

Course Description Form

1. Course Name:					
Organic Pharmaceutical Chemistry- I					
2. Course Code:					
Phpch25_328					
3. Semester / Year:					
2 nd Semester, 3 rd Year					
4. Description Preparation Date:					
15\1\2026					
5. Available Attendance Forms:					
Students' signatures on attendance sheets					
6. Number of Credit Hours (Total) / Number of Units (Total)					
3 hours theory + 2 hours practical (75) / 4 units					
7. Course administrator's name (mention all, if more than one name)					
Theory					
Name: Assist. Prof. Dr. Mohammed Najim Abed					
Email: m.n.abed@uomosul.edu.iq					
Name: Assist. Prof. Dr. Mahmood Hashim Mahmood					
Email: mh.jasim@uomosul.edu.iq					
Name: Assist. Prof. Dr. Wejdan Nazar					
Email: wejdan.nazar@uomosul.edu.iq					
Practical					
Name: Lecturer Sema'a Mahmood					
Email: seem_univ@uomosul.edu.iq					
Name: Lecturer Bara Aldabagh					
Email: bara.aldabagh@uomosul.edu.iq					
Name: Lecturer Sarah Ahmed					
Email: sarah.ahmed@uomosul.edu.iq					
8. Course Objectives					
Course Objectives		<ul style="list-style-type: none"> • Introducing the students to pharmaceutical chemistry • Explaining modern drug design techniques • Introducing drug metabolism 			
9. Teaching and Learning Strategies					
Strategy		<ul style="list-style-type: none"> • Theory lectures with teaching aids such as videos and diagrams • Practical sessions where students actively perform experiments 			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1+2	4+4	<ul style="list-style-type: none"> • A1_ Understanding the role of pharmaceutical 	<ul style="list-style-type: none"> • Drug Design Strategies. • Drug distribution 	<ul style="list-style-type: none"> • Lectures 	<ul style="list-style-type: none"> • Paper-based exams

		<p>chemistry in drug distribution</p> <ul style="list-style-type: none"> • A2_ realizing redox reactions 	<ul style="list-style-type: none"> • Redox reactions 	<ul style="list-style-type: none"> • Practical 	<ul style="list-style-type: none"> • Lab-based unknowns
2+3	3+4	<ul style="list-style-type: none"> • A1_ Understanding the effect of chemical properties on drug action • A2_ realizing redox reactions 	<ul style="list-style-type: none"> • Acid-base properties • Redox reactions 	<ul style="list-style-type: none"> • Lectures • Practical 	<ul style="list-style-type: none"> • Paper-based exams • Lab-based quiz
3+4	5+2	<ul style="list-style-type: none"> • A1_ Understanding the concept of QSAR in drug design • A2_ realizing redox reactions 	<ul style="list-style-type: none"> • Statistical prediction of pharmacological activity • Redox reactions 	<ul style="list-style-type: none"> • Lectures • Practical 	<ul style="list-style-type: none"> • Paper-based exams • Lab-based quiz
5+6+7	9	<ul style="list-style-type: none"> • B1_ Applying the concepts of computer simulations to drug design 	<ul style="list-style-type: none"> • Molecular modeling (Computer aided drug design) • Drug receptor interaction: force involved • Steric features of drugs • Optical isomerism and biological activity • Calculated conformation • Three- dimensional quantitative structure activity relationships and databases • Isosterism • Drug-receptor interaction and subsequent events 	<ul style="list-style-type: none"> • Lectures 	<ul style="list-style-type: none"> • Paper-based Exams
5+6	4	<ul style="list-style-type: none"> • B2_ Analyzing the Assay of ferrous sulfate. 	<ul style="list-style-type: none"> • Assay of ferrous sulfate 	<ul style="list-style-type: none"> • Practical 	<ul style="list-style-type: none"> • Lab-based unknown and quiz

7+8	4	<ul style="list-style-type: none"> • B3_ Preparing and standardizing of 0.1Na₂S₂O₄ solution 	<ul style="list-style-type: none"> • Preparation and standardization of 0.1Na₂S₂O₄ solution 	<ul style="list-style-type: none"> • Practical 	<ul style="list-style-type: none"> • Lab-based unknown and quiz
8-15	24	<ul style="list-style-type: none"> • A1_ Understanding the concept of drug metabolism and the factors affecting it. 	<ul style="list-style-type: none"> • Metabolic Changes of Drugs and Related Organic Compounds. • Phase I Oxidation reaction. • Phase I Reductive reaction. • Phase I Hydrolytic reaction. • Phase II. • Factor affecting drug metabolism. • Stereochemical Aspects of Drug Metabolism. • Pharmacologically Active Metabolites. • Prpdrugs. 	<ul style="list-style-type: none"> • Lectures 	<ul style="list-style-type: none"> • Paper-based exam
9+10	4	<ul style="list-style-type: none"> • B2_ Analyzing the Assay of copper sulfate 	<ul style="list-style-type: none"> • Assay of copper sulfate 	<ul style="list-style-type: none"> • Practical 	<ul style="list-style-type: none"> • Lab-based unknown and quiz
11+12	4	<ul style="list-style-type: none"> • B2_ Analyzing the Assay of Chlorinated Lime 	<ul style="list-style-type: none"> • Assay of Chlorinated Lime 	<ul style="list-style-type: none"> • Practical 	<ul style="list-style-type: none"> • Lab-based unknown and quiz
13+14	4	<ul style="list-style-type: none"> • B3_ Preparing and assay of Lugol's Solution 	<ul style="list-style-type: none"> • Preparation and assay of Lugol's Solution 	<ul style="list-style-type: none"> • Practical 	<ul style="list-style-type: none"> • Lab-based unknown and quiz
15	2	<ul style="list-style-type: none"> • B2_ Analyzing the Assay of Alum 	<ul style="list-style-type: none"> • Assay of Alum 	<ul style="list-style-type: none"> • Practical 	<ul style="list-style-type: none"> • Lab-based unknown and quiz

11.Course Evaluation

- 20% Theoretical assessment (paper-based midterm exam, attendance)
- 20% Practical assessment (attendance, quizzes, unknowns, reports)
- 60% paper-based theoretical final exam

Total: 100%

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Wilson and Gisvold Textbook of Organic medicinal and pharmaceutical
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	<p>chemistry, Delgado JN, Remers WA, (Eds); 12th edition, 2010</p> <p>Laboratory Handbook for Practical Pharmaceutical Chemistry adopted by the department.</p>
Main references (sources)	<p>Wilson and Gisvold Textbook of Organic medicinal and pharmaceutical chemistry, Delgado JN, Remers WA, (Eds); 12th edition, 2010</p> <p>Laboratory Handbook for Practical Pharmaceutical Chemistry adopted by the department.</p>
Electronic References, Websites	<p>https://youtu.be/SHXKxDr-TUg?si=Jux2lKa4n0MGy5m8</p> <p>https://youtu.be/A16LzbyAHw4?si=5i-4Rf2Jio6WSCt</p>
Curriculum development	5%