



Course Syllabus Form

1. College: Science						
2. Department: Mathematics						
3. Program: B.Sc. (Engineering and IT students only)						
4. Course code: Maths 102						
5. Course title: Calculus II						
6. Course credits: Credit Hours 3 Lab Hours 0 Lecture Hours 3						
7. Pre-requisites: Maths 101						
8. Course web-page: www.abdullaaid.net/MATHS102						
9. Course coordinators: Dr. Abdulla Eid						
10. Academic year: 2018 – 2019						
11. Semester:			First	✓	Second	Summer
12. Textbook(s): <p style="text-align: center;">Thomas Calculus (Early Transcendentals), 13th edition (Pearson)</p>						
13. References: <p>1) Calculus, by Smith and Minton. 4th edition (McGraw-Hill).</p> <p>2) Paul's Online Math. Notes : http://tutorial.math.lamar.edu</p>						
14. Other resources used (e.g. e-Learning, field visits, periodicals, software, etc.):						
15. Course description (from the catalog): <p><i>Applications of definite integrals, including areas, volumes and surface areas of solids of revolution, arc length and centroids. Transcendental functions, indeterminate form and L'Hopital's Rule. Techniques of integration and improper integrals. Infinite series, power series. Maclaurin and Taylor Theorem.</i></p>						
16. Course Intended Learning Outcomes (CILOs):						
1. Use integrals to evaluate areas between curves and volumes of solids of revolution.						
2. Apply L' Hopital's rule to evaluate limits of indeterminate forms.						
3. Evaluate integrals using various techniques of integration including integration by parts, trigonometric substitutions, and partial fractions.						
4. Recognize and evaluate improper integrals.						
5. Determine the convergence or divergence of a sequence of real numbers.						
6. Use various tests (divergence nth term test, integral test, comparison tests, alternating series tests, ratio test, and root test) to study the convergence of series of real numbers.						
7. Determine the radius and interval of convergence of a power series.						
8. Determine Taylor and Maclaurin polynomial and series of functions.						
9. Apply Taylor and Maclaurin series to approximate definite integrals and to evaluate limits.						

17. Course assessment:					
Assessment Type	Assessment details		Number	Weight	
Quizzes			-		
Tests	Test #	CILOs covered	2	50 %	
	1	1,2,3.			
	2	3,4,5,6.			
Laboratory/Practical			-		
Assignments/Home works	H.W. #	CILOs covered	10	10 %	
	1	LO1			
	2	LO2			
	3	LO3			
	4	LO3			
	5	LO3			
	6	LO5			
	7	LO6			
	8	LO6			
9	LO7, 8, 9				
Projects/Case Studies			-		
Final	CILOs 1,2,3,4,5,6,7,8,9		1	40%	
Total			12	100%	
18. Assessment Details:					
Exam	Weight	Time	Date	Place	Material
Test 1	25%	T.B.A.	T.B.A.	T.B.A.	5.6 – 8.3
Test 2	25%	T.B.A.	T.B.A.	T.B.A.	8.4 – 10.3
Final exam	40%	8:30 – 10:30	8 - 6 – 2019	-	Comprehensive
19. Course Instructors:					
Sections	Name			Office	
1,2	Dr. Abdulla Eid			S41-2098	
3	Dr. Thurayya Juma			S41-2089	
4	Dr. Naeem Alkomi			S41-2038	
5	Dr. A. Hadi Belkhairat			S41-2088	
7,8	Dr. Mohammed Labbi			S41-2050	
9					
12	Dr. Anwar Abdulhusain			S41-2131	
10,11	Dr. Khalid Amin			S41-2100	
20. Attendance Policy:					
<p>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 automatic withdrawal of the student from the course, regardless of the causes for his/her absence.</p> <p>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.</p> <p>b) A grade of (WF) is given to a student who misses 25% or more, but with no valid excuse.</p>					
21. Academic Honesty and Plagiarism:					
<p>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.</p>					

