Course Syllabus

First Semester – 2013/2014

General Information

Course name	Course code	Credits	Contact hours
Applied Mathematics 2	BMTS354	2 lecture	2 lecture

Instructors/ Coordinators

	Instructor	Coordinator
Name	Dr. Mohammad Al-Hawari	Dr. Mohammad Al-Hawari
Email	m.alhawari@mu.edu.sa	m.alhawari@mu.edu.sa
Ext	2815	2815

Text Book

Title	Mathematics for Engineering
Author/Year	Antony Croft and Robert Davision / 2004

Supplemental materials

Recommended Textbooks and Reference Material		
Title	Engineering Mathematics	
Author/Year	M.K. Venkatraman / 2001	
Electronic Materials (eg. Web Sites, Social Media, Blackboard, etc.)		
Web sites	http://findpdf.net/documents/engineering-maths-by-m-k-venkataraman-text-pdf-download.html	http://tutorial.math.lamar.edu/Classes/CalcI/CalcI.aspx
	http://findpdf.net/documents/engineering-maths-by-m-k-venkataraman-text-pdf-download.html	http://tutorial.math.lamar.edu/Classes/CalcI/CalcI.aspx

Specific Course Information

a. Brief description of the content of the course (Catalog Description)

This mathematics course focus on the function: function rule, the graph of a function, composition of functions, operation and characteristics of functions, periodic functions, linear functions, common biomedical engineering functions. It covers also, differentiation, higher derivatives, logarithmic differentiation, maximum and minimum of a function, integration and operation, area bounded by a curve. The calculation of centers of mass, moment of inertia, length of a curve and the area of a surface of revolution, Mean and root-mean-square value of a function, basic concepts of differential equations, solving first and second order of linear and differential equations will also be covered.

b. Prerequisites (P) or Co-requisites (C)

(P) Applied Mathematics 1 – BMTS243

c. Course type (Mandatory or Elective)

Mandatory

Specific Goals

a. Specific outcomes of instruction
By the end of this course, the student will be able to: - Classify functions. (a) - Operate on integration of a function. (b) - Analyze and solve problems on differential equations. (f)
b. Student outcomes addressed by the course

a	b	c	d	e	f	g	h	i	j	k
✓	✓				✓					

Brief list of topics to be covered

Topics	No of Weeks	Contact hours
Function rule, the graph of a function, composition of functions and characteristics of functions.	1	2
Linear functions , periodic functions, and common biomedical engineering functions	2	4
Differentiation and higher derivatives	2	4
Logarithmic differentiations, Maximum and minimum of a function	2	4
Integration	2	4
Calculation of center of mass ,length of a curve and the area of a surface of revolution, Mean and root-mean-square value of a function	2	4
Differential equations	2	4
First order differential equations	1	2
Second order differential equations	1	2