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.	**0201330**		**Course Name**		**Pharmacology (1)**	
Credit Hours	**2**		**Prerequisite *Co-requisite**		**Pathophysiology**	
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 is designed to discuss the basic concepts of drugs activity, pharmacodynamics and pharmacokinetics. In addition, the basic and clinical pharmacology of drugs acting on autonomic nervous and cardiovascular systems will be introduced. It will cover the pharmacodynamics, pharmacokinetics, and the clinical uses of those drugs.

Learning Resources

Course Book Information (Title, author, date of issue, publisher ... etc)	Lippincott Illustrated Reviews – Pharmacology; K. Whalen, C. Field, and R. Radhakrishnan; 7th Edition; 2019; Wolters Kluwer			
Supportive Learning Resources (Books, databases, periodicals, software, applications, others)	Basic & Clinical Pharmacology; B. G. Katzung; 14 Edition; 2018; McGraw-Hill Education			
Supporting Websites	-			
The Physical Environment for Teaching	☑ **Classroom**	☐ 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		
The student should be able to:		
K1	Recognize the general concepts of pharmacodynamics and pharmacokinetics.	**MK3**
K2	Identify the mechanism of action of autonomic nervous system and cardiovascular drugs.	
K3	Recall the adverse reactions of covered drugs.	**MK3**
K4	Discuss the absorption, distribution, metabolism, and excretion (ADME) of drugs covered in this course.	**MK3**
K5	Outline the clinical uses of drugs covered in this course.	**MK3**
Skills		
The student should be able to:		
S1	Identify the role of knowing drug's pharmacokinetics and pharmacodynamics in the clinical use of drugs in general and for the drugs covered in this course.	**MS2**
S2	Predict drug-drug interactions based on the pharmacodynamics and pharmacokinetics of drugs covered in this course.	**MS2**
Competencies		
The student should be able to:		
C1	Develop his/her professional and personal performance by continuously following-up lectures, submitting tasks on time, and staying up to date with the latest drug information.	**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 ** (Pages in Course Book)
1	Pharmacokinetics (Absorption and distribution)	Lecture	1-14
2	Pharmacokinetics (Metabolism and elimination)	Lecture	15-22
3	Drug-receptor interactions and Pharmacodynamics	Lecture	23-31
4	Dose-response curve and types of agonists and antagonists	Lecture	32-36
5	The autonomic nervous system. Cholinergic agonists	Lecture	37-47 48-61
6	Cholinergic antagonists	Lecture	62-72
7	Adrenergic agonists	Lecture	73-90
8	Adrenoceptor antagonists	Lecture	91-102
9	Diuretic drugs **Midterm Exam**	Lecture	218-230
10	Antihypertensive drugs	Lecture	203-210
11	Antihypertensive drugs	Lecture	211-217
12	Drugs for Heart Failure	Lecture	231-247
13	Drugs for Heart Failure	Lecture	231-247
14	Antiarrhythmics	Lecture	248-258
15	Antiarrhythmics	Lecture	248-258
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
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