Course Description Form

1. Course Name:

Organic Chemistry II (Theoretical+ Practical)

2. Course Code:

Phpch25_213-

3. Semester / Year:

Second Year / First Semester

4. Description Preparation Date:

1/9/2025

5. Available Attendance Forms:

Students' signature on attendance sheet

6. Number of Credit Hours (Total) / Number of Units (Total)

3 hours Theoretical + 2 hours Practical /3 units

7. Course administrator's name (mention all, if more than one name)

Theoretical:

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Practical

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8. Course Objectives

Course Objectives	Enable the student to obtain theoretical and practical information in organic chemistry.

9. Teaching and Learning Strategies

Strategy	Lecturing, Homework, Quiz, Practical laboratory

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3 theoretical	**A1** – The student explains the fundamental conce of organic compou	Introduction to aromatic compounds Nomenclature of benzene derivatives	Theoretical lectures.	Paper-based exams

		including the conce of aromaticity, by describing the crite of aromaticity and nomenclature of benzene and its derivatives.			
	2 practical	**A2** – The student understands the fundamental conce for identifying orga compounds using various physical an chemical methods a learns how to perfo laboratory experiments accurately and safe **B1** – The student applies chemical safety procedures a professional condu inside the laborator and handles chemic properly	Introduction	practical laboratory experiments	Theory exam report
2	3 theoretical	**A1-** The student explains the basic concepts of benzen and its derivative reactions. **C1**- The student experiments to prep benzene compound and their derivative using the reactions involved in these compounds.	Reactions and synthesis of benzene derivatives	Theoretical lectures.	Paper-based exams
	2 practical	**B2**- The student distinguishes the solubility of chemi compounds throug the chemical properties of the compound and its nature.	Determination of solubility	practical laboratory experiments	Theory exam report
3	3 theoretical	**A1**- The student explains the basic concepts of arenes their derivatives. **C1**- The student xperiments with the eparation of arenes nd their derivatives using the reactions involved in these .compounds	Arenas and their derivatives (reaction and synthesis)	Theoretical lectures.	Paper-based exams
	2 practical	**C2-** The student analyzes the solubi results to determin	Solubility unknown	practical laboratory experiments	Theory exam report

		the functional grou the unknown organ compound. **E1**- The student estimates the group which the unknown compound belongs based on its solubil characteristics.			
4	3 theoretical	**A1**- The student explains the basic concepts of phenol terms of their chemical and physi properties and methods of nomenclature. **C1-** The student experiments with t preparation of phenolic compoun and their derivative and studies the reactions of these compounds.	Phenols (reaction and synthesis)	Theoretical lectures.	Paper-based exams Class participation
	2 practical	**A3-** The student wi identify some of th chemical structures phenols, as well as some of their physi and chemical properties, and will explain general methods for detecti phenols. **B2-** The student wi differentiate betwe types of phenols us specific methods fo detecting each type	Identification of Phenols	practical laboratory experiments	Theory exam Homework
5	3 theoretical	**A1-** The student explains the basic concepts of amino compounds in term their classification methods of naming along with a comprehensive introduction to thei general structure.	Introduction to amine compound classification and nomenclature o Amines	Theoretical lectures.	Paper-based exams
	2 practical	**A3-** The student lea about some carbox acid compounds an their types, and the physical and chemi properties.	Identification of carboxylic acid (general)	practical laboratory experiments	Theory exam Homework
6	3 theoretical	**A3-** The student identifies some	Reactions of Amines	Theoretical lectures.	Paper-based exams

