King Fahd University of Petroleum and Minerals
Department of Mathematical Sciences
SYLLABUS
Semester I, 2003-2004 (031)
(Coordinator: Prof. Abdelkader Boucherif)

Instructor: Dr. Mohammad Samman

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Office hours : 12-01 Sat. Mon. Wed.

Course #: **Math 202**
Title: Elements of Differential Equations

Textbook: A First Course in Differential Equations by D.G. Zill, 7th Edition.

Wk	Date	Sec.	Material	Homework
1	Sept.13-17	1.1 1.2	Definitions and Terminology Initial Value Problems-Existence and uniqueness	4,8,14,20,24 2,4,8,16,18,22
2	Sept.20-24	2.1 2.2 2.3	Solution curves Separable Variables Linear Equations	1,3,7,8,15,17,20 6,14,22,24,44 2,5,10,17,30
3	Sept.27-Oct.1	2.4 2.5 3.1	Exact Equations-Integrating Factors Solutions by Substitutions Linear Equations (Modeling)	2,5,9,15,25,34,42,43 6,8,13,21,26,30 5,8,13,20,21,23,27
4	Oct.04-08	4.1.1 4.1.2	Initial and Boundary Value Problems Homogeneous Equations	5,8,11,12 16,19,23, 24,25,28,29
5	Oct.11-15	4.1.3 4.2	Nonhomogeneous Equations Reduction of Order	33,36,38 3,5,12,13,14,18,19
6	Oct.18-2	4.3 4.5	Homogeneous Linear Equations with Constant Coefficients Annihilator Approach	12,20,35,40,51 3,10,12,24,30,54,62
7	Oct.25-29	4.6 4.7	Variation of Parameters Cauchy-Euler Equations	11,13,17,27 8,12,25,37,38
8	Nov.01-05	6.1 6.1.1	Solutions about Ordinary Points Review of Power Series	 1,5,10,12
9	Nov.08-12	6.1	Solutions about Ordinary Points	13,16,18,28
10	Nov.30-Dec.03	6.2	Solutions about Singular Points	3,9,14,19,25
11	Dec.06-10	A.II.2 A.II.3	Gauss Elimination Eigenvalue Problem	31,34,38 47,48,49,50
12	Dec.13-17	8.1 8.2	Preliminary Theory Homogeneous Linear Systems with Constant coefficients	1,4,10,15,24.
13	Dec.20-24	8.2.1 8.2.2	Distinct Real Eigenvalues Repeated Eigenvalues (m=2,3)	3,6,11,13 19,21,26,28
14	Dec.27-31	8.2.3 8.3	Complex Eigenvalues Variation of Parameters (Optional)	33,38,42,44 1,3,8,13,18
15	Jan.03-07		8.3 Continued + Review	

- **Id-Al-Fitr Vacation: November 13-29**

- KFUPM attendance policy will be enforced**. DN grade for more than 9 unexcused absences**
- Exam # 1: Monday, October 13, 2003 (Suggested by the CS)
- Exam #2: Wednesday, December 03, 2003 (Suggested by the CS)
- Final Exams January: 10 – 20, 2004
- Tuesday, October 28, 2003: Last day for dropping courses with a grade of "W"
- December 31, 2003: Last day for withdrawal from all courses with grade of "WP/WF"
- **Grading policy**: Test 1: 20 %, Test 2: 20 %, Quizzes: 14 %, H.W: 6 %, Final: 40 %