Hashemite University		Calculus (1) (110108101) **3 Credit Hours**
Faculty of Science		**Pre-requisite:** None
Department of Basic Science Support	**Course Syllabus**	

Course Information	
Lecture's Time	
Lecture Room	
Section	
Instructor	***Dr. khaled ahmad aqeel alzoub'i***
Office Location	
Office Hours	
Text Book : Calculus, edition: Calculus, ***Stewart, Inc.*** 7^{th}	
References(s)	1. Calculus, by Thomas and Finney, 1996, Addison - Wesley publishing Company 2. Calculus with Analytic Geometry, by Sowkowiski, 1979, Prindle weber and sehmidl. 3. Calculus with Analytic Geometry, by Leithold, 1986, Harper and Row publishers.

Grading plan

first		**30 %**
second		**30 %**
Final Exam		**40 %**

Course Objectives

To study functions, limits of functions, continuity, derivatives, some applications on derivatives, integration and some applications on integration.

Teaching and Learning Methods

1. Introducing new definitions and using examples to illustrate new concepts.
2. Introducing theorems, and their applications.
3. Discussing some of the students' solutions of some sample assignment.
4. Making a discussion of the problems of each exam.

Course Contents		
Sec. In Text	**Topics**	**Week**
1.1	Four Ways to Represent a Functions	1
1.2	Mathematical Models: A Catalog of Essential Functions	
1.3	New Functions From Old Functions	
1.5	Exponential Functions	
1.6	Inverse Functions and Logarithmic	2-3
2.2	The Limit of Functions	
2.3	Calculating Limits Using the Limit Laws	4-5
2.5	Continuity	
2.6	Limits at Infinity; Horizontal Asymptotes	6
2.7	Derivatives and Rates of Change	
2.8	The Derivative as a Function	7
3.1	Derivatives of Polynomials and Exponential Functions	
3.2	The Product and Quotient Rules Introduction to Techniques of Differentiation	
3.3	Derivatives of Trigonometric Functions	8
3.4	The Chain Rule	
3.5	Implicit Differentiation	9
3.6	Derivative of Logarithmic Functions	
3.11	Hyperbolic Functions	
4.1	Maximum and Minimum Values	9-10
4.2	The Mean-Value Theorem	
4.3	How Derivatives Affect the Shape of a Graph	
4.4	Indeterminate Forms and L'Hôpital's Rule	11
4.5	Summary of Curve Sketching	
4.9	Antiderivatives	12
5.1	Areas and Distances	
5.2	The Definite Integral	
5.3	The Fundamental Theorem of Calculus	13
5.4	Indefinite Integrals and the Net Change Theorem	
5.5	The Substitution Rule	
6.1	Area Between Curves	14-15
6.2	Volumes	
6.3	Volumes by Cylindrical Shells	

ttendance is absolutely mandatory. Students who miss a 15% class sessions without a

mpelling excuse will qualifies the student to be dismissal.