

توصيف مقرر دراسي

١- بيانات المقرر		
المستوى : الاول	اسم المقرر: Algebra & Geometry	الرمز الكود : ١١١
عدد الوحدات الدراسية: ٣ نظري : ٢ تمارين: ٢ عملي:-		البرنامج : كيمياء

<p>For students undertaking this course, the aims are to:</p> <p>1 - Provide a basic introduction to various methods of proof used in mathematics and to the fundamental ideas in the study of sets, numbers and functions. This course is basic course for mathematicians, physicians, statistics, computer science and other students. This course is a prerequisite to the linear</p> <p>2 - Give an introduction to the basic ideas of analytic geometry and topology. It is intended for undergraduate students taking a general algebra class at the junior level for mathematicians, physicians, statistics, computer science and other students. It also aims to develop student's knowledge in the basic geometric properties and equations of straight lines in plane and conic sections.</p> <p>algebra course and abstract algebra which will be given in the</p>	٢- هدف المقرر:
٣- المستهدف من التدريس المقرر:	
<p>a- Knowledge and Understanding :</p> <p>On completing this course, students will be able to:</p> <p>a - 1 -- Know and understand the basic concepts of Pure Mathematics such as sets and functions; also the geometric properties of conic sections.</p> <p>a - 2 - Be familiar with the notion of mathematical induction, complex numbers and partial fractions.</p> <p>a - 3 - understand the basics of algebra and analytic geometry properties to apply it in all other branches.</p>	أ-المعلومات والمفاهيم:
<p>b- Intellectual Skills: On completing this course, students will be able to:</p> <p>b - 1 - Solve algebraic and geometric problems</p>	ب-المهارات الذهنية

<p>b - 2 - calculate and simplify the algebraic terms</p> <p>b - 3 - construct elementary proofs of mathematical statements utilizing inductive arguments and arguments by contradiction</p> <p>b - 4 - Imagine the geometrical shapes in tow dimensions</p>	
<p>c-Professional and Practical Skills: On completing this course, students will be able to:</p> <p>c - 1 - perform computer simulation to solve algebraic problems</p> <p>c - 2 - Use computer (maple software) to draw some geometrical curves</p> <p>c - 3 - Think independently and mathematically in solving geometrical problems</p> <p>c-4- Apply transformation of axes frames to simplify equations</p>	<p>ج- المهارات المهنية الخاصة بالمقرر:</p>
<p>d-General and Transferable Skills: On completing this course, students will be able to:</p> <p>d - 1 -Work in team</p> <p>d - 2 - Use Internet and Library to get information</p> <p>d - 3- Solve problems</p>	<p>د- المهارات العامة :</p>
<p>1-Mathematical induction 2-Partial fractions 3-Complex numbers 4-Determinants and Matrices 5-Theory of equations 6-Elementary plane coordinate geometry - Equations of straight lines and the circle. 7-Introduction to conic section: parabola- ellipse- hyperbola and their Cartesian and parametric equations 8-Classification of conics</p>	<p>٤- محتوى المقرر:</p>
<p>1- Lectures (2H/W) 2- Tutorial (2H/W)</p>	<p>٥- اساليب التعليم والتعلم:</p>
<p>The same as normal students, only skeletal disabilities are allowed in the Faculty of Science.</p>	<p>٦- أساليب التعليم والتعلم للطلاب ذوي القدرات المحدودة:</p>
	<p>٧- تقويم الطلاب :</p>
<p>7- Student Assessment Methods</p>	<p>أ- الأساليب المستخدمة :</p>

Final exam	to assess	a1-a3, b1-b3, c1-c4		
Oral exam	to assess	a1-a3, b1, d3		
Mid-term exam	To assess	a1, a2, b1, b2, d1-d3		
Assessment Schedule				ب- التوقيت :
Assessment 1	Week # final exam	Week 15		
Assessment 2	Week # oral exam	Week 15		
Assessment 3	Week # mid-term exam	Week 12		
<i>Weighting of Assessments</i>				ج- توزيع الدرجات :
Final-Term Examination	80%			
Oral Examination	10%			
Practical Examination	0%			
Semester work	0%			
Mid-term examination	10%			
Other types of assessment	0%			
Total	100%			
٨- قائمة الكتب الدراسية والمراجع :				
1 - Basic algebra and Analytic geometry in plane"				أ- مذكرات:
1 - "An introduction to analytical geometry and calculus A.C.Burdette, Academic press , London 1969 2 - 6th Edition, PWS Publishing Co- Schaum's series , Analytic Geometry				ب- كتب ملزمة
1 - E. Swokowski, M. Olinick & D.Pence, (1994) "Calculus",				ج- كتب مقترحة :

1 - • http://mathworld.wolfram.com/Abacus.htm	د- دوريات علمية أو نشرات..
2 - http://www.math.niu.edu/~beachy/aaol	

مصفوفة المعارف والمهارات المستهدفة من المقرر الدراسي

المحتويات للمقرر	أسبوع الدراسة	المعارف الرئيسية	مهارات ذهنية	مهارات مهنية	مهارات عامة
1- Mathematical induction– partial fraction	1-2	a1,a2	b1,b3	d2,d3
2- Elementary plane coordinate geometry - Equations of straight lines- Complex numbers	3-8	a1,a3	b1,b2	c1,c3	d1
3- Determinants and Matrices	9	a1	b1,b3	c1,c3	d1
4- Introduction to conic section: parabola- ellipse- hyperbola and their Cartesian and parametric equations - Theory of equations	10-12	a2,a3	b3,b4	c3	d1,d3
5- Classification of conics	13	a3	b4	c2,c4	d2

أستاذ المادة : د./منتصر أحمد طه سعفان

رئيس مجلس القسم العلمي : أ.د / مجدى الياس فارس