22. Course Weekly Breakdown

Week	Date	Topics covered	CILOs	Teaching Method	Assessment	Examples	Suggested Problems
1	10 / 2 / 2019	5.6 Area 6.1 Volume	1	Lecture & Problem solving	Test 1, HW1 & final exam	5-7 4-10	47-62, 63-68, 73-76 15-22, 39-42, 51-53
2	17 / 2 / 2019	6.1 Volume 6.2 Volumes using cylindrical shells	1	Lecture & Problem solving	Test 1, HW1 & final exam	4-10 2, 3	15-22, 39-42, 51-53 1-6, 15-26
3	24 / 2 / 2019	4.5 L'hopitals rule 7.3 Hyperbolic Functions	2 3	Lecture & Problem solving	Test 1, HW2 & final exam	1-8 1(a)	1-74 1-10, 13-24
4	3 / 3 / 2019	8.1 Integration by parts	3	Lecture & Problem solving	Test 1, HW3 & final exam	1-4, 6- 8	1-50
5	10 / 3 / 2019	8.2 Trigonometric Integrals 8.3 Trigonometric Substitutions	3 3	Lecture & Problem solving	Test 2, HW4 & final exam	1-7 1-3	1-22, 23-26, 33-56 1-46
6	17 / 3 / 2019	8.4 Integral of Rational functions 8.6 Numerical Integration	3 3	Lecture & Problem solving	Test 2, HW5 & final exam	1- 9 1, 2	1-42 1-10 (a)
7	24 / 3 / 2019	8.7 Improper integrals	4	Lecture & Problem solving	Test 2 & final exam	2-7	1-27, 40, 50, 55, 56, 60
8	31/ 3 / 2019	Midterm Break	-	-	-	-	-
9	7 / 4 / 2019	10.1 Sequences 10.2 Infinite Series	5 6	Lecture & Problem solving	Test 2, HW6 & final exam	3, 4, 7-9 1, 2, 5, 7, 9	1-6, 27-62 7-60, 63-68
10	14 / 4 / 2019	10.2 Infinite Series 10.3 The Integral Test	6 6	Lecture & Problem solving	Test 2, HW7 & final exam	1, 2, 4, 5, 7, 9 3, 4, 5	7-60, 63-68 1-10, 11-38, 49-52
11	21 / 4 / 2019	10.4 Comparison Tests 10.5 The Ratio and Root Tests	6 6	Lecture & Problem solving	HW7 & final exam	1(a,b), 2(a,b) , 3 1-3	1-8, 9-16, 17-49 1-43, 47, 49, 54
12	28 / 4 / 2019	10.6 Alternating Series , Absolute and conditional convergence	6	Lecture & Problem solving	HW8 & Final exam	1, 4, 5	1-36, 49-54
13	5/ 5 / 2019	10.6 Alternating Series , Absolute and conditional convergence 10.7 Power Series	6 7	Lecture & Problem solving	HW9 & Final exam	1, 4, 5 1-6	1-36, 49-54 1-32, 41-48
14	12 / 5 / 2019	10.7 Power Series 10.8 Taylor and Maclaurin Series	7 8	Lecture & Problem solving	HW10 & Final exam	1-6 1-3	1-32, 41-48 1-26
15	19 / 5 / 2019	10.9 Convergence of Taylor Series 10.10 Applications of Taylor Series Last day of classes (May 30 ,2019)	8 9	Lecture & Problem solving	Final exam	4, 5 1, 2, 3, 5, 6, 7	1-10, 11-23, 35, 36 15-22, 29-34 41--59

ONLINE HOMEWORK'S

H.W #	Assignment coverage	Date "Start" (D/M/Y) 1:00 am	Date "Due" (D/M/Y) 11:59 pm
1	Section 5.6	16/2/2019	22/2/2019
1	Sections 6.1 , 6.2	23/2/2019	1/3/2019
2	Section 4.5	23/2/2019	8/3/2019
3	Section 8.1	2/3/2019	22/3/2019
4	Sections 8.2 , 8.3	9/3/2019	19/4/2019
5	Section 8.4 , 8.6, 8.7	13/4/2019	3/5/2019
6	Sections 10.1 , 10.2	20/4/2019	10/5/2019
7	Sections 10.3 , 10.4	27/4/2019	17/5/2019
8	Sections 10.5 , 10.6	2/5/2019	24/5/2019
9	Sections 10.7, 10.8	2/5/2019	24/5/2019

There will be **three bonus** homework during the semester

2018 students

Mymathlab account

Section(s)	System	Course ID
All Sections	MyMathLab www.mymathlab.com	eid90336

2017 or previous students

Section(s)	System	Course ID
All Sections	BlackBoard www.bb.uob.edu.bh	No need Log it with your SIS username and password