Republic of Iraq

The Ministry of Higher Education

& Scientific Research

University: Kerbala
College: Education For Pure Sciences
Department: Mathematics
Stage: Three
Lecturer name: Amjad Hamead Ali
Academic Status:
Qualification: Lecturer
Place of work: University Of Kerbala

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Course Instructor	**Amjad Hamead Ali Alhusiny**				
E_mail	Amjadhh15@yahoo.com				
Title	Ring Theory				
Course Coordinator	Identification of rings, fields and modules				
Course Objective	Rings, fields and modules				
Course Description	A course of abstract algebra consisting of definitions of rings, fields and modules, with some of their details and basic theorems which descript some detals.				
Textbook	**Introduction to abstract and linear algebra by David M.Burton**				
Course Assessment	Term Tests	Laboratory	Quizzes	Project	Final Exam
	As (40%)	-----	As (10%)	----	As (50%)
General Notes	The course depends on the privies course in abstract algebra (Group Algebra) which studied in second class.				

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Course weekly Outline

week	Date	Topics Covered	Notes
1	3/10/2017	Rings (Definition-Examples and General Properties of Rings)	
2	8/10/2017	Integral domain, Division ring	
3	15/10/2017	Subrings (Definition, Examples)	
4	22/10/2017	characterization of subring, Center of a ring,	
5	29/10/2017	Field-Boolean rings	
6	5/11/2017	subfields (definition and examples)	
7	12/11/2017	**First test**	
8	19/11/2017	Ideals (Definitions and Examples), intersection of ideal, union of ideal	
9	26/11/2017	operations on ideals (addition of ideal, multiplication of ideals	
10	٣/12/2017	principal ideal ring-finitely generated ring	
11	10/12/2017	rings as direct sum of ideals.	
12	17/12/2017	Factor ring (definition and examples)	
13	24/12/2017	some relationships between a ring R and its factor ring	
14	31/12/2017	Ring homomorphism (definition and examples).	
15	7/1/2018	Kernel and image of ring homomorphism	
16	14/1/2018	Some basic properties of ring homomorphism	
	Half year Brake		
17	11/2/2018	Fundamental theorems of ring homomorphism	
18	18/2/2018	Embedding of ring and theorem of embedding.	
19	25/2/2018	maximal ideal, prime ideal	
20	4/3/2018	Semi-prime ideal, primary ideal	
21	11/3/2018	radical of ideals	
22	18/3/2018	Polynomial ring (definition and examples)	
23	25/3/2018	some relationships between a ring R and the polynomial ring	
24	1/4/2018	degree of polynomial (with some theorems)	
25	8/4/2018	Division Algorithm theorem	

26	**15/4/2018**	factor theorem, remainder theorem, irreducible polynomial	
27	**22/4/2018**	polynomial ring over a field F[x]	
28	**29/4/2018**	the quotient of polynomial ring over a field	
29	**6/5/2018**	Extension of fields	
30	**13/5/2018**	calculating extension field of certain field	
31	**20/5/2018**	Modules, submodules, factor modules	
32	**27/5/2018**	homomorphism of modules	

Instructor Signature: **Dean Signature:**