Course Syllabus Form

1.	**College:**	Science
2.	**Department:**	Mathematics
3.	**Program:**	B.Sc. (Business and Management)
4.	**Course code:**	MATHS 104
5.	**Course title:**	Mathematics for Business and Management II
6.	**Course credits:**	Lecture Hours: 3 Lab Hours: 0 Credit Hours: 3
7.	**Pre-requisites:**	MATHS 103
8.	**Course web-page:**	-
9.	**Course coordinators:**	Dr. Haslinda Ibrahim (Office: S41-2097, Ext. 7579) Mrs. Afeefa Matooq (Office: S41-2140, Ext. 7528)
10.	**Academic year:**	2015-2016

11. Semester:		First	✓	Second		Summer

12. Textbook(s):
Introductory Mathematical Analysis, E. F. Haeussler, Jr. & R. S. Paul, 13th Edition.

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

14. Course description (from the catalog): The course will cover the following:
The Derivative: Limits, Continuity and Differentiability, Calculation of Derivatives, Optimization and Curve Sketching, More on Derivatives, Integration, Method of Substitution, Integration by Parts, Definite Integral, Areas under a Curve, Applications to Business and Economics.

15. Course Intended Learning Outcomes (CILOs): Note that CILOs should be mapped with PILOs of CE program

Students who successfully complete this course should be able to:

CILOs	a	b	c	d	E	f	g	h	i	J	k
1. Find the derivative of a function using the definition.											
2. Compute the derivative of various functions using the rules.											
3. Apply the derivative to solve applications problems from Business and Management.											
4. Compute the area between two curves.											
5. Solve real life problems.											
6. Find basic indefinite and definite Integrals.											
7. Apply integration to solve applications problems from Business and Management.											

Mapping to PILOs

16. Course assessment:

Assessment Type	Number	Weight	Date(s)
Tests	2	50%	See Weekly Breakdown
Online Homework (MathXL)	16	10%	TBA
Final	1	40%	See Weekly Breakdown
Total	**19**	100%	

17. Attendance Policy:

Extracts from the University Bulletin regarding withdrawal and enforced withdrawal A student's absence from lectures or classes in excess of 25% of the total assigned session will result in an automatics withdrawal of the student from the course, regardless of the causes for his/her absence.

a) *A grade of (W) is given to a student who misses 25% or more of the total sessions assigned to the course if he/she presents a valid excuse for his/her absence.*
b) *A grade of (WF) is given to a student who misses 25% or more, but with no valid excuse.*

18. Academic Honesty and Plagiarism:

All students are expected to follow the specific rules of academic honesty and plagiarism as per The Regulation of Professional conduct Violations for University of Bahrain Students, decision # 4/2006. Please refer the UoB website-Deanship of Students Affairs-Guidance Office.

19. Assessment Details:

Assessment Type	Weight	Time	Date	Material
Test 1	25%	TBA	TBA	TBA
Test 2	25%	TBA	TBA	TBA
Online Homework (MathXL)	10%	-	-	-
Final exam	40%	8:30-10:30	13/06/2016	**Comprehensive**

20. Course Instructors:

Sections	Name	Office Number	Office Phone Number
10, 11, 12	Mrs. Afeefa Matooq	S41-2140	17437528
17	Dr. Mohamed Ashqar	S41-2098	17437590
5, 19, 20	Mr. Muhammad Hasnain	S41-2090	17437587
6, 13, 15, 16	Dr. Haslinda Binti Ibrrahim	S41-2097	17437579
1, 2, 7	Dr. Mahmood Al-Abbas	S41-2040	17437545
4, 8	Dr. Ishtiaq Khan	S41-2046	17437560
3	Dr. Faisal Al-Showaikh	S41-2039	17437544
9, 14	Dr. Abdullah Eid	S41-2096	17437584

