

COURSE SYLLABUS

Sultan Qaboos University

College of Science

Department of Mathematics and Statistics

MATH 1101

Business Mathematics I(Spring 2009)

Credit Hours: 3

Contact Hours: 4

Pre-requisite: None

Format: 2 lectures and 2 tutorials per week

Textbook: Mathematical Analysis for Business, Economics, and the Life and Social Sciences, 4th Ed. J. C. Arya and R. W. Lardner (Prentice Hall, New Jersey).

Office Hours: Will be announced separately.

Course Description: This is the first course in Business Mathematics. Topics to be covered are: equations in one variable, inequalities, straight lines, functions, progressions, matrix algebra, systems of equations, matrix inverse and determinants.

Objectives: This course gives a background in basic mathematical techniques which the students will need to apply in solving real life problems related to commerce and economics.

Assessment: The course will be graded A to F, and the grades will be composed of the following weighted components:

Quiz 1	Week 4	5%
Quiz 2	Week 6	5%
Quiz 3	Week 10	5%
Homework	Week 12	5%
Test I (week 8)	March 24, 2009 (6:15-7:15)	20%
Test II (week 14)	May 2, 2009 (6:15-7:15)	20%
Final Exam	May 16, 2009 (11:30-14:35)	40%

If a student misses an exam or a quiz without a valid excuse, the mark in that test will be zero. There will be no make-up quizzes or exams. Absentees with genuine reasons (supported by proper documents submitted to the instructor within one week from return to the class) will be treated separately.

The Graded Homework: A homework will be given and collected. Random questions may be graded and some questions will be selected for a short in-class quiz. Also, the instructor may assign some points for attempting the tutorial assignments.

Attendance: Attendance is compulsory. Any student who misses 10% (6 contact hours) of the total course hours will be sent a warning notice, and who misses 20% (12 contact hours) or more of the total course hours will be barred from taking the Final Examination according to the University Regulations.

Punctuality: You are required to attend your class on time. Late attendance is not acceptable, the instructor has the right to close the door and not welcome anyone who is late.

Sharing Material: You are not allowed sharing calculators or any other material during exams or quizzes.

Cellular Phones: Turn off your cellular phone before entering the class. Also, cellular phones are not allowed to be used as calculators or for any other purpose.

Tutorial Problems and Homework Exercises: The recommended textbook examples for reading and suggested exercises are listed below. The instructor may assign some additional problems. In addition, students are encouraged to do other relevant exercises from the textbook including the “Review Exercises” at the end of each chapter. Please notice that you are required to do/attempt your homework at home, and come to the tutorial to discuss the difficulties you have faced in the attempted exercises. The instructor’s job is not to solve the homework for you, but to assist/guide you to overcome the difficulties in your homework.

Week	Section	Examples	Exercises
1	2.1	1,2,4,5,6,7	6,8,11,13,20,23,30,36,38,42,44
	2.2	2,3,6	9,10,14,15,16,17,18
2	2.3	1,2,3,4,6	3,5,8,12,18,20,21,24,26,30,32,34,38,40,42
	2.4	3,4,5	14,16,21,23,24
3	3.1	1,2,3	2,4,6,8,9,10,14,17,18,19,20,22,23,25
	3.2	1,5,6, 7,8,9	5,6,7,8,12,15,16,19,20,24,25,26,27,28
4 Quiz 1	3.3	1,2,3,4,5	2,4,10,13,15,16,23,25,27,28,31
	3.4	1,2,4,5,6	2,4,6,8,12,16,19,21,27,29,32,33,34
5	4.1	1,2	4,5,8,9,10,11
	4.2	1,2,3,4,5,6,7,8	2,4,8,9,10,12,14,15,18,20,24,26,30,34,36,38,39,40
	4.3	1,2,4	2,3,4,5,6,7,8,9,10,13
6 Quiz 2	4.4	2,3,4,5	2,4,7,11,23,24
	4.5	1,2,4,5,6	1,2,4,6,9,11,14,16(a,b)
7	5.1	2,3,4,7,8,9,12	2,5,7,10,13,14,20,29,30,33,37,40,41,46
	5.2	1,3	4,6,9,10,12,14,15,16,17,18
	5.3	2,3,5,6,7	2,4,11,14,16,18,20,23,24,26,27,28,29,36,37,43,45
8	5.4	1,2	3,4,6,9,15,20,25,26,27,30
	5.5	1,2,3,4,5,6	3,4,9,11,13,15,20
	6.1	1,2,3,4,7,8,9	2,7,8,10,15,18,21,27,30,33,36
9	6.2	1,3	3,4,5,8,9,10,12
	6.3	2,3,4,5,6,8,9,10	3,4,6,8,9,14,15,17,22,30,34,37,39,43,49,53,64,68,70
10 Quiz 3	6.4	2,4	2,7,10,16,17
	7.1	1,3,5,7	2,4,6,11,13,18,21
	7.2	1,2,4,6	2,5,8,13,17,21,22
12 HW	9.1	1,3	9,12,16,19,22
	9.2	1,2,3,4,5	8,10,12,16,19,21,24,30,33
13	9.3	1,2	2,4,5,9,10
	9.4	1,3,5	2,3,7,11,14,16,17
14	10.1	1,2,3,4,5	2,5,7,8,17,21,24
	10.4	1,2,3,4,5,6	6,14,18,25,30,31,34,41,42
15	10.5	1,2,3,4	2,4,7,9,10,11

Academic Dishonesty: All forms of academic dishonesty are prohibited and penalties are decided depending on the department/university rules and regulations. Academic dishonesty includes (but not limited to) cheating, plagiarism, copycat, signing for someone's else,etc.

Learning Outcomes:

- Solve linear and quadratic equations, and apply to problems in business and economics. Explain the concepts of sets, subsets and equality of sets.
- Solve linear and quadratic inequalities, and formulate simple real life and business problems in terms of linear and quadratic inequalities.
- Define absolute value of a real number; solve linear equations and inequalities involving absolute values.
- Solve a system of linear equations, and apply to problems in business and economics.
- Define a function; determine its domain and range.
- Graph a quadratic function, and determine its maximum and minimum values; solve maximization and minimization problems involving quadratic functions.
- Explain the concept of composition of two functions. Determine the inverse of a function and the connection between the graphs of the function and its inverse.
- Apply the properties of logarithms to solve logarithmic equations and simplify expressions. Apply to problems in business and economics.
- Apply arithmetic and geometric progressions to problems in business and economics.
- Solve a system of linear equations by row reduction of matrices; distinguish singular systems of equations.
- Solve a system of three linear equations in three variables using Cramer's rule
- Decide if a matrix is invertible, and find the inverse of an invertible matrix.

Good Luck