Course Plan for Bachelor Program - Study Plan Development and Updating Procedures/ Pharmacy Department	QF02/0408-4.0E

Study Plan No.	**2021/2022**		**University Specialization**		**Bachelor of Pharmacy**	
Course No.	**0201112**		**Course Name**		**Pharmaceutical Organic Chemistry (1)**	
Credit Hours	**3**		**Prerequisite *Co-requisite**		**General Chemistry**	
Course Type	☐ Mandatory University Requirement	☐ University Elective Requirement	☑ Faculty Mandatory Requirement	☐ Support course family requirements	☐ Mandatory Requirement	☐ Elective Requirement
Teaching Style	☐ Full Online Learning		☐ Blended Learning		☑ Traditional Learning	
Teaching Model	☐ 1 Synchronous: 1 Asynchronous		☐ 1 Face to Face: 1 Asynchronous		☑ 2 Traditional	

Faculty Member and Study Divisions Information *(to be filled in each semester by the subject instructor)*

Name	Academic rank	Office No.	Phone No.	E-mail	
Office Hours (Days/Time)	**Sunday, Tuesday, Thursday ()**		**Monday, Wednesday ()**		
Division number	**Time**	**Place**	**Number of Students**	**Teaching Style**	**Approved Model**
				Traditional Learning	**2 Traditional**

Brief Description

This course introduces the basics of organic chemistry in terms of structure and reactivity. A functional group approach is applied by studying the structure, nomenclature, classification, physical properties, synthesis, and reactions of one functional group at a time. The course covers the fundamentals of chemical bonding, concepts of acidity and basicity, introductory concepts to organic reactions and mechanisms, fundamentals of isomerism and stereochemistry.

Learning Resources

Course Book Information (Title, author, date of issue, publisher ... etc)	Organic Chemistry, T.W.G. Solomons and C.B. Fryhle, 12th Edition, 2016, John Wiley & Sons.			
Supportive Learning Resources (Books, databases, periodicals, software, applications, others)	1. Organic Chemistry by Hart, Craine, Hart, and Hadad, 13th Edition, 2011, Brooks/Cole. 2. Organic Chemistry by McMurry, 9th Edition, 2016, Brooks/Cole.			
Supporting Websites				
The Physical Environment for Teaching	☑ **Class room**	☑ Labs	☑ **Virtual Educational Platform**	☑ Others
Necessary Equipment and Software	**Moodle**			

Supporting People with Special Needs	-
For Technical Support	E-Learning & Open Educational Resources Center Email: elearning@zuj.edu.jo; Phone: +962 6 429 1511 ext. 425/362

Course learning outcomes *(K= Knowledge, S= Skills, C= Competencies)*

No.	Course Learning Outcomes	The Associated Program Learning Output Code
Knowledge **Students should be able to:**		
K1	Identify the functional groups present in an organic compound.	**MK2**
K2	Describe the physical properties and chemical reactivities of a compound from its structure.	**MK2**
K3	Recognize the conformational isomers, constitutional isomers, and stereoisomers.	**MK2**
K4	Classify the chemical reactions.	**MK2**
Skills **Students should be able to:**		
S1	Name the organic compound regarding the IUPAC nomenclature of and convert an IUPAC name into a structure.	**MS4**
S2	Sketch different compound structures	**MS4**
S3	Model the different type of isomers and stereoisomers	**MS4**
S4	Predict the main reaction out come and its mechanisms.	**MS4**
Competencies		
C1	Perform a professional and personal attitude by the commitment with the lectures attending and submitting tasks on time.	**MC3**

Mechanisms for Direct Evaluation of Learning Outcomes

Type of Assessment / Learning Style	Fully Electronic Learning	Blended Learning	Traditional Learning (Theory Learning)	Traditional Learning (Practical Learning)
Midterm Exam	30%	30%	**30%**	0%
Participation / Practical Applications	0%	0%	**20%**	50%
Asynchronous Interactive Activities	20%	20%	**0%**	0%
Final Exam	50%	50%	**50%**	50%

Note 1: *Asynchronous interactive activities are activities, tasks, projects, assignments, research, studies, projects, and work within student groups ... etc, which the student carries out on his own, through the virtual platform without a direct encounter with the subject teacher.*

Note 2: *According to the Regulations of granting Master's degree at Al-Zaytoonah University of Jordan, 40% of final evaluation goes for the final exam, and 60% for the semester work (examinations, reports, research or any scientific activity assigned to the student).*

Schedule of Simultaneous / Face-to-Face Encounters and their Topics

Week	Subject	Learning Style*	Reference **
1	The Basics: Bonding and Molecular Structure	Lecture Participatory learning Problem-based learning	**1-44**
2	Representative Carbon Compounds: Functional Groups and Intermolecular Forces	Lecture Participatory learning Problem-based learning	**51-76**
3	An Introduction to Organic Reactions and Their Mechanisms: Acids and Bases	Lecture Participatory learning Problem-based learning	**91-118**
4	Nomenclature and Conformations of Alkanes and Cycloalkanes	Lecture Participatory learning Problem-based learning	**129-166**
5	Nomenclature and Conformations of Alkanes and Cycloalkanes	Lecture Participatory learning Problem-based learning	**129-166**
6	Nomenclature and Conformations of Alkanes and Cycloalkanes	Lecture Participatory learning Problem-based learning	**129-166**
7	Stereochemistry: Chiral Molecules	Lecture Participatory learning Problem-based learning	**181-211**
8	Ionic Reactions	Lecture Participatory learning Problem-based learning	**221-260**
9	Ionic Reactions **Midterm Exam**	Lecture Participatory learning Problem-based learning	**221-260**
10	Alkenes and Alkynes I: Properties and Synthesis	Lecture Participatory learning Problem-based learning	**269-302**
11	Alkenes and Alkynes I: Properties and Synthesis	Lecture Participatory learning Problem-based learning	**269-302**
12	Alkenes and Alkynes II: Addition Reactions	Lecture Participatory learning Problem-based learning	**311-346**
13	Alkenes and Alkynes II: Addition Reactions	Lecture Participatory learning Problem-based learning	**311-346**
14	Alcohols and Ethers	Lecture Participatory learning Problem-based learning	**469-484**
15	Alcohols and Ethers	Lecture	**469-484**

		Participatory learning Problem-based learning	
16	**Final Exam**		

** Learning styles: Lecture, flipped learning, learning through projects, learning through problem solving, participatory learning ... etc.*

*** Reference: Pages in a book, database, recorded lecture, content on the e-learning platform, video, website ... etc.*

Schedule of Asynchronous Interactive Activities *(in the case of e-learning and blended learning)*

Week	Task / Activity	Reference	Expected Results
-	-	-	-