KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
Department of Mathematics & Statistics
SYLLABUS
MATH 202 (142)

Week#	Date	Text Sections	Topic	HW
1	January 25- 29	1.1	Definitions and Terminology	5, 13, 14, 18, 20, 22, 29, 32, 36, 38
		1.2	Initial Value Problems	2, 6, 13, 19, 22, 24, 26, 30
2	February 1 - 05	2.2	Separable Equations	6, 10, 12, 21, 26, 30, 32, 48
		2.3	Linear Equations	4, 12, 15, 18, 20, 22, 28, 30, 36
3	February 08 - 12	2.4	Exact Equations	5, 8, 12, 20, 28, 30, 31, 34, 42(b), 43
		2.5	Solutions by Substitutions	2, 6, 8, 10, 12, 16, 22, 25, 28, 29
4	February 15 - 19	3.1	Linear Models: Growth and Decay, Newton's Law of Cooling	4, 8, 10, 15, 16, 18, 20
		4.1	Linear, Equations: Basic Theory	
5	February 22 - 26	4.1.1	Initial-Value and Boundary-Value Problems	2, 4, 6, 10, 12, 13(c), 14(d)
		4.1.2	Homogeneous Equations	16, 22, 24, 25, 28, 30
			Major Exam I, 26-Feb-2015 (06:00-08:00 pm), Material: (1.1 - 3.1)	
6	March 01 - 05	4.1.3	Nonhomogeneous Equations	31, 34, 36 (b, c)
		4.2	Reduction of Order	4, 6, 10, 13, 16, 18, 19
7	March 08 - 12	4.3	Homogeneous Linear Equations with constant coefficients	5, 8, 12, 14, 18, 22, 28, 32, 36, 42, 49, 50
		4.5	Undetermined Coefficients- Annihilator Approach	2, 8, 14, 20, 25, 28, 32, 34, 44, 48, 50, 61, 64, 68, 71
8	March 15 - 19	4.6	Variation of Parameters	2, 6, 11, 12, 18, 22, 24, 26, 28
Mid Term Vacations (22 – 26 March, 2015)				
9	March 29 – April 02	4.7	Cauchy-Euler Equations(Both Methods)	1, 6, 8, 12, 16, 18, 22, 24, 29, 32, 36, 38, 40
10	April 05 - 09	6.1	Review of Power Series	2, 3, 4, 8, 10, 12, 16
		6.2	Solutions About Ordinary Points	2, 4, 11, 12, 16, 21, 22
			Major Exam II, 04-April-2015 (01:30-03:30 pm) Material: (4.1 – 4.7)	
11	April 12 - 16	6.3	Solutions About Singular Points	1, 4, 8, 12, 14, 16, 19, 24, 30, 32
		App II	Matrices and Linear Systems (review)	12, 18, 22, 23, 26, 30(d,g), 36, 40, 44
12	April 19 - 23	App II	The Eigenvalue Problem	48, 49, 53, 54, 56, 59, 60, 61
		8.1	Preliminary Theory-Linear System	3, 6, 8, 10, 14, 15, 16, 19, 22, 24, 26
13	April 26 - 30	8.2	Homogeneous Linear System	
		8.2.1	Distinct Real Eigenvalues	2, 7, 9, 10, 14
		8.2.2	Repeated Eigenvalues	22, 24, 26, 27, 29, 30
14	May 03 - 07	8.2.3	Complex Eigenvalues	34, 37, 38, 42, 46
		8.3	Nonhomogeneous Linear Systems	
15	May 10 - 14	8.3.2	Variation of Parameters	12, 14, 15, 28, 30, 31
		8.4	Matrix Exponential (No Laplace Transform)	2, 5, 6, 8, 9, 10, 12
	Final Exam Date: 24 **May, 2015 (Sunday), 08:00 AM**			

King Fahd University of Petroleum and Minerals
Department of Mathematics & Statistics

Math 202 – Syllabus

2014-2015 (142)

Coordinator: Dr. Khalid Al-Shammari
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Title: Elements of Differential Equations.

Credit: 3-0-3

Textbook: A First Course in Differential Equations by D.G.Zill, 10th edition, 2013

Description: First-order and first -degree differential equations. Linear Models. Homogeneous differential equations with constant coefficients. Undetermined coefficients (Annihilator Approach), reduction of order, variation of parameters, and Cauchy-Euler equation. Series solutions. Systems of linear first-order differential equations

Grading Policy:

- **Major Exam-I25% (100 points)**
- **Major Exam-II25% (100 points).**
- **Final Exam35% (140 points) Comprehensive**
- **Class Work: 15% (60 points).** It is based on Quizzes (Minimum 4 quizzes), Homework&Attendance.

  The **average** (x out of 60) of the Class Work of the sections taught by the same instructor should be in the interval [36, 45].

Attendance: KFUPM attendance policy will be enforced. A**DN grade** will be awarded to any student who accumulates 9 unexcused absences.

Exam Questions: The questions of the common exams are based on the examples, homework problems and the exercises of the textbook.

Missing one of the Two Common Major Exams-I or II:

No makeup exam will be given under any circumstance. When a student misses Exam-I or Exam-II for a legitimate as on (such as medical emergencies), his grade for this exam will be determined based on the existing formula which depends on his performance in the non-missing exam and in the final exam.

Academic Integrity: All KFUPM policies regarding ethics apply to this course.