

### Course Description Form

1. Course Name:					
Organic Pharmaceutical ChemistryIV					
2. Course Code:					
Phpch24_516					
3. Semester / Year:					
1 <sup>st</sup> Semester/5 <sup>th</sup> Year					
4. Description Preparation Date:					
4/09/2024					
5. Available Attendance Forms:					
Students' signatures on attendance sheets					
6. Number of Credit Hours (Total) / Number of Units (Total)					
2 hours theory (30) / 2 units					
7. Course administrator's name (mention all, if more than one name)					
Name: Prof. Dr. Yasser Fakhri Email: <a href="mailto:dr.yassermustafa@uomosul.edu.iq">dr.yassermustafa@uomosul.edu.iq</a> Name: Assist. Prof. Dr. Mohammed Najim Abed Email: <a href="mailto:m.n.abed@uomosul.edu.iq">m.n.abed@uomosul.edu.iq</a> Name: Assist. Prof. Dr. Mamood Hashim Mahmood Email: <a href="mailto:mh.jasim@uomosul.edu.iq">mh.jasim@uomosul.edu.iq</a>					
8. Course Objectives					
<b>Course Objectives</b>		<ul style="list-style-type: none"> <li>Introducing the students to advanced concepts pharmaceutical chemistry such as prodrugs, drug targeting ; combinatorial chemistry</li> </ul>			
9. Teaching and Learning Strategies					
<b>Strategy</b>		<ul style="list-style-type: none"> <li>Theory lectures with teaching aids such as videos and diagrams</li> </ul>			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-3	6	<ul style="list-style-type: none"> <li>Understanding the concept of prodrugs</li> </ul>	<ul style="list-style-type: none"> <li>Basic concept of prodrugs; Covalent bonds (cleavable); Prodrugs of functional groups; Types of prodrugs</li> </ul>	<ul style="list-style-type: none"> <li>Lectures</li> </ul>	<ul style="list-style-type: none"> <li>Paper-based exams</li> </ul>
4-6	6	<ul style="list-style-type: none"> <li>Understanding the role of polymers as delivery systems for drugs</li> </ul>	<ul style="list-style-type: none"> <li>Chemical delivery systems; Polymeric prodrugs; Types and structure of polymers; Cross-linking reagents</li> </ul>	<ul style="list-style-type: none"> <li>Lectures</li> </ul>	<ul style="list-style-type: none"> <li>Paper-based exams</li> </ul>
7+8	4	<ul style="list-style-type: none"> <li>Understanding the concept of targeting drugs to specific tissues and organs</li> </ul>	<ul style="list-style-type: none"> <li>Drug targeting</li> </ul>	<ul style="list-style-type: none"> <li>Lectures</li> </ul>	<ul style="list-style-type: none"> <li>Paper-based exams</li> </ul>

8-15	14	<ul style="list-style-type: none"> <li>Understanding the concept of combinatorial chemistry and library design</li> </ul>	<ul style="list-style-type: none"> <li>Combinatorial chemistry; Peptides and other linear structures; Drug like molecules; Support and linker; Solution-phase combinatorial chemistry</li> <li>Detection, purification and analgesics; Encoding combinatorial libraries; High-throughput screening; Virtual screening; Chemical diversity and library design</li> </ul>	<ul style="list-style-type: none"> <li>Lectures</li> </ul>	<ul style="list-style-type: none"> <li>Paper-based Exams</li> </ul>
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#### 11. Course Evaluation

- 30 M: Theoretical assessment (paper-based midterm exam, attendance)
- 70 M: paper-based theoretical final exam

100 M total

#### 12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Wilson and Gisvold Textbook of Organic medicinal and Pharmaceutical chemistry Delgado JN, Remers WA, (Eds); 12th edition 2010
Main references (sources)	Wilson and Gisvold Textbook of Organic medicinal and Pharmaceutical chemistry Delgado JN, Remers WA, (Eds); 12th edition 2010
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	
Update percentage	1 % change in the theoretical lectures