**Course Description**

|  |  |
| --- | --- |
| **Faculty** | **Pharmacy** |
| **Department**  | **Pharmaceutical Chemistry** | **Level** |  |
| **Course**  | **Organic Chemistry Practical** | **Code** | **1703106** | **Prerequisite** | 1703105 |
| **Credit hours** | 1 | **Theoretical**  |  | **Practical** |  |
| **Coordinator** | Hayat Al-Btoush | **Email** |  |
| **Teachers** | Tayel Al-Hujran | **Emails** |  |
| **Lecture Time** |  | **Place** |  | **Attendance mode** |  |
| **Semester**  |  | **Preparation date**  |  | **Modification Date** |  |

|  |
| --- |
|  **Abstracted Course Description**  |
| This course provides the students with some organic preparative reactions and synthesis of some important organic compounds such as carboxylic acids, ester, aldol condensation, Electrophilic aromatic substitution, etc. The course also involves multiple step syntheses. |
| **Course Goals** |
| * To develop practical skills in executing organic preparative reactions.
* To familiarize students with essential laboratory techniques in organic chemistry.
* To reinforce theoretical knowledge through hands-on experimentation.
* To enhance understanding of multistep synthesis strategies.
 |

|  |
| --- |
| **CILOs** |
| **Knowledge** |
| a1. Understand the principles of organic preparative reactions.a2. Identify and explain key laboratory techniques in organic chemistry.a3. Recognize the structures and properties of synthesized organic compounds. |
| **Skills** |
| b1. Execute organic preparative reactions with precision.b2. Apply laboratory safety protocols and techniques.b3. Analyze and interpret experimental results.b4. Plan and execute multistep syntheses |
| **Competencies** |
| c1. Demonstrate proficiency in conducting organic reactions.c2. Apply theoretical knowledge to troubleshoot experimental challenges.c3. Synthesize and characterize organic compounds.c4. Collaborate effectively in a laboratory setting. |
| **Learning Methods** |
| * Practical laboratory sessions for hands-on experience.
* Demonstration of laboratory techniques by instructors.
* Pre-lab discussions and theoretical background lectures.
* Group activities to encourage collaborative learning.
 |
| **Evaluation Tools** |
| Quizzes, Midterm exam, Final Exam |
| **Week** | **Topics** | **Learning methods** | **Evaluation tool** | **ILOs** | **Hours** |
| **1.** | Introduction | Lecture material and notes | Exams | **A2,a3,b1,b3,c2,c3** | **3** |
| **2.** | Functional group identification | Homework and Projects, Presentation, … | Assignments, | **A2,a3,b1,b3,c2,c3** | **3** |
| **3.** | Mono-hydric alcohols  | Lecture material and notes  | Exams | **A2,a3,b1,b3,c2,c3** | **3** |
| **4.** | Mono-hydric alcohols 2 | Homework and Assignments, Projects, Presentation, … | Exams | **A1,a2,b1,b2,c1** | **3** |
| **5.** | Poly-valent alcohols and phenols | Lecture material and notes  | Exams | **A1,a2,b1,b2,c1** | **3** |
| **6.** | Aldehydes and Ketones | Lecture material and notes  | Exams | **A1,a2,b1,b2,c1** | **3** |
| **7.** | Carboxylic acids Identification | Homework and Assignments, Projects, Presentation, … | Exams | **A1,a2,b1,b2,c1** | **3** |
| **8.** | Carboxylic acids /Individual reactions | Lecture material and notes  | Exams | **A2,a3,b1,b3,c2,c3** | **3** |
| **9.** | Midterm Exam | Lecture material and notes  | Exams | **A2,a3,b1,b3,c2,c3** | **3** |
| **10.** | Solid derivatives of aldehydes and ketones | Lecture material and notes  | Exams | **A2,a3,b1,b3,c2,c3** | **3** |
| **11.** | Benzaldehyde phenylhydrazone | Lecture material and notes | Exams | **A2,a3,b1,b3,c2,c3** | **3** |
| **12.** | Benzaldehyde phenylhydrazone 2 | Lecture material and notes | Exams | **A1,a2,b1,b2,c1** | **3** |
| **13.** |  |  |  |  | **3** |
| **14.** |  |  |  |  | **3** |
| **15.** | Final Exam |  |
| **16.** |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |
| --- |
| **Plan of Course Evaluation** |
| **Evaluation Tools** | **Mark** | **ILOs** |
|  |  |  |  |  |  |
| **First Exam (Mid-term)**  | **30%** | **A1,a2,b1,b2,c1** |  |  |  |  |  |
| **Second Exam (If available)** |  |  |  |  |  |  |  |
| **Final Exam** | **50%** | **A1,A2,a3,b1,b2,b3,,c1c2,c3** |  |  |  |  |  |
| **Activities** |  |  |
| **Activities Evaluation** | Homework/Tasks | 10% | B1.B2,B3C1 |  |  |  |  |  |
| Case Study  |  |  |  |  |  |  |  |
| Discussion and Interactions |  |  |  |  |  |  |  |
| Group Activities |  |  |  |  |  |  |  |
| Laboratory Exams |  |  |  |  |  |  |  |
| Presentations |  |  |  |  |  |  |  |
| Quizzes | 10% | B1.B2,B3C1 |  |  |  |  |  |
| Others |  |  |  |  |  |  |  |
| **Total** | 100% |  |  |  |  |  |  |

 **Components**  |
| **Book** |  |
| **References** |  |
| **Recommended Readings** |  |
| **Electronic materials** |  |
| **Other websites** |  |