

**KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS
DEPARTMENT OF MATHEMATICS AND STATISTICS**

SYLLABUS OF MATHE 131 : FINITE MATHEMATICS

(Summer Semester: 083 (2008 – 2009): Saturday, July 11 – Saturday, September 05, 2009)

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Sec:02:SUMTW:09:20 – 10:20 AM;Loc:59-2001,Sec:01:SUMTW:10:30 – 11:30 AM;Loc:59-2002

Office Hours: Saturday, Sunday, Monday, Tuesday, Wednesday: 12:10 P.M. – 01:00 P.M.

Textbook: *Introductory Mathematical Analysis for Business, Economics, and the life and Social Sciences*, by Ernest F. Haeussler, Jr. Richard S. Paul, & R. J. Wood, 11th /12th Ed. (2005/2008).

(Supplementary notes: *Mathematics with Applications*, by Lial & Hungerford, 7th Ed., 1999).

MATH 131 Finite Mathematics (3-0-3)

Description: Linear equations and inequalities. Systems of linear equations. Basic material on matrices. Elementary introduction to linear programming. Counting techniques. Permutations and combinations. Probability for finite sample space. Basic concepts in statistics. Topics in the mathematics of finance.

Prerequisite: One year preparatory mathematics or its equivalent

Wk	Date	Sect	Material	No/Day/Date:Home Work Problems
1	July 11 To July 15	1.1 1.3 3.1 3.2 3.3	Applications of Equations Applications of Inequalities Lines (Review) Applications & Linear Func. Quadratic Functions (Rev.)	S1.1:8Q:S18J: 4, 12, 16, 20, 28, 33, 36, 43 S1.3: 7Q:U19July: 2, 4, 6, 7, 9, 10, 12 S3.1: 6Q:M20July: 12, 32, 58, 64, 69, 71 S3.2:7Q:T21July: 16, 17, 18, 20, 24, 26, 31 S3.3:7Q:W22July: 27, 29, 31, 34, 36, 39, 40
2	July 18 To July 22	3.4 3.5 3.6 7.1	Systems of Linear Equations Nonlinear Systems Applicat. of Systems of Eqns. Linear Inequalit. in Two Var.	S3.4: 7Q:U26July: 26, 28, 29, 34, 37, 39, 41 Sec.3.5: 6Q:M27July: 6, 9, 12, 14, 15, 16 Sec3.6:7Q:T28July:8, 15, 17, 18, 19, 20, 25 S7.1:7Q:W29July:16, 18, 20, 22, 24, 28, 29
3	July 25 To July 29	7.2 7.3 6.4 6.5	Linear Programming Multiple Optimum Solutions Solv. Syst. by Reduc. Matrices Solv. Syst. Reduc. Mat. (Cntd)	S7.2:7Q:U02Aug:10, 13, 14, 15, 16, 17, 18 Sec. 7.3: 4Q:Monday03Aug: 1, 2, 3, 4 S6.4:7Q:S08Aug: 17, 23, 27, 29, 30, 31, 32 Sec.6.5: 6Q:S08Aug: 8, 10, 12, 19, 21, 24
4	Aug 01 To Aug 05	7.4 7.8 5.1 5.2	The Simplex Method The dual(Exclude Example 3) Compound Interest Present Value	S7.4: 7Q:U09Aug: 5, 8, 12, 16, 17, 18, 19 S7.8:7Q:M10Aug: 4, 10, 12, 13, 14, 15, 17 S5.1:8Q:T11A: 8, 10, 12, 18, 19, 23, 24, 26 S5.2: 10Q:W12A: 4,8,10,11,14,16,19,21,22,24
5	Aug 08 To Aug 12	10.3 5.3 8.1 8.1 8.2	(E12:5.3)Interest Compound. Cont. (E12:5.4) Annuities Basic Counting Principle & Permutations Comb and Other Count Prin.	S10.3: 7Q:S15Aug: 5, 10, 12, 14, 16, 19, 20 S5.3:7Q:U16Aug: 16, 18, 22, 24, 26, 28, 29 S8.1: 12Q:M17Aug: 6, 8, 10, 22, 25, 26, S8.1:12Q:M17Aug: 29, 32, 35, 36, 38, 40 S8.2:8Q:T18A:10, 14, 18, 23, 25, 26, 30, 33