		reactions of differe types of amines. **B2-** The student distinguishes the b methods for prepar amines that give th highest yield.			
	2 practical	**A3-** The student wi learn about: General methods fo detecting carboxyli acids. **B2-** The student wi distinguish betwee different acids usin the specific tests fo each acid.	Identification of carboxylic acid (special test)	practical laboratory experiments	Theory exam report
7	3 theoretical	**A1-** The student explains some methods for prepar amines. **B2-** The student distinguishes betwe the best methods us to prepare all types amines with the highest yields.	Synthesis of Amines	Theoretical lectures.	Paper-based exams
	2 practical	**E1-** The student estimates the type c compound through chemical testing procedures specific acids.	Unknown for identification of carboxylic acid	practical laboratory experiments	Theory exam
8	Midterm exam				
9	3 theoretical	**A1-** The student explains the basic concepts of aldehy and ketone compounds.	Introduction of aldehydes and ketones	Theoretical lectures.	Paper-based exams
	2 practical	**A3-** The student wi identify some of th chemical properties aldehydes and keto of their various typ **B2-** The student wi distinguish betwee the different metho for differentiating between aldehydes and ketones and identifying their different types.	Identification of aldehydes and ketones	practical laboratory experiments	Theory exam
10	3 theoretical	**A1-** The student explains the basic concepts of naming aldehydes and	Classification, nomenclature of aldehydes and ketones	Theoretical lectures.	Paper-based exams

		ketones. **B2-** The student distinguishes betwe aldehydes and ketones.			
	2 practical	**E1-** The student estimates the type compound through chemical testing procedures on it.	Unknown for identification of aldehydes and ketones	practical laboratory experiments	Theory exam
11	3 theoretical	**A1-** The student explains the basic concepts of the reactions of aldehy ketones, and their derivatives. **C1-** The student experiments to prep aldehydes, ketones and their derivative using their reaction	Reactions and Synthesis of aldehydes and ketones	Theoretical lectures.	Paper-based exams
	2 practical	**A3-** The student identifies some alcohols, their type their physical and chemical properties and methods for detecting alcohols. **B2-** The student distinguishes betwe types of alcohols u the specific tests fo each type.	Identification of Alcohols	practical laboratory experiments	Homework report
12	3 theoretical	**A3-** The student identifies some important propertie carboxylic acids an how they are name **C2-** The student analyzes the effect electron-donating a electron-withdrawi substituent groups the acidity of these compounds.	Introduction, nomenclature properties of Carboxylic acids	Theoretical lectures.	Paper-based exams
	2 practical	**E1-** The student estimates the type compound through specific chemical testing procedures each type of alcoho	Unknown for identification of Alcohols	practical laboratory experiments	Theory exam
13	3 theoretical	**A3-** The student wi learn about some o the methods used t prepare carboxylic acids and some of their reactions.	Synthesis and reaction carboxylic acids	Theoretical lectures.	Paper-based exams

		C3- The student wi use the information given in the lecture choose the best methods for prepar carboxylic acids wi the highest yield.			
	2 practical		Review of practical experienc		
14	3 theoretical	**A3** - The student identifies some carboxylic acids us in medicine. **B2 -** The student distinguishes the ef of the structure of some carboxylic ac on their biological activity.	Some medical applications carboxylic acids.	Interactive lectures (and enrichment via the online classroom)	Paper-based exams
	2 practical		Comprehensive exam	practical laboratory experiments	oretica l exam ractical exam
15	3 theoretical	**A3.** The student wi identify the medica used derivatives of carboxylic acids, th methods of preparation, and th most important reactions. **B2**. The student wi distinguish the effe of the structure of some carboxylic ac derivatives on their biological activity.	Derivatives of Carboxylic Acids	Interactive lectures (and enrichment via the online classroom)	Theory exam

11. Assessment	
20 marks theoretical 20 marks practical 60 marks final exam Total: 100	
12.. Educational Resources	
Required textbooks (curricular books, if any	1. Morrison RT, Boyd RN. Organic Chemistry. 6th edition ,2008
Main references (sources)	1. Textbook of organic chemistry for pharm students KS Mukheriee
Recommended books and references (scientific journals, reports...)	**https://www.abe.pl/en/book/9781642873740/textbook-of-organic-chemistry-for-pharmacy-students**
Electronic References, Websites	%5