Course Syllabus Form

1. College: Science							
2. Department: Mathematics							
3. Program: B. Sc in Mathematics							
4. Course code: Math 122							
5. Course title: Calculus and Analytic Geometry II							
6. Course credits: Lecture Hours: 4	Lab Hours: 0	Credit Hours: 4					
7. Pre-requisites: Maths 121							
8. Course web-page:							
9. Course coordinator: Dr. Nasser Metwally							
10. Academic year:							
11. Semester:		First	√	Second		Summer	
12. Textbook(s): Thomas' Calculus , by Mauric D. Weir and Joel hass , 12th (global edition) Person.							
13. References: • Calculus, Smith and Minton, 4th edition McGaw Hill.							
14. Other resources used (e.g. e-Learning, field visits, periodicals, software, etc.):							
15. Course description (from the catalog): Methods of integration. Applications to areas: arc length; volumes; etc. Parametric equations. Polar coordinates. Infinite series. Taylors theorem and power series							
16. Course Intended Learning Outcomes (CILOs):							

	Mapping to PILOs										
CILOs	a	b	c	d	e	f	g	h	i	j	k
1. Recognize and use various techniques of integration											
2. Use definite integrals to evaluate area between curves, volumes.											
3. Recognize the limits that produce indeterminate forms and use L'hopitals rule to evaluate the limit											
4. Evaluate improper integrals.											
5. Determine the convergence or divergence of infinite series.											
6. Derive power series for functions and use these to help in differentiation, integration, and computation.											

20. 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.*

21. 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.

22. Course Weekly Breakdown:

Week	Date	Topics covered	CILOs	Teaching Method	Assessment
1	17/02/16	5.6 Area between curves	1,2	Lecture	Test1&Final Exam
2	21/02/16	6.1 Volumes: cross section 6.2 Volumes: Cylindrical shell	1,2 1,2	Lecture	Test1&Final Exam
3	28/02/16	6.3 Arc length 6.4 Surface area	1,2	Lecture	Test1&Final Exam
4	06/03/16	4.5 L'Hopital's rule	3 1	Lecture	Test1&Final Exam Quiz1:10/3/2016
5	13/03/16	8.1 Integration by parts	1	Lecture	Test2&Final Exam
6	20/03/16	8.2 Trigonometric integrals 8.3 Trigonometric substitutions	1 1	Lecture	Test2&Final Exam
7	27/03/16	8.4 Integration of rational functions 8.7 Improper Integration	1 4	Lecture	Test2&Final Exam
8	03/04/16	11.3 Polar Coordinates 11.4 Graphing of Polar Coordinates	8 8	Lecture	Test2&Final Exam Test1:5/4/2016
9	10/04/16	11.5 Areas and length in Polar Coordinates 10.1 Sequences	9 5	Lecture	Final Exam
10	17/04/16	**Mid Term Break**			
11	24/04/16	10.2 Infinite Series 10.3 Integral test	5 5	Lecture	Final Exam
12	01/05/16	10.4 Comparison test 10.5 Ratio test	5 5	Lecture	Final Exam Quiz2:5/5/2016
13	8/05/16	10.6 Alternating series: AC&CC 10.7 Power series	5 5	Lecture	Final Exam Test2:12/5/2016

14	15/05/16	*10.8 Taylor & Maclaurin series*	6 6	*Lecture*	*Final Exam*
15	22/05/16	*10.9 Convergence of Taylor series*	6	*Lecture*	*Final Exam*
16	29/05/16	*10.10 Applications of Taylor Series*	**7**		
17	05/06/16	*Last day of classes(7/6/16)*			

23. Course Weekly Problems

Week	*Date*	Topics covered	***Problems***	*Notes*
1	17/02/16	*5.6 Area between curves*	*47-60* *63-68,73-77*	
2	21/02/16	*6.1 Volumes: cross section* *6.2 Volumes: Cylindrical shell*	*15-22, 39-42,49-54* *1-11, 15-25,29-33,39,40*	
3	28/02/16	*6.3 Arc length* *6.4 Surface area*	*1-10* *13-17*	
4	06/03/16	*4.5 L'Hopital's rule*	*1-74*	
5	13/03/16	*8.1 Integration by parts*	*1-50*	
6	20/03/16	*8.2 Trigonometric integrals* *8.3 Trigonometric substitutions*	*1-22,23-28,33-50* *15-42*	
7	27/03/16	*8.4 Integration of rational functions* *8.7 Improper Integration*	*1-38,51-54* *1-30*	
8	03/04/16	*11.3 Polar Coordinates* *11.4 Graphing of Polar Coordinates*	*1-65* *1-6, 17-20*	
9	10/04/16	*11.5 Areas and length in Polar Coordinates* *10.1 Sequences*	*1,2,4,5,6,11,12, 14, 21-62* *1-6, 27-62, 68-72*	
10	17/04/16	***Mid Term Break***		
11	24/04/16	*10.2 Infinite Series* *10.3 Integral test*	*1-18,27-34,49-68* *1-40*	
12	01/05/16	*10.4 Comparison test* *10.5 Ratio test*	*1-16, 17-34* *1-44*	
13	8/05/16	*10.6 Alternating series: AC&CC* *10.7 Power series*	*1-40* *1-14,41-46*	
14	15/05/16	*10.8 Taylor & Maclaurin series*	*1-6,11-18, 23-26*	
15	22/05/16	*10.9 Convergence of Taylor series*	*1-34*	
16	29/05/16	*10.10 Applications of Taylor Series*	*1-14,15,16,19,20,22*	
17	05/06/16			