Course Syllabus Form

1.	**College:**Science
2.	**Department:**Mathematics
3.	**Program:**Business and Administration Program
4.	**Course code:**MATHS 103
5.	**Course title:**Mathematics for Business and Management I
6.	**Course credits:**Credit Hours 3 Lab Hours 0 Lecture Hours 3
7.	**Pre-requisites:**None
8.	**Course web-page:**None
9.	**Course coordinator:** Naser Metwally & Mahmood Al Abbas
10.	**Academic year:**2015– 2016

11. Semester:	✓	First		Second		Summer

12. Textbook(s):

Introductory Mathematical Analysis for Business, Economics, and the Life and Social Sciences, by Ernest F. Haeussler, Jr. Richard J. Wood. 13thEdition (Person Education).

13. References:

Mathematical Analysis for Business, Economics, and the Life and Social Sciences, by Jagdish C. Arya/ Robin W. Lardner. Fourth Edition (Prentice Hall)

14. Other resources used (e.g. e-Learning, field visits, periodicals, software, etc.):

NONE

15. Course description (from the catalog):

Review of Algebra. Fractions, Exponents, Fractional Algebraic operations, Factors, Linear Equations, Quadratic Equations. Straight Lines, Functions and their graphs, Logarithms and Exponentials, Arithmetic Progressions and simple Interest, Geometric Progressions and Compound Interest. Permutations and Combinations. The Binomial Theorem, Matrices, Multiplication of Matrices, the Inverse of a Matrix, Determinants.

16. Course Intended Learning Outcomes (CILOs):

CILOs	a	b	c	d	e	f	g	H	i	J	K
1. Recognize the business terminology of demand, supply, cost, revenue, profit, price, production, break-even point and market equilibrium point.	✓				✓						
2. Solve linear, literal, quadratic, rational, exponential, logarithmic, absolute values, and radicalequations and linear inequalities and absolute value inequalities.	✓				✓						
3. Solve various business problems that lead to linear and quadratic equations and linear inequalities.	✓				✓						
4. Identify the basic graphs and properties of functions, which include evaluation, domain and range, basic operations, compositions, and inverses.	✓				✓						
5. Apply the knowledge of functions to business applications such as simple, compound or continuous compound interest and finding present value.	✓				✓						
6. Recognize and use applications of quadratic functions in business extreme problems. (maximize revenue and profit)	✓				✓						
7. Find the slope (if exists) and the equation of the various kinds of straight lines including supply and demand equations.	✓				✓						
8. Solve and apply systems of linear and nonlinear equationsin solving business application problems.	✓				✓						
9. Recognize and apply the properties of the exponents and logarithms to solve business problems using exponential and logarithmic functions.	✓				✓						
10. Perform operations on matrices and solve systems of two linear equations using matrices.	✓				✓						

17. Course assessment:

Assessment Type	Number	Weight
MathXL		10 %
Midterms	2	50 %
Laboratory/Practical		%
Assignments		%
Projects/Case Studies		%
Final	1	40%
Total	5	100%

18. Course Weekly Breakdown:

Week	Date	Topics covered	CILOs	Teaching Method	Assessment
1		0.7 Equations, in Particular Linear Equations 0.8 Quadratic Equations	2, 3	Lectures	Test I & Final
2		1.1 Applications of Equations 1.2 Linear Inequalities	1, 2, 3	Lectures	Test I & Final
3		1.3 Applications of Inequalities 1.4 Absolute Value	1, 2, 3	Lectures	Test I & Final
4		2.1 Functions 2.2 Special Functions	4	Lectures	Test I & Final
5		2.3 Combinations of Functions 2.4 Inverse Functions	4	Lectures	Test I & Final
6		2.5 Graphs in Rectangular Coordinates 3.1 Lines	4, 7	Lectures	Test 1& Final
7		3.2 Applications of Linear Equations 3.3 Quadratic Functions	4, 6, 7	Lectures	Test 2& Final
8		3.4 System of Linear Equations 3.5 Nonlinear Systems	8	Lectures	Test 2& Final
10		3.6 Applications of Systems of Equations 4.1 Exponential Functions	1, 8	Lectures	Test 2& Final
11		4.2 Logarithmic Functions	2, 9	Lectures	Test 2& Final
12		4.3 Properties of Logarithms 4.4 Logarithmic and Exponential Equations	2, 9	Lectures	Test 2& Final
13		5.1 Compound Interest 5.2 Present Value	5, 9	Lectures	Final
14		5.3 Interest Compounded Continuously 6.1 Matrices	5, 9, 10	Lectures	Final
15		6.2 Matrix Addition and Scalar Multiplication 6.3 Matrix Multiplication	10	Lectures	Final
16		6.6 Inverses (2x2)	1, 10	Lectures	Final
		Final Examinations			

