

توصيف مقرر دراسي

١- بيانات المقرر	
المستوى : الثانى	اسم المقرر : Pure mathematics
البرنامج : الكيمياء	عدد الوحدات الدراسية: ٢ نظرى : ٢ تمارين: ١ عملى: -
الرمز الكود: ٢٠١	

<p>For students undertaking this course, the aims are to:</p> <p>1 - Understand essential concepts of advanced calculus and ordinary differential equations</p> <p>2 - The knowledge of the basic ideas in studying differentiability, continuity and some particular first order differential equations</p> <p>3 - Understand the mathematical reasoning and alternative ways of thinking</p> <p>4 - Apply to mathematics and other branches of science such as geology</p>	٢- هدف المقرر:
<p>a- Knowledge and Understanding :</p> <p>a - 1 - Know and understand the definitions of partial differentiation and differential equations</p> <p>a - 2 - Study some concepts such as differentiability and continuity</p> <p>a - 3 - Study some kinds of differential equations</p> <p>a - 4 - Be familiar with some applications of partial differentiation and differential equations</p> <p>a - 5 - study multiple and line integrals</p> <p>On completing this course, students will be able to:</p>	٣- المستهدف من التدريس المقرر: أ-المعلومات والمفاهيم:
<p>b- Intellectual Skills: On completing this course, students will</p>	ب-المهارات

<p>b - 1 - Problem solving</p> <p>b - 2 - Calculate maximum and minimum</p> <p>b - 3 - calculate double and line integration</p>	<p>الذهنية</p>
<p>c-Professional and Practical Skills: On completing this course,</p> <p>c - 1 - The ability of thinking independently to solve the problems</p> <p>c - 2 - Use the advanced calculus and differential equations to other branches such as geology</p> <p>students will be able to:</p>	<p>ج- المهارات المهنية الخاصة بالمقرر:</p>
<p>d-General and Transferable Skills: On completing this course,</p> <p>d - 1 - Work in a team, manage time, collaborate and communicate with others positively</p> <p>d - 2 - Using the library</p> <p>d - 3 - Using the internet</p> <p>d - 4 - Problem solving</p> <p>students will be able to:</p>	<p>د- المهارات العامة :</p>
<p>1- functions of more than one variable</p> <p>2- continuity</p> <p>3- partial differentiation</p> <p>4- applications: implicit function,taylor expansion, differentiation under the sign of integration, maximum and minimum values</p> <p>5- multiple integrals</p> <p>6- conditional maxima and minima (Lagrange multiplier)</p> <p>7- line integrals</p>	<p>٤- محتوى المقرر:</p>

<p>8- differential equations</p> <p>9- separable- homogeneous- equations tend to homogeneous and separable</p> <p>10- exact- integrating factor- Bernoulli's equations</p> <p>11- applications</p> <p>12- linear differential equation with order two and three</p>										
<p>5.1 - Lectures.</p> <p>5.2 – Tutorial</p> <p>5.3 - internet</p>	<p>٥- أساليب 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> <table border="1" data-bbox="197 1169 938 1518"> <tr> <td>Final exam</td> <td>to assess</td> <td>a1-a3, b1-b3, c2</td> </tr> <tr> <td>Oral exam</td> <td>to assess</td> <td>a1-a3, b1, d1</td> </tr> <tr> <td>Report</td> <td>to assess</td> <td>a1, a2, b1-b3, c1, c2 d1-d4</td> </tr> </table>	Final exam	to assess	a1-a3, b1-b3, c2	Oral exam	to assess	a1-a3, b1, d1	Report	to assess	a1, a2, b1-b3, c1, c2 d1-d4	<p>أ- الأساليب المستخدمة :</p>
Final exam	to assess	a1-a3, b1-b3, c2								
Oral exam	to assess	a1-a3, b1, d1								
Report	to assess	a1, a2, b1-b3, c1, c2 d1-d4								
<p>Assessment Schedule</p> <table border="1" data-bbox="197 1599 1155 1841"> <tr> <td>Assessment 1</td> <td>Week #final exam</td> <td>Week 15</td> </tr> <tr> <td>Assessment 2</td> <td>Week #oral exam</td> <td>Week 15</td> </tr> <tr> <td>Assessment 3</td> <td>Week # report</td> <td>Week 13</td> </tr> </table>	Assessment 1	Week #final exam	Week 15	Assessment 2	Week #oral exam	Week 15	Assessment 3	Week # report	Week 13	<p>ب- التوقيت :</p>
Assessment 1	Week #final exam	Week 15								
Assessment 2	Week #oral exam	Week 15								
Assessment 3	Week # report	Week 13								
<p><i>Weighting of Assessments</i></p> <table border="1" data-bbox="309 1886 1155 1962"> <tr> <td>Final-Term Examination</td> <td>80%</td> </tr> </table>	Final-Term Examination	80%	<p>ج- توزيع الدرجات :</p>							
Final-Term Examination	80%									

	Oral Examination	10%	
	Practical Examination	0%	
	Report	10%	
	Mid-term examination	0%	
	Other types of assessment	0%	
	Total	100%	
٨- قائمة الكتب الدراسية والمراجع :			
1 - Course notes	أ- مذكرات:		
	ب- كتب ملزمة		
1 - Shume's outline series, Advanced Calculus 2 - Scume's outline series, Differential Equations	ج- كتب مقترحة :		
1 - www.google.com	د- دوريات علمية أو نشرات..		

مصفوفة المعارف والمهارات المستهدفة من المقرر الدراسي

المحتويات للمقرر	أسبوع الدراسة	المعارف الرئيسية	مهارات ذهنية	مهارات مهنية	مهارات عامة
functions of more than one variable	1	a1,a2	b1	c1	d1-d4
continuity	1	a1,a2	b1	c1	d1-d4
partial differentiation	2-3	a1	b1	c1	d1-d4
applications: implicit function,taylor expansion, differentiation under the sign of integration, maximum and minimum values	3	a4	b1	c1,c2	d1-d4

multiple integrals	4-5	a5	b3	c1	d1-d4
conditional maxima and minima (Lagrange multiplier)	5	a4	b2	c1	d1-d4
line integrals	6-7	a5	b3	c1	d1-d4
differential equations	8	a3	b1	c1	d1-d4
separable- homogeneous- equations tend to homogeneous and separable	9-10	a3	b1	c1	d1-d4
exact- integrating factor- Bernoulli's equations	11-12	a3	b1	c1	d1-d4
applications	13	a4	b1	c1,c2	d1-d4
linear differential equation with order two and three	14	a3	b1	c1	d1-d4

أستاذ المادة : د. /محمد سمير محمود قاسم

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