



Philadelphia University

Faculty of Science
Department of Basic
Sciences and Mathematics

General Mathematics
Second (spring) Semester
2009/2010

Syllabus

Course Title	Course Code	Course Credits	Course Prerequisite
General Mathematics	0210105	3 Hours	No Course

Lecturer Name	Rank	Office hours	Address
Ramzi Albadarneh	Assistant. Prof	Sunday, Tuesday, Thursday 12-1	Office Number:15203
			Place: Faculty of Nursing
		Monday, Wednesday 11-12:45	Phone extension: 2473
			E-mail: rbadarneh@ philadelphia.edu.jo

Course Description:

In this course, General Mathematics, we study basic algebra, Algebraic operations, graphs, algebraic expressions and their simplification, linear, quadratic, irrational equations, inequalities, simultaneous equations, some application on economics. Also we study the rules of differentiation, integration, partial differentiation to functions of several variables and their applications on economic. Finally, we study some basic operation on matrices, the inverse and we solve system of equations using the properties of matrices such as Cramer's Rule.

Textbook:

1) (Required)

Mathematics for Economics and Business By: Ian Jacques 6th Edition.

2) (Optional - not required – only for those who need extra assistant)

Student Study Pack for College Mathematics for Business, Economics, Life Sciences, and Social Sciences: Raymond A. Barnett, Michael R. Ziegler and Karl E. Byleen ISBN: 0-13-163170-5

Allocation of Marks

	Marks	Date	Time	Place
First Exam	15%			
Second Exam	15%			
Three Short Exams	20%			
Final exam	50%			

Course Academic Calendar:

Week		Hours
1-3	<u>1- Linear Equations:</u> 1.1&1.2 Introduction to algebra, Further algebra 1.3 Graphs of linear equations. 1.4 Algebraic solution of simultaneous linear equations. 1.5 Supply and demand analysis. 1.6 Transposition of formulae.	3 1 2 1 2
4-6	<u>2- Non-linear Equations:</u> 2.1 Quadratic functions. 2.2 Revenue, cost and profit. 2.3 Indices and logarithms. 2.4 The exponential and natural logarithm functions.	2 2 2 2
7	FIRST EXAM	1
7-8	<u>4- Differentiation:</u> 4.1 The derivative of a function. 4.2 Rules of differentiation. 4.3 Marginal functions. 4.4 Further rules of differentiation. 4.6 Optimization of economic functions. 4.8 The derivative of the exponential and natural logarithm functions.	1 1 1 1 1 1
8-10	<u>5- Partial Differentiation:</u> 5.1 Functions of several variables. 5.4 Unconstrained optimization. 5.5 Constrained optimization. 5.6 Lagrange multipliers.	3 2 2 2
11	SECOND EXAM	1
11-12	<u>6. Integration:</u> 6.1 Indefinite integration. 6.2 Definite integration, application on economics.	2 3
13-14	<u>7. Matrices:</u> 7.1 Basic matrix operations. 7.2 Matrix inversion. 7.3 Cramer's rule.	3 1 2
16	<u>Final Exam</u>	2

Exercises:

Section	Question number	Page
1.1	1-7 & 11-16	30-31
1.2	1,2,3 & 6-11	48-49
1.3	1-7	64-65
1.4	1-4	77
1.5	5,6	97
1.6	4,6	107
2.1	1-7	143-145
2.2	1,3,5,	156
2.3	1,2,3,4,6,7,8,9,10,11,12	177-178
2.4	3,4	191
4.1	1,2,4,5,6,7	273-274
4.2	1,2,3,4,5,6,7,8	282-283
4.3	1,2,3,4,5	297
4.4	1,2,3,4,5,6	307
4.6	1,2,3, 4,5,6,7	342-343
4.8	1,2,3,4,5,6,7,8,9,10	365-366
5.1	1,2,3,4,5	382
5.4	1,2,3,4	427
5.5	1,2,3,4,5,6	440
5.6	1,2,3,4	451
6.1	1,2,3	468
6.2	1,2,3,4,5	483
7.1	1,2,3,4,5,6,7,8	503-504
7.2	1,2,3,4,5	525
7.3	1,2,3,4,5	537-538