

توصيف مقرر دراسي

| ١- بيانات المقرر | | |
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| الرمز الكود: ك ٣٣١ | اسم المقرر: Heterocyclic chemistry | المستوى : الثالث |
| البرنامج : الكيمياء | عدد الوحدات الدراسية: ٣ | نظري : ٢ تمارين: - عملي: ٣ |

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| For students undertaking this course, the aims are to: <ul style="list-style-type: none"> • Introduce the basic concepts of heterocyclic chemistry. • Enable the students to investigate the reaction mechanism. • Introduce the nomenclature rules and the preparation methods of simple heterocyclic compounds with one, two or more hetero atoms. • Study the principle chemical reactions of heterocyclic compounds. • Investigate the physical properties of the main heterocyclic compounds. • Acquiring the student the methods of quantitative analysis (estimation) practically of organic compounds. • Acquire students the IT, communication and group work skills. | | ٢- هدف المقرر : |
| ٣- المستهدف من التدريس المقرر: | | |
| a- Knowledge and Understanding : On completing this course, students will be able to: a1- mention the different classes of heterocyclic compounds. | | أ- المعلومات والمفاهيم: |
| b- Intellectual Skills: On completing this course, students will be able to: b1- suggest an appropriate mechanism for a reaction. b2- predict products of a hypothetical reaction. b3- apply a suitable preparation method to prepare a required heterocyclic compound. | | ب- المهارات الذهنية |
| c- Professional and Practical Skills: On completing this course, students will be able to: c1- estimate practically the concentration and purity % of organic compounds. | | ج- المهارات المهنية الخاصة |

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| c2- estimate the saponification value of different fats and oils. | | بالمقرر: |
| c3- prepare simple organic compounds considering scientific ethics. | | |
| d-General and Transferable Skills: On completing this course, students will be able to: | | د- المهارات العامة : < |

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| exam | | | | |
| Practical exam | to assess | c1-c3,d2,d3 | | |
| Assessment Schedule | | | | ب- التوقيت : |
| Assessment 1 | Week #final exam | Week 14 | | |
| Assessment 2 | Week #oral exam | Week 14 | | |
| Assessment 3 | Week #mid-term exam | Week 4,8,12 | | |
| Assessment 4 | Week # Practical exam | Week 12 | | |
| <i>Weighting of Assessments</i> | | | | ج- توزيع الدرجات : |
| Final-Term Examination | 60% | | | |
| Oral Examination | 10% | | | |
| Practical Examination | 20% | | | |
| Semester work | 5% | | | |
| Mid-term examination | 5% | | | |
| Other types of assessment | 0% | | | |
| Total | 100% | | | |
| ٨- قائمة الكتب الدراسية والمراجع : | | | | |
| Fundamentals of Heterocyclic Compound | | | | أ- مذكرات: |
| | | | | ب- كتب ملزمة |
| Advanced Organic Chemistry, Jerry-March, Fessenden & Fessenden, Organic Chemistry, Willard Grant Press, Boston, Massachusetts, 2nd Edn. (1982). | | | | ج- كتب مقترحة : |

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| http://en.wikipedia.org/wiki/Organic_chemistry http://www.organic-chemistry.org/ http://www.acdlabs.com/iupac/nomenclature/ Electronic Courses: http://www.mans.edu.eg/facscim/english/courses/chemistry/PhysicalOrganic http://mansvu.mans.edu.eg/moodle/course/category.php?id=94 | د- دوريات علمية أو نشرات.. |
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مصفوفة المعارف والمهارات المستهدفة من المقرر الدراسي

| المحتويات للمقرر | اسبوع الدراسة | المعارف الرئيسية | مهارات ذهنية | مهارات مهنية | مهارات عامة |
|-------------------------------------------------------------|------------------|---------------------|-----------------|-----------------|----------------|
| • Introduction - nomenclature | 1-2 | a1 | b2,b3 | | |
| • Three membered rings with one and two heteroatoms | 3 | a1 | b2,b3 | | |
| • Five membered rings with one and two heteroatoms or more | 4-6 | a1 | b2,b3 | | d1 |
| • Fused ring systems involving pyrrole, furan and thiophene | 7-8 | a1 | b2,b3 | | d1 |
| • Six membered rings with one and two heteroatoms or more | 9-11 | a1 | b2,b3 | | d1 |
| • Benzoanalogues of pyridine | 12-13 | a1 | b2,b3 | | d1 |
| Practical: Estimation – Preparation. | 2-11 | | | c1,c2,c3 | d2,d3 |

أستاذ المادة : أ.د./محمد عباس محمد المتولى

رئيس مجلس القسم العلمي : أ.د./سالم السيد سمرة