جامعة الكويت
Kuwait University

كلية العلوم الحياتية
College of Life Sciences

Department of Information Science

Course Contract (Course outline and Syllabus)

Year			

Course Code	Course Title	Credit Hours
CLS108	Applied Calculus	3-0-3
Course Days	**Course Timing**	**Lecture Room Location**

Course Instructor	Office	Office Tel. Ext.
Email	**Office Hours**	

Teaching Assistant	Office	Office Tel. Ext.
Email	**Office Hours**	**Laboratory Location**

Course Catalog Description
This course reviews areas of basic mathematics such as trigonometry, analytical geometry in two dimensions, linear equations, functions and their graphs, derivatives and its geometric interpretation, simple integration and its application. (Problems will be focused on the following areas: Food nutrition, information technology, environmental sciences, etc.).
Prerequisites: ELU 106
Textbook
Applied Calculus, S. Waner & S.R. Costenoble, Thomson Brooks-Cole, 7th Edition
References
Calculus and its Applications Goldstein/Schneider/ Lay/Asmar, Prentice Hall

Course Assessment Plan				
Assessment	**Weight**		**Date***	
Midterm I				
Midterm II				
Final Exam				
Home works				
Quizzes				
Project	**Report:**	**Presentation:**	**Report Submission:**	**Presentation:**

* All dates are tentative and may be subject to change.

Topics Covered in this Course			
#	Unit #	Topic	No. of teaching hours
1	1	Functions and linear models. Function terminology, linear functions and linear models.	5
2	2	Nonlinear models. Quadratic, exponential, logarithmic, trigonometric functions	7
3	3	Introduction to the derivative. Limits, average rate of change; numerical, algebraic viewpoint of the derivative; derivative of elementary functions, sums, differences and constant multiples.	6
4	4	Techniques of differentiation. The product and quotient rules, the chain rule, the derivative of logarithmic, exponential, trigonometric functions; implicit differentiation.	6
5	5	Applications of the derivative . Local maximum and minimum, inflection points, graph sketching, optimization problems.	6
6	6	The integral. The definite integrals, substitution, the definite integrals as sums, as areas; the fundamental theorem of calculus.	6
7	7	Further integration techniques and applications of integrals. Area between curves, the average value of a function.	3
8	8	Functions of several variables. Functions of several variables, and the partial derivatives.	3

Course Learning Outcomes				
CLO #	**CLO statement**	**CLO mapped to course unit**	**CLO Level**	**Student Outcomes**
C1	Use elementary functions in modeling real-life situations	Unit 1,2	L	(1)
C2	Comprehend the role of derivative as instantaneous rate of change and its meaning in dynamics of processes	Unit 3,4,5	L	(1)
C3	Conduct the principal techniques of differentiation and apply them in investigation of functions behavior	Unit 3,4,5	L	(1)
C4	Apply basic techniques of integration to solve standard type of problems	Unit 6,7	L	(1)
C5	Deploy differentiation techniques in more complex problems involving functions of several variables	Unit 8	L	(1)

Description of Student Outcomes (High)	
SO #	**Student Outcome statement**
	None

University Grading Policy

Range	95 ~ 100	90 ~ 94	87 ~ 89	83 ~ 86	80 ~ 82	77 ~ 79	73 ~ 76	70 ~ 72	65 ~ 69	60 ~ 64	Less than 60	Fail for Absence
Weight	4.00	3.67	3.33	3.00	2.67	2.33	2.00	1.67	1.33	1.00	0.00	0.00
Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	F	FA

General Policies

Group Work and Cheating Policy: Group work is encouraged for solving assignments. However, copying and claiming someone else's work is not accepted at all. It will be reported and penalized according to the university cheating rules.

Homework Policy: All assignments must be submitted in class and on Black Board on the due date. Late assignments will not be accepted.

Attendance Policy: You should attend the section you are registered in. Attending a section which you are not registered in is NOT PERMITED for any reason. Students are encouraged to come to class early. Plan to arrive to class 5 minutes before class starts. To avoid class disturbance, please do not negotiate entrance while the class is going on.

Absence Rules: According to university rules:

•The first warning is issued after 3 hours of absence.

• The second (final warning) is issued after 6 hours of absence.

• An "FA" (Fail for Absence) grade is issued after 7 hours of absence.

Note: Field marked with RED color means it should be same as CDF.

Course Weekly Breakdown

Dates*	Topics	Comments
Week 1		
Week 2		
Week 3		
Week 4		
Week 5		
Week 6		
Week 7		
Week 8		
Week 9		
Week 10		
Week 11		

Week 12		
Week 13		
Week 14		
FINAL EXAM		

* All dates are tentative and may be subject to change.