Philadelphia University	PHILADELPHIA UNIVERSITY THE WAY TO THE FUTURE	**Approved Date: 16/10/2022**
Faculty: Pharmacy		**Issue: 1**
Department: Pharmacy		**Credit Hours: 3**
Academic Year: 2022-2023	**Course Syllabus**	**Bachler: 2nd year**

Course Information

Course No.	Course Title	Prerequisite	
0510211	Pharmaceutical Organic Chemistry II	Pharmaceutical Organic Chemistry I **(0521211)**	
Course Type		**Class Time**	**Room No.**
☐ Univirsity RequirementFuclty Requirement ☐ MajorRequirement ☐ Elective ■ Compulsory		Sunday-Tuesday: 9:45-11:15 am for Section-2 & 12:45- 02:15 pm for Section-1	

Instructor's Information

Name	Office No.	Phone No.	Office Hours	E-mail

Course Delivery Method

☐ **Blended**	☐ **Online**	■ **Physical**	
Learning Model			
Percentage	**Synchronous**	**Asynchronous**	**Physical**
			100%

Course Description

This course is a continuation of pharmaceutical organic chemistry (I). It includes the study of the physical properties, nomenclature, preparation methods, identification methods and reactions of the cyclic and acyclic organic compounds: aromatic compounds, alcohols and phenols, ethers, thiols and sulfides, aldehydes, ketones, carboxylic acids and their derivatives and amines.

Course Learning Outcomes

Number	Outcome	Corresponding Program Outcomes	Corresponding Competencies
Knowledge			
K1	To acquire knowledge of naming different organic compounds	**KP1**	**C1**
K2	To describe different organic reactions and their mechanisim	**KP1**	**C1**
K3	To demonstrate the relative reactivity , acidity , and bacisty of organic compounds	**KP1**	**C1**
Skills			
S1	Drawing the chemical stracture of given organic molecules	**SP2**	**C8**
S2	Able to arrange the molecules according to their reactivity , or acidity, or bacisty	**SP2**	**C8**
S3	Writing the reaction mechanisuim and Plan to synthesize different compounds according to their understanding of functional groups reactions.	**SP2**	**C8**

Learning Resources

Course Textbook	Organic Chemistry, John Mc-Murry, 2016, 9th edition.
Supporting References	1. Organic Chemistry, SOLOMN and FRYHLE, Wily international brooks/ cale, Thomson learning, 2011, 10th. Edition. 2.Study Guide with Student Solutions Manual for McMurry's Organic chemistry
Supporting Websites	https://www.youtube.com/
Teaching Environment	**Classroom laboratory Learning Platform Other** ☐

Meetings and Subjects Time Table

Week	Topic	Learning Method*	Task	Learning Material
1	**Benzene and aromaticity** Sources and names of aromatic compound, structure and stability of benzene, aromaticity and huckel rule, aromatic ions, aromatic heterocycles : pyridine and pyrrole, poly cyclic aromatic compounds	Lecture Flipped learning **Problem solving based learning**	homework	**Text book Chap 15**

2&3	**Chemistry of benzene** Electrophilic aromatic substitution reactions, : Bromination and other aromatic substitutions, alkylation and acylation Substituent effects in substituited aromatic rings , an explanation of substituent effects, trisubstituted benzenes, nucleophilic aromatic substitutions, benzyen, oxidation of aromatic compounds, reduction of aromatic compounds, synthesis of trisubstituedbenzens	Lecture Flipped learning **Problem solving based learning**	homework	**Text book Chap 16**
4&5	**Alcohols and Phenols**: structure and nomenclature, acidity of phenols, synthesis, reactions, analysis of alcohols and phenols	Lecture Flipped learning **Problem solving based learning**	homework	**Text book Chap 17**
6	**Ethers and Epoxides** Names and properties of ethers, synthesis of ether , reactions Reaction of epoxides: ring opening	Lecture Flipped learning **Problem solving based learning**	homework	**Text book Chap 18**
7, 8 & 9	**Aldehyde and ketones:** structure and nomenclature, preparations, reactionsincluding(oxidation, reduction Cannizzaro reaction).	Lecture Flipped learning **Problem solving based learning**	homework	**Text book Chap 19**
10 & 11	**Carboxylic acids and nitriles,** structure and nomenclature, Physical properties acidity and their reactions.	Lecture Flipped learning **Problem solving based learning**	homework	**Text book Chap 20**
12& 13	**Carboxylic acid derivatives:** Acid chlorides , Acid anhydrides, Amides and Esters, Their structures and nomenclature, synthesis, reactions.	Lecture Flipped learning	homework	**Text book Chap 21**

		Problem solving based learning		
14& 15	**Amines: nomenclature, basicity, preparation, reaction, diazonium salts and their reactions.**	Lecture Flipped learning **Problem solving based learning**	homework	**Text book Chap 24**
16	**Final Exam**			

*Includes:lecture, flipped Class, project based learning, problemsolvingbased learning, collaboration learning.

