



**Prince Sultan University**  
**Department of Mathematical Science**

**SYLLABUS**  
**Second Semester 2011 – 2012 (Sem. 112)**

**Course** : MATH 101  
**Title** : Finite Mathematics  
**Textbook** : Finite Mathematics: An Applied Approach; 10<sup>th</sup> Edition  
 Michael Sullivan, John Wiley & Sons Inc. 2008

Week	Date	Sec.	Material
1	January 28 – Feb. 01	1.1	Introduction Rectangular Coordinates ; Lines
2	February 04 – 08	1.2 1.3	Parallel and Intersecting Lines Applications
3	February 11 – 15	2.1 2.2	System of linear Equations: Substitution ; Elimination System of linear Equations: Matrix Method
4	February 18 – 22	2.3 2.4 2.5	System of $m$ linear Equations Containing $n$ Variables Matrix Algebra Multiplication of Matrices
5	February 25 – 29	2.6 3.1	Inverse of a Matrix Linear Inequalities
6	March 03 – 07	3.2 4.1	A Geometric Approach to Linear Programming Problems The Simplex Tableau; Pivoting
<b>Major Exam I (Ch. 1.1 - 3.2) Saturday March 10<sup>th</sup></b>			
7	March 10 – 14	4.2 4.3	Solving Max. Problems in Standard Form Solving Minimum Problems in Standard Form
8	March 17 – 21	4.3 4.4	Solving Minimum Problems in Standard Form The Simplex Method with Mixed Constraints
<b>March 24 – 28-----MidTerm Vacation</b>			
9	March 31 – April 04	5.1 5.2	Mathematics of Finance Applications of Mathematics of Finance
10	April 07 – 11	6.1 6.2	Sets The Number of Elements in a Set
11	April 14 – 18	6.3 6.4	The Multiplication Principle Permutations
12	April 21 – 25	6.5 6.6	Combinations The Binomial Theorem
<b>Major Exam II (Ch. 4.1 – 6.6) Saturday April 28<sup>th</sup></b>			
13	April 28 – May 02	7.1 7.2	Sample Spaces and Assignment of Probabilities Properties of the Probability of an Event
14	May 05 – 09	7.3 7.4	Probability Problems Using Counting Techniques Conditional Probability
15	May 12 – 16	7.4 7.5	Conditional Probability Independent Events

## Course Description:

This course contains topics for students in the Business majors.

## Course Objectives:

The objective of this course is to provide the students with a background and to develop their skills in the following topics:

- Solving system of linear equations.
- Matrix operations.
- Linear programming.
- Mathematics of finance.
- Probability and decision making.

Applications of these topics in business and life are considered

## Covered Topics:

The Topics covered in this course are:

- Linear equations.
- Matrices.
- Linear programming, both geometric approach and the Simplex method.
- Finance
- Sets and Counting Techniques.
- Probability and Probability models.

## Grading Policy:

➤ Major Exam I	20%
➤ Major Exam II	20%
➤ Quizzes	10%
➤ Home work	5%
➤ Attendance	5%
➤ Final Exam	40%
<b>TOTAL</b>	<b>100%</b>

## Quizzes:

- 10 points are assigned to quizzes. At least 10 quizzes will be given throughout the semester during the first 5 minutes of the class. The quiz covers the materials discussed during the previous lectures. Being late or absent for the class will deny you the quiz mark. (No make up for quizzes).

## Homework:

- A list of PRACTICE and HOMEWORK PROBLEMS for will be given to the student at the start of the term. The PRACTICE PROBLEMS are for the student to practice to be ready for quizzes and exams.
- Homework is very important to consolidate the student's understanding of the topics discussed in class and also help identify points of weakness. 5 points is for the written HW.

## Class attendance:

- Students should not miss any class lecture without a legitimate excuse.
- In case a student misses a class, he must contact any one of his classmates to get all information and topics covered of classes he missed.
- The University's policy on absence is as follows:
  - 5 absences: first warning,
  - 9 absences: second warning
  - 13 absences: recommendation for DN (Denial Notice)**, which results in dismissal from the course after being issued an official DN.
- Missing classes for emergencies such as illness, car accidents, etc...is part of the student absences above and will count against his DN. (No need to present documents to justify the absence to your instructor).
- It is very important that the student is present at the start of the class. Attendance will be taken during the first 5 minutes of the class. If a student comes to class after 5 minutes he will be marked **absent**.
- **5 points are assigned to attendance.** One point will be deducted for every one absence after having three absences. In case a student misses a class, he must contact any one of his classmates to get all information and topics covered in classes he missed.
- It is the student's responsibility to check regularly on his total number of absences.

## Calculators:

- Scientific Calculators are required and needed in this course. Graphing Calculators are not allowed.
- We recommend CASIO fx-991ES

## Homework Questions

<b>SECTION</b>	<b>PAGE</b>	<b>PRACTICE PROBLEMS</b>	<b>HOMEWORK PROBLEMS ( for Submission)</b>
1.1	16	13,17,28,29, 35,39,43,47,50,51,57,58, 61,67,68,73,97,104,108,109,113	(36,50,96,108)
1.2	28	5,11,21,23,27,31,32,35,36,44	12,22,46)
1.3	34	5,6,9,11,13,14,15,18,19	(10,16)
2.1	65	9,13,14,19,31,39,51,67,71,72	(32,52,68)
2.2	84	4,9,10,15,23,28,31,33,34,41,53,61,73	(56,72)
2.3	96	3,11,15,16,19,25,27,28	(18)
2.4	112	6,10,13,15,23,27,30,35,36,41,45,49,59	(48,60)
2.5	126	6,13,17,18,31,38,41,45,53,57,70,71	(30,46)
2.6	143	4,5,9,10,15,19,21,27,33,34,37,38,47, 53,54,57	(22,50)
3.1	185	5,7,15,17,20,21,22,27,29,33,43,51,57	(52,60)
3.2	202	4,11,15,20,23,25,33,40,41,49,51,56,73	(26,60)
4.1	230	6,7,11,16,19,22,23,27,29,31,32,37	(30,38)
4.2	250	2,7,11,12,16,17,21,23,27,37,38	(24,30)
4.3	264	8,11,12,17,23,25,27	(20,24)
4.4	279	4,5,7,9,10	(6,8)
6.1	362	14,15,21,27,31,35,41,42,45,46	(26,34)
6.2	367	8,9,13,15,22,26,27,29,33,34,35,38,39	(14,32,36)
6.3	374	3,7,8,13,15,18,19,25, 39,40,41,43,46	(14,26,34)
6.4	382	11,13,22,23,27,30,33,35,40,43,46,47,5 3, 57,59,60	(36,52,54)
6.5	390	7,9,15,17,18,21,22,29,31,34,39,43,47,4 8,52,53,54	(28,30,32)
6.6	399	7,9,10,15,22,24,29,32,33,36	(20,26,28)
7.1	415	6,8,9,13,17,18,21,26,35,36,39,42,43,51, 52,53,57,71	(34,58)
7.2	428	4,8,9,11,12,13,14,15,17,22,24,27,28, 29,34,36,50	(20,38)
7.3	437	5,7,11,13,14,21,23,25,26,27,30	(6,32)
7.4	448	5,6,7,13,14,15,18,21,23,25,27,30,46,47 ,49,53,55,57,65,67,69,73	(12,36,50)
7.5	458	3,6,7,8,11,13,18,19,20,25,31,33,34	(10,14,30)