6	Aug 15 To Aug 19	8.3 8.4 8.5 8.5 8.6	Sample Spaces and Events Probability Conditional Probability Conditional Probability(Cntd) Independent Events	S8.3:10Q:S22A: 3,6,3,6,9, 14, 22, 26, 28, 29 S8.4:9Q:U23A:4,10,16,19,21,23,24,27,31 S8.5:15Q: M24A:2,9, 12, 14, 16,17, 23, 24, S8.5:15Q: M24A: 26, 36, 37, 39, 41, 49, 51 S8.6:11Q: T25A:2,7,13,20,23,25,27,29,31,35,36
7	Aug 22 To Aug 26	9.1 9.2 9.2 16.2 16.3	Discr. Rand Var. & Exp. Value The Binomial Distribution Bin. Distribution (Continued) The Normal Distribution Normal Approx. to Bin. Distr.	S9.1:8Q: W26Aug: 4, 5, 9, 11, 15, 16, 18, 20 Sec.9.2: 10Q: S29Aug: 4, 5, 10, 12, 17, 19, Sec.9.2: 10Q: S29Aug., 2009.: 20, 23, 25, 26 S16.2: 7Q: U30Aug: 2, 10, 14, 17, 19, 20, 21 Sec.16.3: 8Q: M31Aug: 1, 3, 5, 6, 7, 8, 9, 10
8	Aug 29 To Aug 31	11.1 Suppl. 11.2	Frequency Distribution Measures of Central Tendency Measures of Variations	Sec.: 11.1: 2, 4, 9, 11, 13, 15, 20, 22, Sec.: 11.1: 23, 25, 27, 35, 37, 39, 43, 44 Sec.: 11.2: 5, 8, 10, 12, 13, 24, 25, 26, 33, 36.

Home Work: The purpose of written homework in this course is to develop skills in understanding and communicating mathematics. It is not to give you busy work or drill. Don't think of your homework paper as a certificate proving that you have done the assignment. Think of it as an exercise in learning and in reporting what you have learned. There is a lot of truth in the statement if you can't explain it, you don't understand it. Communicate with the reader. Don't write to the instructor (who already knows how to do the problems), but explain your solutions to someone who needs help, perhaps a classmate who has been sick. Start at the beginning and be clear, logical and complete. The ultimate test of what you write is this: can someone learn from your paper? Easily? Remember, the reader will see only what you wrote, not what you meant to say. So it must all be there, and be accurate. Make your paper reader friendly. It is highly recommended to do all solved examples and exercises of the book.

Attendance: The university regulations on attendance say: students are expected to attend all classes. however, valid excuses are accepted for eligible reasons.

Academic Honesty: The principles of truth and honesty are fundamental in the academic work. Any type of academic dishonesty will not be forgiven. A cheating in a quiz will result in a zero grade on all quizzes. If a student tries to cheat in a major exam or a final exam, he may get an "F" in the course and he will be reported to the Dean of the College for further disciplinary action. Any attempt of cheating is considered as an act of academic dishonesty.

Important Notes: It is the student's responsibility to keep informed of any announcement, syllabus adjustment or policy changes made during scheduled classes.

*.Wednesday, July 15, 2009: Last day for dropping courses(s) without permanent record. **. Tuesday, August 04, 2009.: Last date for dropping course(s) with grade of "W" thru internet. <http://regweb.kfupm.edu.sa>. ***. Wednesday, August 12, 2009.: Last date for withdrawal from all courses with grade of "W" thru internet. <http://regweb.kfupm.edu.sa>. ****. Wednesday, August 26, 2009: Last date for withdrawal from all courses with grade of "WP/WF" thru the University Registrar Office.

Exam I: 125 Marks(Ch:1,3, 7.1 - 7.3): Build.10 Aud. Tuesday, Aug.04,2009. (7:40 P.M.)

Exam II: 125 Marks(Ch:5,6,7.4,7.8,8.1-2,10):Build.10 Aud.Tuesday,Aug.18,2009(7:40PM)

Class Work (75 Marks): Quizzes &/or Class Tests. (Compulsary:Home Work&Attendance).

Final Exam: 175 Marks (Comprehensive). Tuesday, Sep. 01, 2009 (12:30 PM - 03:30 PM).