

توصيف مقرر دراسي

جامعة : المنصورة

كلية العلوم

قسم : الرياضيات

١- بيانات المقرر		
المستوى: الثاني	اسم المقرر : Abstract Algebra (1)	كود المادة : Math 212
عدد الوحدات الدراسية: ٣ ساعة معتمدة نظري ٢: تمارين: ٢ عملي: ٠		التخصص : رياضيات

<p>٢- هدف المقرر :</p> <p>1- Introduce the basic ideas of groups and rings with a good range of examples so that the student has some familiarity with the fundamental concepts of abstract algebra and a good grounding for further study. As a prerequisite to the abstract algebra 2 which will in given be the third year for mathematicians.</p>	
٣- المستهدف من تدريس المقرر	
<p>a- Knowledge and Understanding</p> <p>On completing this course, students will be able to:</p> <p>a1- Understand the basic definitions and theories of groups and rings.</p> <p>a2- know the basic concepts of algebra such as subgroups , cyclic groups, finite groups, rings, fields.</p> <p>a3 – familiar with the algebraic structures of factor groups and factor rings.</p> <p>a4 – be aware of the relation between algebraic structures</p>	أ- المعلومات و المفاهيم :
<p>b- Intellectual Skills:</p> <p>On completing this course, students will be able to:</p> <p>b1- Find the structures of all finite groups of small orders.</p> <p>b2- Apply the basic concepts of normal subgroups and ideal to find a new structures such as factor and factor ring groups.</p> <p>b3- develop self-awareness and general study skills on the relation between groups and rings</p>	ب- المهارات الذهنية :
<p>c-Professional and Practical Skills :</p>	ج- المهارات المهنية الخاصة بالمقرر :

<p>On completing this course, students will be able to:</p> <p>c1 - Handing-in of homework and attendance at tutorials described in the second Year Handbook.</p> <p>c2 - Solving some simple problems in groups and rings</p>	
<p>d-General and Transferable Skills :</p> <p>On completing this course, students will be able to:</p> <p>d1- Use Internet and Library to get information</p> <p>d2- Problem solving</p> <p>d3- Team work</p>	<p>د- المهارات العامة :</p>
<ul style="list-style-type: none"> • Maps, kinds of maps, operations, groupies and all essential kinds of groupies • Groups and subgroups and its properties • Cyclic groups. • Symmetric groups and permutation groups • Normal subgroups and factor groups • Homomorphism theorems of groups and Automorphisms group. • Direct product and inner product of groups. • P-Groups and Sylow Theorems. • Rings and fields. 	<p>٤- محتوى المقرر :</p>
<p>1- Lectures (2H/W)</p> <p>2- Tutorials (2H/w)</p>	<p>٥- أساليب التعليم و التعلم</p>
<p>The same as normal students, only skeletal disabilities are allowed in the Faculty of Science.</p>	<p>٦- أساليب التعليم و التعلم للطلاب ذوي القدرات المحدودة</p>
<p>٧- تقويم الطلاب :</p>	
<p>1- Oral exam to assess a1,a2, b2,b1,c2, d1, d3</p> <p>2- Mid-Term Examination to assess a1, a2, b1,b2,c1</p> <p>3- Final exam to assess a1,a2,a3,a4,b1,b2,b3,c1,c3,d2</p>	<p>أ- الأساليب المستخدمة</p>
<p>1- Oral week 14</p> <p>2- Mid-Term Examination week 7</p> <p>3- Final exam week 16</p>	<p>ب- التوقيت</p>
<p>- Mid-Term Examination 10 %</p>	<p>ج- توزيع الدرجات</p>

- Final-Term Examination 80%	
- Oral Examination 10%	
- Practical Examination 0%	
- Semester work 0%	
- Other types of assessment 0%	
Total 100%	
٨- قائمة الكتب الدراسية و المراجع :	
Lectures notes available in the Dept	أ- المذكرات
Elements of Abstract Algebra	ب- الكتب ملزمة
1- Abstract Algebra, by John A. Beachy and William D. Blair. 2- John B. Fraleigh, A first course in Abstract algebra, Addison-Wesley	ج- كتب مقترحة
http://joshua.smcvt.edu/linearalgebra/ http://www.math.unl.edu/~tshores1/linalgtext.html http://www.math.niu.edu/~beachy/aaol/	د- دوريات علمية أو نشرات ... الخ

(أ) مصفوفة المعارف والمهارات المستهدفة من المقرر الدراسي

المحتويات للمقرر	اسبوع الدراسة	المعارف الرئيسية	مهارات ذهنية	مهارات مهنية	مهارات عامة
Maps, kinds of maps, operations, groupies and all essential kinds of groupies	1	a1, a2	b1	c1, c2	d1-d3
Groups and subgroups and its properties	2-3	a1,a2,a4	b1	c1, c2	d1-d3
Cyclic groups.	4-5	a1,a2,a4	b1	c1, c2	d1-d3
Symmetric groups and permutation groups	6	a1,a2,a4	b1, b2	c1, c2	d1-d3
Normal subgroups and factor groups	7	a1-a4	b1, b2	c1, c2	d1-d3
Homomorphism theorems of groups and Automorphisms group.	8-9	a1-a4	b1, b2	c1, c2	d1-d3
Direct product and inner product of groups.	10-11	a1-a4	b1, b2	c1, c2	d1-d3
p-Groups and Sylow Theorems.	12	a1-a4	b2	c1, c2	d1-d3
Rings and fields.	13	a1-a4	b3	c1, c2	d1-d3

Review	14				
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أستاذ المادة : د. صالح المهدي

رئيس مجلس القسم العلمي : ا.د. مجدى الياس فارس