Math 301 – Syllabus
2011-2012 (111)
Coordinator: Prof. Bilal Chanane

Title: Methods of Applied Mathematics
Credit: 3-0-3
Textbook: Advanced Engineering Mathematics, Zill & Cullen, 3rd edition, Jones and Bartlett
Description:
Grading Policy: All exams are written.

1. Exam I: 25% (100 points)
2. Exam II: 25% (100 points)
3. Class Work: 15% (60 points). It is based on quizzes (around 5 quizzes), homework, or other class activities determined by the instructor. Any quiz or test under class activity should be of a written type and not of a multiple choice type.
4. Final Exam: 35% (140 points)

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

Missing Exam I or Exam II: In case of a valid excuse (such as medical) all students who missed that exam will be given a common make up at the same time. The official excuse should be presented within one week of the exam.

Attendance: Attendance is a University Requirement (see p. 38 of the Undergraduate Bulletin 2006-2009.) A DN grade will be awarded to any student who accumulates 9 unexcused absences .

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

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Week	Date	Sec.	Topics (sections)
1	Sep. 10-14	4.1	Definition of the Laplace transform
		4.2	Inverse Transform, Transforms of Derivatives
2	Sep. 17-21	4.3	Translation Theorems
		4.4	Additional Properties
		4.5	Dirac Delta Function
		4.6	Systems of linear differential equations with constant coefficients
Saturday, Sep. 24, 2011: National Day (Holiday)			
3	Sep. 25-28	9.1	Vector Functions
		9.5	The Directional Derivative
		9.7	Divergence and Curl
4	Oct. 1-5	9.8	Line Integrals
		9.9	Independence of Path
5	Oct 8-12	9.12	Green's Theorem
		9.13	Surface Integrals
✐ **Exam I: Tuesday, Oct. 11, 2011; Material: [4.1-4.6 & 9.1-9.9]**			
6	Oct. 15-19	9.14	Stokes' Theorem
		9.16	Divergence Theorem
7	Oct. 22-26	12.1	Orthogonal Functions
		12.2	Fourier Series
8	Oct. 29-31	12.3	Fourier Cosine and Sine Series
Id al-Adha Vacation: Nov. 1-11, 2011			
9	Nov. 12-16	12.5	Sturm-Liouville Theorem
10	Nov. 19-23	12.6	Bessel and Legendre Series
✐ **Exam II: Tuesday, Nov. 22, 2011; Material: [9.12-9.16 &12.1-12.5]**			
11	Nov. 26-30	13.1	Separable Partial Differential Equation
		13.3	Heat Equation
12	Dec. 3-7	13.4	Wave Equation
		13.5	Laplace's Equation
13	Dec. 10-14	14.2	Problems in Polar and Cylindrical Coordinates
		14.3	Problems in Spherical Coordinates
14	Dec. 17-21	15.2	Applications of the Laplace Transform
15	Dec. 24-28	15.3	Fourier Integrals
		15.4	Fourier Transforms
16	Dec. 31-Jan 2.		Revision
Final Exam: Monday, January 9, 2012 at 7:00 p.m. (A Comprehensive Exam)			

Jan 1 is a Normal Tuesday Class

Jan 2 is a Normal Wednesday Class

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Section	Homework Problems
4.1	3,5,17, 29,3338
4.2	5,13,15,19,35,36
4.3	8,13,20,24, 47,60,66
4.4	5,16,19,23,34, 45
4.5	4,8,12
4.6	2,3,7,10
9.1	3,11,20,25,28,41
9.5	3,6,9,13,21,30
9.7	8,14,23,30
9.8	5,10,16,22,30
9.9	7,15,18,23,28
9.12	2,6,17,25
9.13	3,11,26,33
9.14	3,6,14,17
9.16	2,4,11
12.1	6,12,16,18
12.2	4,6,16,20
12.3	4,6,14,16,26,38
12.5	2,4,6,8,14
12.6	2,4,6,8,10,20
13.1	2,10,14,18,20,24,28
13.3	2,4,6
13.4	2,4,6,8,10
13.5	2,4,8,10,14
14.2	2,4,8,10
14.3	4,6,12
15.2	6,8,10,14,27
15.3	1,5,13,17
15.4	6,10,12,16,18

Homework problems must be handed in to the Instructor every Monday and should include all the sections done the preceding week. No late homework will be accepted. No group homework will be accepted.