties for scholastic dishonesty. Students suspected of cheating will be reported to the Scholastic Conduct Committee.

Grades: Homework and quizzes are worth 100 points, each one- hour exam during the recitation section is worth 100 points, and the final is worth 300 points.

Compulsory homework will be assigned during the semester (part of the suggested homework).

Section	Suggested homework
1.1	23-27
1.2	2,3,6,7,13-18,20,23,24,26,29,30
1.3	12,13,16-26,29,29,31,32,39,40,43-37,53,54
1.4	1,7-10,12
1.5	2-4,7-12,21,23
2.1	7-12
2.2	1-6, 9-15, 19, 20, 25, 26, 30-35, 45, 46
2.3	1-5, 7, 14, 16, 17, 21, 24, 26
2.4	2, 4, 7, 8, 11-13, 17-19
2.5	13-18, 21-24
2.6	1-3, 5-7, 11, 14-17, 23
3.1	4, 5, 31-34, 40, 42, 44-46, 51, 54, 61
3.2	5-10, 29-33, 35
3.3	7-10, 14, 17, 18, 24, 25
3.4	1, 4-7, 11, 12, 16-18, 20, 23, 29-32, 34-36
3.5	2, 4-6, 8, 9, 12-14, 16-20, 22, 23, 25, 26, 34, 36-38, 43-51, 56
3.6	1, 2, 5-8, 11-14, 16-18, 20-22, 26-32, 38, 39, 42-45, 47-50, 54-58, 64, 65
4.1	4-6, 8-10, 14-16, 21, 22, 25-28, 31-39, 49, 52
4.2	16-24, 28-30, 35, 38-41, 43, 47, 55, 56, 59-62
4.3	13, 15-28, 34-36, 41, 42
4.4	4-6, 22-33, 36, 39, 40
4.5	4-13, 15-17, 20, 22, 23
4.6	1, 2, 8-13, 17-20, 32, 33, 40, 41, 44
5.1	6-10, 13-15, 17-29, 33, 34, 37-43, 47, 59, 61-63, 65-67, 70-73, 78-80
5.2	2, 3, 6, 7, 10-14, 23, 30, 34, 35, 38, 39, 44-47, 50-52, 55-61
5.3	6-9, 15, 18, 20, 22, 24, 26-29, 31, 33-36, 39-41, 45-47
5.4	1-3, 7-9, 13-15, 20-23, 27-33, 39-41, 43-44
6.1	3, 5, 7, 9, 17-19, 23-26, 33-35
6.2	15-23, 28, 31, 39, 40, 43
6.3	14-17, 23-27, 30, 33
6.4	3-5, 9-11, 15, 16
6.5	1-12, 14, 15, 17
7.1	11, 13, 15, 17, 19, 21, 23, 27-33, 35, 37
7.2	1-9, 11-18, 20-23
8.1	3, 5, 11, 13, 15-17, 24, 25
8.2	3-9, 12-15, 18, 19