

Course Plan for Bachelor Program - Study Plan Development and Updating Procedures/ Pharmacy Department	QF02/0408-4.0E
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Study Plan No.	2021/2022	University Specialization	Bachelor of Pharmacy
Course No.	0201239	Course Name	Pathophysiology
Credit Hours	3	Prerequisite *Co-requisite	Anatomy and Physiology (2)
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
				Blended Learning	1 Face to Face: 1 Asynchronous

Brief Description

This course focuses on the pathophysiology of common disease conditions affecting human beings across the lifespan. Content builds on basic anatomy and physiology, microbiology, and chemistry obtained from earlier courses, and links these basic sciences with clinical medicine. This will help students to understand the mechanisms of the diseases and provide them with solid basis to understand further therapeutic intervention in future courses.

Learning Resources

Course Book Information (Title, author, date of issue, publisher ... etc)	Pathophysiology CM Porth; 2014, 10 th Edition.			
Supportive Learning Resources (Books, databases, periodicals, software, applications, others)	Robbins Basic Pathology (Robbins Pathology) 10 th Edition			
Supporting Websites				
The Physical Environment for Teaching	☒ Classroom	☐ Labs	☒ Virtual Educational Platform	☐ Others
Necessary Equipment and Software	- Microsoft Office. - Moodle.			
Supporting People with Special Needs				

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For Technical Support	E-Learning & Open Educational Resources Center. Email: elarning@zu.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	Outline the aspects of pathophysiology and the concepts of health and Disease.	MK3
K2	Differentiate the basic pathophysiological processes involved in diseases covered in this course.	MK3
K3	Describe the aspects of the disease process including etiology, pathogenesis, signs and symptoms.	MK3
Skills		
The student should be able to:		
S1	Classify the cell changes according to the type of injurious agents.	MS4
S2	Describe the mechanisms and physiological responses associated with diseases affecting different systems such as the cardiovascular, respiratory, and endocrine systems.	MS4
Competencies		
The student should be able to:		
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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%	30%	60%
Asynchronous Interactive Activities	30%	30%	0%	0%
Final Exam	40%	40%	40%	40%

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	Introduction to pathophysiology: • Concept of health and disease • Epidemiology and patterns of disease	Lecture Participatory learning	Chapter 1 1-11
2	Cellular Adaptations and Cell Injury	Lecture Participatory learning	Chapter 3 47-62
3	Cell death and apoptosis	Lecture Participatory learning	Chapter 3 47-62
4	Overview of Inflammation: • Definition and classification • Acute inflammation	Lecture Participatory learning	Chapter 9 223-244
5	• Inflammatory mediators • Chronic inflammation • Systemic effect of inflammation	Lecture Participatory learning	Chapter 9 223-244
6	Neoplasia: • Concepts of Cell Differentiation and Growth • Characteristics of Benign and Malignant Neoplasms	Lecture Participatory learning	Chapter 6 102-137
7	Alteration in hematological function and oxygen transport	Lecture Participatory learning	Chapter 12
8	Disorders of hemostasis and coagulation	Lecture Participatory learning	Chapter 22 384-397
9	Thrombosis: • Hypercoagulability, congestion and embolism • Vascular stem and atherosclerosis Midterm Exam	Lecture Participatory learning	Chapter 8 158-217
10	• Ischemic heart disease • Hypertension	Lecture Participatory learning	Chapter 8 274-309
11	Heart failure	Lecture Participatory learning	Chapter 8 274-309
12	Endocrine Disorders:	Lecture	Chapter 41

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	Thyroid and parathyroid disorders	Participatory learning	1188-1227
13	Endocrine Disorders: - Diseases of Adrenal Gland - Diabetes mellitus	Lecture Participatory learning	Chapter 41 1188-1227
14	Disorders of respiratory system	Lecture Participatory learning	Chapter 30-31 889-955
15	Disorders of Gastrointestinal system	Lecture Participatory learning	Chapter 35 1075-1900
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
1	Watch a recorded lecture	Video on the E-learning platform	Answer questions embedded in the video / Assignment
2	Watch a recorded lecture	Video on the E-learning platform	Answer questions embedded in the video / Assignment
3	Watch a recorded lecture	Video on the E-learning platform	Answer questions embedded in the video / Assignment
4	Watch a recorded lecture	Video on the E-learning platform	Answer questions embedded in the video / Assignment
5	Watch a recorded lecture	Video on the E-learning platform	Answer questions embedded in the video / Assignment
6	Watch a recorded lecture	Video on the E-learning platform	Answer questions embedded in the video / Assignment
7	Watch a recorded lecture	Video on the E-learning platform	Answer questions embedded in the video / Assignment
8	Self-study	A selected topic	Assignment
9	Watch a recorded lecture	Video on the E-learning platform	Answer questions embedded in the video / Assignment
10	Watch a recorded lecture	Video on the E-learning platform	Answer questions embedded in the video / Assignment

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11	Watch a recorded lecture	Video on the E-learning platform	Answer questions embedded in the video / Assignment
12	Self-study	A selected topic	Assignment
13	Watch a recorded lecture	Video on the E-learning platform	Answer questions embedded in the video / Assignment
14	Watch a recorded lecture	Video on the E-learning platform	Answer questions embedded in the video / Assignment
15	Watch a recorded lecture	Video on the E-learning platform	Answer questions embedded in the video / Assignment
16	Final Exam		