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توصيف مقرر دراسي

جامعة : المنصورة

كليـة : العلــــــوم

قســـم : الرياضيات

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		١- بيانات المقرر

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	اسم المقرر :	
المستوى: الثالث	Abstract Algebra (3)	**كود المادة : Math 322**
عدد الوحدات الدراسية: ٣ ساعة معتمدة نظرى ٢: تمارين: ٢ عملى: ٠		التخصص : رياضيات

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For students undertaking this course, the aims are to: - introduce quotient structures and their connection with homomorphism in the context of rings and then again in the context of groups; - present further important examples of groups and rings and develop some of their properties with particular emphasis on polynomial rings, factorization in rings and group actions. As a prerequisite to the advance course of algebra .	٢- هدف المقرر :
	٣- المستهدف من تدريس المقرر
a- Knowledge and Understanding **On completing this course, students will be able to:** a1- Understand the basic definitions and theories of rings and Fields. a2 - know the algebraic structures of factor rings. a3 - demonstrate their understanding of how to produce roots of polynomials in extension fields.	أ- المعلومات و المفاهيم :
b- Intellectual Skills **On completing this course, students will be able to:** b1- find the structures of all different kinds of factor rings. b2- learn the basic concepts of extension algebra b3- study some important kinds of the extension fields	ب- المهارات الذهنية :
c- Professional and Practical Skills **On completing this course, students will be able to:**	ج- المهارات المهنية الخاصة بالمقرر :

c1 – use Gauss theorem and Eisenstein' criterion in solving problems c2 - solve a range of problems which require understanding of rings and fields	
d- General and Transferable Skills **On completing this course, students will be able to:** d1- Use Internet and Library to get information d2- manage the time d3- Problem solving d4- work in a team.	د- المهارات العامة :
− Euclidean domain and its properties − Polynomials over a ring and over a field − Prime and irreducible polynomials − Gauss theorem and Eisenstein' criterion − Field extensions, Splitting fields − Finite fields and its properties − Classification of extensions	٤- محتوى المقرر :
1- lectures, exercise sheets and solution sheets 2- Tutorials 3- Internet facilities	٥- أســــاليـــــب التعلـيـــــم و التعلــم :
The same as normal students, only skeletal disabilities are allowed in the faculty of science.	٦- أساليب التعليم و التعلم للطـــلاب ذوى القـــدرات المحـــــدودة :
	٧- تقويـــــــم الطــــــلاب :
1- Final exam to assess a1- a3, b1- b3, c1,c2 2- Oral exam to assess a1-a3 ,b1-b3,d1-d4 3- Mid-Term Exam to assess a1, a3, b1- b3, c1,c2	أ- الأساليب المستخدمة
1- Final exam week 15 2- Oral exam week 15 3- Mid-Term Exam week 7	ب- التوقيت
- Mid-Term Examination 10 - Final-Term Examination 80% - Oral Examination 10%	ج- توزيع الدرجات

- Practical Examination 0 Total 100%	
٨ـ قائمة الكتب الدراسية و المراجع :	
- Lecture Notes	**أـ المذكرات**
Elements of Abstract Algebra, by Dean	**بـ الكتب ملزمة**
1- Algebra, by Serge Lang. 2- Abstract Algebra, by John A. Beachy and William D. Blair. 3- John B. Fraleigh,A first cours in Abstract algebra, Addidon-Wesley 4- R.B.J.T. Allenby, Rings, Filds and Groups an Introduction to Abstract algebra, Addison-Wesley	**جـ كتب مقترحة**
http://joshua.smcvt.edu/linearalgebra/ http://www.math.unl.edu/~tshores1/linalgtext.html http://www.math.niu.edu/~beachy/aaol/	**دـ دوريـــات علميـــة أو نشرات ... الخ**

(أ) مصفوفة المعارف والمهارات المستهدفة من المقرر الدراسى

المحتويات للمقرر	اسبوع الدراسة	المعارف الرئيسية	مهارات ذهنية	مهارات مهنية	مهارات عامة
1 - Euclidean domain and its properties.	1-2	a1	b1 &b2	c1& c2	d1
2 - Polynomials over a ring and over a field.	3-4	a3	b2	c2	d1
3- Prime and irreducible polynomials.	5-6	a3	b2	c1	d2
4- Gauss theorem and Eisenstein' criterion.	7-8	a3	b3	c1	d3
5- Field extensions, Splitting fields.	9-10	a1& a2	b3	c2	d3
6 - Finite fields and its properties.	11-12	a1& a2	b3	c2	d4
7- Classification of extensions.	13-14	a3	b3	c2	d1

أستاذ المادة : د. مجدى حكيم

رئيس مجلس القسم العلمي : أ.د.مجدى إلياس فارس