Course Description Template for organic chemistry second Year Second Semester (practical)

Performance Review of Higher Education Institution ((Academic Program Review))

Course Description

Practical Organic Chemistry (2nd semester) focuses on the identification of organic compounds through laboratory tests based on functional groups, helping students develop skills in analysis, observation, and interpretation of experimental results.

1. Educational Institution	**Ministry of Higher Education and Scientific Research / Al-Zahrawi University**
2. University Department / Center	**College of Pharmacy**
3. Course Name / Code	**Organic chemistry III practical**
4. Programs in which it is included	**Bachelor of Pharmaceutical Sciences**
5. Available Forms of Attendance	**Daily Attendance**
6. Semester / Year	**second Semester / second year**
7. Total Number of Study Hours	**2 hours weekly**
8. Date of preparing this description	**2025-2026**
Course Objectives: To develop students' ability to identify organic compounds using qualitative tests, understand their chemical behavior, and analyze experimental results safely and accurately.	
9. Learning Outcomes, Teaching and Learning Methods, and Evaluation	

A. Knowledge and Understanding

Students will understand the principles of identifying organic compounds, including functional groups, chemical reactions, solubility behavior, and the theoretical basis of qualitative analysis methods used in organic chemistry laboratories.

1. Subject-Specific Skills

Students will be able to perform qualitative tests for identifying functional groups, carry out organic analysis techniques, and accurately interpret experimental results to classify unknown compounds.

Teaching and Learning Methods

- **Practical laboratory sessions (hands-on experiments)**
- **Demonstrations of techniques and equipment**
- **Guided step-by-step experimental procedures**
- **Group work and collaborative learning**
- **Discussion of results and problem-solving exercises**

2. Evaluation Methods

- **Practical laboratory performance**
- **Lab reports and written assignments**
- **Quizzes or short tests**
- **Final practical or written examination**
- **Participation and adherence to safety rules**

3. Thinking Skills

Students will develop the ability to analyze experimental results, solve laboratory problems, interpret data, and apply logical reasoning to identify and evaluate organic compounds and processes.

4. General and Transferable Skills

Students will develop transferable skills such as teamwork, communication, time management, accurate record-keeping, and adherence to safety practices, along with the ability to apply scientific methods in problem-solving.

11. Course Structure

Weeks	Hours	Required Learning Outcomes	Unit Name / Course or Topic	Learning Methods	Evaluation Method
1	٢	Knowledge	Laboratory Safety Rules	Whiteboard and PowerPoint Presentations	Group discussion, oral exams, and assignments
2	2	Knowledge	Determination of Solubility Class I	PowerPoint Presentations and practical experiment	practical lab performance, written reports, quizzes
3	٢	Knowledge	Determination of Solubility Class II	PowerPoint Presentations and practical experiment	practical lab performance, written reports, quizzes
4	٢	Knowledge	Identification of Alcohols I	PowerPoint Presentations and practical experiment	practical lab performance, written reports, quizzes
5	2	Knowledge	Identification of Alcohols II	PowerPoint Presentations and practical experiment	practical lab performance, written reports, quizzes
6	٢	Knowledge	Identification of Phenols	PowerPoint Presentations and practical experiment	practical lab performance, written reports, quizzes
7 8	2 2	Knowledge	Identification of Aldehydes and ketones I Identification of Aldehydes and ketones II	PowerPoint Presentations and practical experiment	practical lab performance, written reports, quizzes
9	2		Identification of Carboxylic Acids I	Whiteboard and PowerPoint Presentations	practical lab performance, written reports, quizzes

10	2	Knowledge	Identification of Carboxylic Acids II	Whiteboard and PowerPoint Presentations	practical lab performance, written reports, quizzes
11	2	Knowledge	Properties of Esters		
12	2		Preparation of Esters		
13	2		Properties and Preparation of Soap		
14	2		Identification of Amines		
15	2		Comprehensive Qualitative Organic Analysis		

12. Infrastructure	
Required Readings:	**References:** **Vogel's Practical Organic Chemistry** *(Most popular and widely used worldwide for lab techniques and experiments)* **Practical Organic Chemistry** – Mann & Saunders *(Clear explanations of basic laboratory methods and experiments)* **Organic Chemistry Laboratory Techniques** – Pavia, Lampman, Kriz & Engel *(Modern and very commonly used in universities)* **Experimental Organic Chemistry** – Gilbert & Martin *(Focuses on fundamental lab skills and procedures)*
Special Requirements (Workshops, Journals, Software, Websites):	**Electronic Websites: https://youtu.be/esBgihsV02A?si=Q9Grm1tdLx3Rfh0h**
Social Services (Guest Lectures, Professional Training, Field Studies, Others)	**Organizing workshops and courses for graduates: Organizing workshops and courses to enhance graduates' practical skills, provide advanced training in organic chemistry techniques, and support their professional development for careers in pharmacy and related fields.**

13. Admission:	
Prerequisites	Admission according to the central plan
Minimum Number of Students	/
Maximum Number of Students	Admission exceeds the capacity plan.

Name of the Instructor:

Assistant teacher saif yahya ahmed