University of Bahrain
Mathematics Department
Mathematics for Business I

Course: Math 103
Semester: One
Year: 2015-2016

Text: Introductory Mathematical Analysis
E. Haeussler; R. Paul & R. Wood, 13e

Class Details	
Sec:	
Day:	
Time:	
Room:	

Instructor:

Week	Date	Sec.	Topic	Examples	Problems	Notes
1	13/09/15	0.7	Equations, in Particular Linear Equations	1-7, 9-13	1-6, 17-78	14 Sept. Beginning of classes
		0.8	Quadratic Equations	All	1-76	
2	20/09/15	1.1	Applications of Equations	3-5	1, 2, 6, 9-12, 16, 21, 25, 31, 33, 34	
		1.2	Linear Inequalities	All	1-34	22-25 Sept. Arafah & Eid Al-Adha 1436*
3	27/09/15	1.3	Applications of Inequalities	1	1, 2, 4, 10	
		1.4	Absolute Value	1-3, 5	1-10, 15-36	
4	04/10/15	2.1	Functions	2-6	5-38, 44-49	
		2.2	Special Functions	1-5	1-22, 31	
5	11/10/15	2.3	Combinations of Functions	All	1-17	
		2.4	Inverse Functions	5	1-4	14 Oct. Al-Hijra New Year Holiday 1437*
6	18/10/15	2.5	Graphs in Rectangular Coordinates	1-7	1-16, 19-33	
						22-23 Oct. Ashura Holiday 1437*
7	25/10/15	3.1	Lines	All	1-62, 72	
		3.2	Applications of Linear Equations	1-5	1-20	
8	01/11/15	3.3	Quadratic Functions	1-4, 6	1-26, 29-31, 33	
		3.4	System of Linear Equations	1, 2	1-8, 11, 12	
9	08/11/15	3.5	Nonlinear Systems	All	1-14	
		3.6	Applications of Systems of Equations	All	1-14, 17-21	
10	15/11/15		*Mid-Semester Break*			
11	22/11/15	4.1	Exponential Functions	2-4, 6, 8	1-14, 18-29, 37-42	
		4.2	Logarithmic Functions	1, 2, 5, 6	1-8, 17-56, 58, 59	
12	29/11/15	4.3	Properties of Logarithms	All	1-53	
		4.4	Logarithmic and Exponential Equations	2-4, 6	1-36, 43	03 Dec. End of withdrawal with (W)
13	06/12/15	5.1	Compound Interest	All	1-14, 18-22	
		5.2	Present Value	1	1-12	
14	13/12/15	5.3	Interest Compounded Continuously	All	1-10, 14-18	
		6.1	Matrices	All	1-9, 14-20, 24-27	16-17 Dec. National Day
15	20/12/15	6.2	Matrix Addition and Scalar Multiplication	1, 2, 4-6	1-24, 29-40	
		6.3	Matrix Multiplication	1-4, 7, 8, 10-13	1-61, 69	23 Dec. Prophet's Birthday Holiday 1437*
16	27/12/15	6.4	Solving Systems by Reducing Matrices	All	1-9, 13-22	
		6.6	Inverses	1, 2	1-4, 19-24	01 Jan. 2016 New Year's Day Holiday
17	03/01/16					07 Jan. Last day of classes
			Final Examinations			13/01/2016 Final Exam at 11:30

* Upon sighting the moon

Test	25%	Sec 0.7-2.5	
Test	25%	Sec 3.1-4.4	Coordinators: Dr M Al Abbas
Math	10%		Dr M Hasnain
Fin	40%	Sec 0.7-6.6; Date: 13-01-2016; Time: 11:30-13:30	