21. Course Weekly Breakdown

Week	Sec.	Topic	CILOs	Teaching *Method*	Assessment
1	10.1	Limits	1	*Lecture and Problem Solving*	Test 1 & Final
2	11.1	The Derivative	1,2	*Lecture and Problem Solving*	Test 1 & Final
	11.2	Rules for Differentiation	2	*Lecture and Problem Solving*	Test 1 & Final
	11.3	The Derivative as a Rate of Change	2, 3	*Lecture and Problem Solving*	Test 1 & Final
3	11.4	The Product Rule and The Quotient Rule	2	*Lecture and Problem Solving*	Test 1 & Final
	11.5	The Chain Rule and Power Rule	2, 3	*Lecture and Problem Solving*	Test 1 & Final
4	12.1	Derivatives of Logarithmic Functions	2, 3	*Lecture and Problem Solving*	Test 1 & Final
5	12.2	Derivatives of Exponential Functions	2, 3	*Lecture and Problem Solving*	Test 1 & Final
	12.3	Elasticity of Demand	3	*Lecture and Problem Solving*	Test 1 & Final
6	12.4	Implicit Differentiation	2, 3	*Lecture and Problem Solving*	Test 1 & Final
	12.5	Logarithmic Differentiation	2, 3	*Lecture and Problem Solving*	Test 2 & Final
7	12.7	Higher-Order Derivatives	2, 3	*Lecture and Problem Solving*	Test 2 & Final
	13.1	Relative Extrema	2, 3	*Lecture and Problem Solving*	Test 2 & Final
8	13.2	Absolute Extrema on a Closed Interval	2, 3	*Lecture and Problem Solving*	Test 2 & Final
	13.3	Concavity	2, 3	*Lecture and Problem Solving*	Test 2 & Final
9	13.4	The Second-Derivative Test	2, 3	*Lecture and Problem Solving*	Test 2 & Final
	13.6	Applied Maxima and Minima	3	*Lecture and Problem Solving*	Test 2 & Final
10		Mid-Semester Break (*for Students*)			
11	14.2	The Indefinite Integral	4, 5	*Lecture and Problem Solving*	Test 2 & Final
	14.3	Integration with Initial Conditions	5, 6	*Lecture and Problem Solving*	Test 2 & Final
12	14.4	More Integration Formulas	5	*Lecture and Problem Solving*	Final
	14.5	Techniques of Integration	5	*Lecture and Problem Solving*	Final
13	14.7	The Fundamental Theorem of Calculus	5, 6	*Lecture and Problem Solving*	Final
14	14.9	Area Between Curves	6,7	*Lecture and Problem Solving*	Final
	14.10	Consumers' and Producers' Surplus	6,7	*Lecture and Problem Solving*	Final
15	15.1	Integration by Parts	6	*Lecture and Problem Solving*	Final
16	15.4	Average Value of a Function	6,7	*Lecture and Problem Solving*	Final

23. Weekly Problems & Important Notes

Week	Date	Sec.	Topics covered	Examples	Problems	Dates
1	17/02/2016	10.1	Limits	All	1-4, 9-43	17/02 Beginning of classes
2	21/02/2016	11.1	The derivative	1-6	3-17, 19-26	
		11.2	Rules for Differentiation	All	1-88	
		11.3	The Derivative as a Rate of Change	3, 4, 7-9	13-28, 33-39, 41, 42	
3	28/02/2016	11.4	The Product Rule and The Quotient Rule	1-5, 7, 8	1-40, 49-56, 59-62, 71	
		11.5	The Chain Rule	1-7	1-64, 69, 71, 73	
4	06/03/2016	12.1	Derivatives of Logarithmic Functions	All	1-51	
5	13/03/2016	12.2	Derivatives of Exponential Functions	1, 2, 4, 5	1-31, 33-37, 40, 41	
		12.3	Elasticity of Demand	All	1-16	
6	20/03/2016	12.4	Implicit Differentiation	All	1-34	
		12.5	Logarithmic Differentiation	1, 2, 4	1-27	
7	27/03/2016	12.7	Higher-Order Derivatives	All	1-39	
		13.1	Relative Extrema	All	1-29, 31-33, 68-71	
8	03/04/2016	13.2	Absolute Extrema on a Closed Interval	1	1-12	
		13.3	Concavity	All	1-4, 7-24, 35-53, 67, 68	
9	10/04/2016	13.4	The Second-Derivative Test	All	1-14	
		13.6	Applied Maxima and Minima	1-3, 8(a, c)	1-3, 5, 7, 11-17, 27, 30	
10	17/04/2016		Mid-Semester Break (for Students)			
11	24/04/2016	14.2	The Indefinite Integral	All	1-52, 55	
		14.3	Integration with Initial Conditions	1, 2, 4, 5	1-16, 20, 21	
12	01/05/2016	14.4	More integration formulas	All	1-84,88	01/05/2016 Labour Day
		14.5	Techniques of Integration	1(a), 2, 3	1-10. 13-15, 19-24, 26-29, 52-54, 57-60	
13	08/05/2016	14.7	The Fundamental Theorem of Calculus	All	1-40, 43, 44, 46, 59-62	
14	15/05/2016	14.9	Area Between Curves	1, 3-5	1-4, 6-9, 11, 13, 15, 19, 22, 24, 35, 36, 41-43, 50-54	
		14.10	Consumers' and Producers' Surplus	1	1-4, 7	
15	22/05/2016	15.1	Integration by Parts	All	1-29, 34	
16	29/05/2016	15.4	Average value of a function	1	1-11	
17	5/06/2016		Revision			07/06/2016 Last day of classes
			11-21/6/2016 Final Examinations			Final Exam 13/06/2016 @ 8:30-10:30

Assessment	Percentage	Date	Sections
Test 1	25%	TBA	TBA
Test 2	25%	TBA	TBA
Online Homework	10%	TBA	TBA
Final	40%	13/06/2016 @ 8:30-10:30	Comprehensive