



Sub.	Course Syllabus (البرنامج الدراسي) منهج المادة	الموضوع	 كلية المعرفة ALMAAREFA COLLEGE
Year	1436/1437 - 2015/2016	العام	


College	AIMAAREFA COLLEGE
Department	Pharmacy

Course Code	MATH 201
Course Name	Mathematics for Pharmacy
Credit Hours	2 (2 + 0 + 0)
Instructor	Farhana Yasmin
Office & Office Hours	CABIN NO.13, 2 nd floor, Sunday – 1:00 to 3:00 Tuesday – 2:00 to 3:00
Email	fyasmin@mcst.edu.sa


Course Description	This course is designed to provide calculus for students of pharmacy who intend to apply these concepts in their professional course work. Students are expected to develop an understanding of the derivative as an instantaneous rate of change and use this definition to find derivatives of many types of functions and combinations of these functions including algebraic, trigonometric, exponential and logarithmic functions. They also will develop the idea that integration is the inverse operation to differentiation. Students are also exposed to linear first-order differential equations and their applications in health sciences.
Prerequisite(s)	None
Textbook(s) & Supplementary Materials	Primary: Arya JC, Lardner RW. <i>Mathematics for the Biological Sciences</i> . Prentice-Hall ISBN: 0-13-562439-8. Optional: Introductory Mathematics for the Life Sciences by David Phoenix, Taylor & Francis, London, 1997.
Student Outcomes (SO) Addressed by the Course	a) Show understanding of the basic principles of calculus. b) Gain an understanding of basic single-variable calculus and its applications including functions, limits, differentiation, integration and differential equations and their applications. c) Be exposed to the properties of exponential functions and inverse functions and logarithms. d) Show understanding of the integration of various functions including algebraic, trigonometric, exponential and inverse functions. e) Show understanding of the various techniques of integration including integration by substitution, partial fractions, integrating factor and integration by parts. f) Apply the fundamental theorem of calculus to evaluate definite integrals. g) Be familiar with separable linear first-order differential equations and their solution by finding the antiderivative.

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Major Topics Covered	<ol style="list-style-type: none"> 1) Real Numbers. 2) Basic Algebra and measurement 3) Powers and scientific notation 4) Functions: <ul style="list-style-type: none"> ○ Linear functions. ○ Other simple functions. 5) Trigonometry Functions 6) Presentation of statistical data <ul style="list-style-type: none"> ○ Measurement of central tendency ○ Linear regression and correlation 7) The derivatives: <ul style="list-style-type: none"> ○ Limits. ○ Continuous functions. ○ The derivative. ○ Derivatives of algebraic functions. ○ Derivatives of products and quotients. ○ Higher derivatives. ○ Derivatives of composite functions. 8) Exponential and Logarithm Functions: <ul style="list-style-type: none"> ○ Exponential function. ○ Inverse functions and logarithm. ○ Plots and graphs: <ul style="list-style-type: none"> ○ Natural logarithms and exponents. ○ Exponential growth and decay. 9) Integration: <ul style="list-style-type: none"> ○ Antiderivatives ○ Integration techniques: <ul style="list-style-type: none"> ○ Integration by substitution. ○ Method of partial fractions ○ Integration by parts. ○ The definite integral. ○ Areas. ○ Volumes.
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	10) Differential Equations:	
Assessment & Evaluation Plan for the Course *	<i>Homework Assignments</i>	5 points
	<i>Quizzes</i>	10 points
	<i>Attendance</i>	5 points
	<i>Two Midterm Exams</i>	20 points each
	<i>Final</i>	40 points
Policies *	1. Type all homework, you may use some tools e.g., MS Office, Visio, etc. 2. Students can discuss homework, but no copying!, according to the college bylaws the minimum penalty of plagiarism is failing the course. 3. Late Submission Penalty negative marking.	

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CALENDAR & OUTLINE OF TOPICS

WEEK	DATE	TOPICS	DUTIES/TASKS DUE DATES
1	23/08/2015	Real Numbers	
2	30/08/2015	Real Numbers	
3	6/09/2015	Basic Algebra and measurement	QUIZ 1
4	13/09/2015	Basic Algebra and measurement	
5	4/10/2015	Powers and scientific notation Functions /Linear functions.	HW 1
6	11/10/2015	Functions /Linear functions.Other simple functions.	
7	18/10/2015	Other simple functions	MIDTERM 1
8	25/10/2015	Trigonometry Functions	
9	1/11/2015	Presentation of statistical data / Measurement of central tendency	QUIZ 2
10	8/11/2015	Linear regression and correlation	
11	15/11/2015	Limits and Continuous functions	MIDTERM 2
12	22/11/2015	Derivative	
13	29/11/2015	Derivative.	
14	6/12/2015	Integration	HW 2
15	13/12/2015	Integration	
16	20/12/2015	Revision	
17 & 18	27 / 12/2015	FINAL EXAMS	FINAL EXAMS

* According to the department council approval