Course Contributing to Learner Skill Development

Using Technology
Using chemdraw program Using power point or any related programs for preparing presentations
Communication Skills
Application of Concept Learnt

Assessment Methods and Grade Distribution

Assessment Methods	Grade	Assessment Time (Week No.)	Course Outcomes to be Assessed
Mid Term Exam	**% 30**	**11th week**	**K1, K2,K3 S1,S2,S3**
Term Works*	**% 30**	**Continuous**	
Final Exam	**% 40**	**16th week**	**K1, K2,K3 S1,S2,S3**
Total	**%100**		

* Include: quizzes, in-class and out of class assignment, presentations, reports, videotaped assignment, group or individual project.

Alignment of Course Outcomes with Learning and Assessment Methods

Number	Learning Outcomes	Corresponding competences	Learning Method*	Assessment Method**
Knowledge				
K1	To acquire knowledge of naming different organic compounds	**C1**	Lecture Flipped learning Problem solving based learning	Exam/subjective and objective questions
K2	To describe different organic reactions and their mechanisim	**C1,**	Lecture Flipped learning Problem solving based learning	Exam/subjective and objective questions
K3	To demonstrate the relative reactivity , acidity , and bacisty of organic compounds	**C1**	Lecture Flipped learning Problem solving based learning	Exam/subjective and objective questions
Skills				
S1	Drawing the chemical stracture of given organic molecules	**C8**	Lecture Flipped learning Problem solving based learning	Exam/subjective and objective questions
S2	Able to arrange the molecules according to their reactivity , or acidity, or bacisty	**C8**	Lecture Flipped learning Problem solving based learning	Exam/subjective and objective questions
S3	Writing the reaction mechanisuim and Plan to	**C8**	Lecture	Exam/subjective and objective

	synthesize different compounds according to their understanding of functional groups reactions.		Flipped learning Problem solving based learning	questions

*Include: lecture, flipped class, project based learning, problem solving based learning, collaboration learning.
** Include: quizzes, in-class and out of class assignments, presentations, reports, videotaped assignments, group or individual projects.

Course Polices

Policy	Policy Requirements
Passing Grade	The minimum pass for the course is (50%) and the minimum final mark is (35%).
Missing Exams	• Anyone absent from a declared semester exam without a sick or compulsive excuse accepted by the dean of the college that proposes the course, a zero mark shall be placed on that exam and calculated in his final mark. • Anyone absent from a declared semester exam with a sick or compulsive excuse accepted by the dean of the college that proposes the course must submit proof of his excuse within a week from the date of the excuse's disappearance, and in this case, the subject teacher must hold a compensation exam for the student. • Anyone absent from a final exam with a sick excuse or a compulsive excuse accepted by the dean of the college that proposes the material must submit proof of his excuse within three days from the date of holding that exam.
Attendance	The student is not allowed to be absent more than (15%) of the total hours prescribed for the course, which equates to six lecture days (n t) and seven lectures (days). If the student misses more than (15%) of the total hours prescribed for the course without a satisfactory or compulsive excuse accepted by the dean of the faculty, he is prohibited from taking the final exam and his result in that subject is considered (zero), but if the absence is due to illness or a compulsive excuse accepted by the dean of the college that The article is introduced, it is considered withdrawn from that article, and the provisions of withdrawal shall apply to it.
Academic Integrity	Philadelphia University pays special attention to the issue of academic integrity, and the penalties stipulated in the university's instructions are applied to those who are proven to have committed an act that violates academic integrity, such as cheating, plagiarism (academic theft), collusion, intellectual property rights.

Program Learning Outcomes to be Assessed in this Course

Number	Learning Outcome	Course Title	Assessment Method	Targeted Performance level

Description of Program Learning Outcomes Assessment Method

Number	Detailed Description of Assessment

Assessment Rubric of the Program Learning Outcomes
