AAU

KING ABDULAZIZ UNIVERSITY
ACADEMIC ASSESSMENT UNIT

COURSE PORTFOLIO

FACULTY OF SCIENCE

MATHEMATICS DEPARTMENT

COURSE NAME:	Real Analysis II
COURSE NUMBER:	**M A T H 3 1 2**
SEMESTER/YEAR:	**2nd Term 1440/1441**
DATE:	**24 /5 /1441**

PART II

COURSE SYLLABUS

ACADEMIC ASSESSMENT UNIT

Instructor Information

Name of the instructor: Dr. Fatma Alserehi
Office location: Room:16 C Building: 7
Office hours:

	Sun	Mon	Tue	Wed	Thurs
Time	11-12 1-2		1-2		1-2

Contact number(s): 63637
E-mail address(s): falserehi@kau.edu.sa

Course Information

Course name: Real Analysis II
Course number: **Math 312**
Course meeting times:

	Sun	Mon	Tue	Wed	Thurs
Time	10-11 12-1		10-11		10-11

Place: Room: 1142 Building:7
Course website address: www.kau.edu.\falserehi
Course prerequisites and requirements:

Course name	Course number
Real analsis I	311

Description of the course:
(what, why, philosophy, teaching methodology)

Riemann Integration.
Series of real numbers.
Sequences and series of functions.
Topology of R^n.
Completeness and compactness' in R^n.
Continuity and uniform continuity of functions.
Differentiability of functions.
Inverse Function Theorem.
Implicit Function Theorem.

Course Objectives

To continue the treatment of Math 311 rigorously.
To extend the concepts of analysis for the space R to the space R^n.
To practice the methods and strategies of solving problems and writing proofs.

Learning Resources

Textbook: Title : Eelements Of Real Analysis, 2nd Edition.
Author: R. G. Bartle.
Publisher: John Wiley and Sons, New York (1976).
Found in: Library

Reading material: Title: Introduction to Real Analysis, 3rd Edition.
Author: R. G. Bartle.
Publisher: John Wiley and Sons, New York (1976).

Title: Elementary Analysis: The Theory of Calculus.
Author: K.A. Ross.
Publisher: Springer- Verlag, New York (1980).

Course Requirements and Grading

Student assessment:
(A clear rationale and policy on grading)

First exam (15%)

Second exam (15 %)

Third exam (15 %)

Fourth exam (15 %)

Final 40% .

Total 100%.

Expectations from students:
(Attitudes, involvement, behaviors, skills, and ethics)
She is expected to be regular in her classes. She must respect the teacher as well as other students in the same class .The student must be cooperative and helpful with others.

Student responsibilities to the course:
She should be well versed in the pre-requisites of the course and should be willing and able to complement her knowledge through independent study.

Expectations for each assignment and project:
Each assignment is designed to drill the student in applying her knowledge gained in the class-room to solve problems of varying degree of complexity. She should solve the assignment by her own efforts and submit it before the due date.

Important rules of academic conduct:
Respect of University rules and regulations, personal integrity, devotion to duty.

Lab plan and assignments:
(if it applies)
Not applicable.

Course Schedule Model
(meeting three times a week)

Week #	Topic	Reading Assignment	What is Due?
2	Topology Of R^n		
	Topology Of R^n		
	Topology Of R^n		
	Topology Of R^n		
3	Topology Of R^n		
	Section		
	Compactness		
	Compactness		
4	Compactness		
	Section		
	Completeness		
	Completeness		
5	First Quiz		
	Section		
	Continuity of Functions		
	Continuity of Functions		
6	First Exam		

Week #	Topic	Reading Assignment	What is Due?
	Section		
	Continuity of Functions		
	Differentiability of Functions		
7	Differentiability of Functions		
	Section		
	Differentiability of Functions		
	Differentiability of Functions		
9	Inverse Function Theorem		
	Section		
	Inverse Function Theorem		
	Inverse Function Theorem		
10	Implicit Function Theorem		
	Section		
	Implicit Function Theorem		
	Implicit Function Theorem		
11	Second quiz		
	Section		
	Riemann Integration		
	Riemann Integration		
12	Second Exam		
	Section		
	Riemann Integration		

Week #	Topic	Reading Assignment	What is Due?
	Series of Real Numbers		
13	Series of Real Numbers		
	Section		
	Series of Real Numbers		
	Series of Real Numbers		
14	Sequences and Series of Functions		
	Section		
	Sequences and Series of Functions		
	Sequences and Series of Functions		