



**The University of Jordan**  
**Accreditation & Quality Assurance Center**

# **COURSE Syllabus**

<b>1</b>	Course title	Pathophysiology for pharmacy
<b>2</b>	Course number	1203301
<b>3</b>	Credit hours (theory, practical)	3 (theory)
	Contact hours (theory, practical)	3 (theory)
<b>4</b>	Prerequisites/corequisites	Physiology 2
<b>5</b>	Program title	Pharmacy/PharmD
<b>6</b>	Program code	
<b>7</b>	Awarding institution	The University of Jordan
<b>8</b>	Faculty	Pharmacy
<b>9</b>	Department	Biopharmaceutics & Clinical Pharmacy
<b>10</b>	Level of course	undergraduate
<b>11</b>	Year of study and semester (s)	Second semester of the 3 <sup>rd</sup> year
<b>12</b>	Final Qualification	Pharmacy degree, PharmD
<b>13</b>	Other department (s) involved in teaching the course	None
<b>14</b>	Language of Instruction	English
<b>15</b>	Date of production/revision	Spring 2016

**16. Course Coordinator:**

Office numbers, office hours, phone numbers, and email addresses should be listed.  
 Eman Alefishat, PhD.  
 Assistant professor of Pathophysiology  
 Office 102  
 Phone 5 355 000, Ext. 23366.  
 E-mail: E.Alefishat@JU.edu.jo  
 Office hours: 12:00-1:00 Su/Tue/Thu

**17. Other instructors:**

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**18. Course Description:**

*As stated in the approved study plan.*

This module explains the pathophysiological basis of common diseases such as diabetes, heart failure, and asthma. It provides an essential understanding of the mechanism of such diseases. The module will also cover both symptoms and disease progression

**19. Course aims and outcomes:**

**A- Aims:**

1. To enhance student's knowledge of pathophysiological basis of common diseases such as cellular response to injury/stress , inflammation, and common carcinogenesis pathways.
2. To provide students with the ability to correlate the symptoms and progression of diseases with the pathophysiology of these diseases.
3. To provide students with the ability to utilize the knowledge of the disease.to interpret clinical data and design treatment protocols.
4. To provide the students with the basis for more advanced courses in pharmacotherapy.

**B- Course Intended Learning Outcomes (ILOs):** Upon successful completion of this course students will be able to ...

Successful completion of the course should lead to the following outcomes:

A. Knowledge and Understanding: Student is expected to

A1-To understand the basic pathophysiological processes behind a certain disease

A2- To know and expect the clinical manifestations of diseases discussed in the module

B. Intellectual Analytical and Cognitive Skills: Student is expected to

B1- To predict the effect of certain factors on disease progression based on their pathophysiological knowledge

B2 To expect what kind of long term complications can result from such pathophysiological changes

C. Subject-Specific Skills: Student is expected to

C1- Analyse clinical cases based on their knowledge

C2- predict the effect of certain parameters on common pathophysiological processes

D. Transferable Key Skills: Students is expected to

D1-Critical thinking

D2-Communication

- Expected competencies for students

2.2 Identify pathophysiological basis of major human diseases

2.2 Recognize main physiological principles that govern normal body functioning

### Teaching Methods

- ✓ Lectures

### Course Material and Announcements

**Students need to use the e-learning page at the JU website in order to get all lecture handouts and guidelines which will be uploaded there.**

**In addition, course related announcements and exam results will be posted on the e-learning page and is the responsibility of each student to check the site regularly.**

**Username and password to access the course on the e-learning page will be provided to students in the beginning of the semester**

**20. Topic Outline and Schedule:**

Content	Reference	Week	ILO/s
Introduction	Pathologic basis of disease		
Cellular responses to stress and toxic insults	Pathologic basis of disease	1-2	
Apoptosis	Pathologic basis of disease	3	
Inflammation: Definition, classification and involvement in other diseases	Pathologic basis of disease	4	
Acute inflammation	Pathologic basis of disease	4	
Inflammatory mediators	Pathologic basis of disease	6	
Chronic inflammation	Pathologic basis of disease	6	
Systemic effects of inflammation	Pathologic basis of disease	6	
Angiogenesis	Pathologic basis of disease	6	
Thrombosis	Pathologic basis of disease	7	
Dyslipidemia Atherosclerosis--	<ul style="list-style-type: none"> <li>• Pharmacothe rapy a patho physiologic appro ach</li> <li>• Pathol ogic basis of</li> </ul>	8-9	

	disease			
Ischemic heart diseases	<ul style="list-style-type: none"> <li>• Pharmacotherapy a pathophysiology approach</li> <li>• Pathologic basis of disease</li> </ul>	10		
Hypertension	<ul style="list-style-type: none"> <li>• Pharmacotherapy a pathophysiology approach</li> <li>• Pathologic basis of disease</li> </ul>	11		
Heart failure	<ul style="list-style-type: none"> <li>• Pharmacotherapy a pathophysiology approach</li> <li>• Pathologic</li> </ul>	12-13		

	basis of disease			
Arrhythmia	<ul style="list-style-type: none"> <li>Pharmacotherapy a pathophysiologic approach</li> </ul>	13		
Diabetes mellitus	<ul style="list-style-type: none"> <li>Pharmacotherapy a pathophysiologic approach</li> <li>Pathologic basis of disease</li> </ul>	14-15		
Asthma	<ul style="list-style-type: none"> <li>Pharmacotherapy a pathophysiologic approach</li> </ul>	15		
Classification and characterization of benign and malignant neoplasms	<ul style="list-style-type: none"> <li>Pharmacotherapy a pathophysiologic</li> </ul>	16		

	approach <ul style="list-style-type: none"> <li>• Pathologic basis of disease</li> </ul>			
Cancer epidemiology	<ul style="list-style-type: none"> <li>• Pharmacotherapy a pathophysiologic approach</li> <li>• Pathologic basis of disease</li> </ul>	16		
Molecular basis of multi-step carcinogenesis	<ul style="list-style-type: none"> <li>• Pharmacotherapy a pathophysiologic approach</li> <li>• Pathologic basis of disease</li> </ul>	16		
Invasion and metastasis	<ul style="list-style-type: none"> <li>• Pharmacotherapy a pathophysiologic</li> </ul>	16		



	logic approach <ul style="list-style-type: none"> <li>• Pathologic basis of disease</li> </ul>			
Grading and staging of tumors	<ul style="list-style-type: none"> <li>• Pharmacotherapy approach</li> <li>• Pathologic basis of disease</li> </ul>	16		
Renal failure		16		
Final Exam		17		

## 21. Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:

ILO/s	Learning Methods	Evaluation Methods
A1,A2 ,B1,B2,C1, C2,D1 ,D2	Lectures	Exams, Quizzes

### Learning skills:

1. Critical thinking
2. Problem-solving skills

## 22. Evaluation Methods and Course Requirements:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

1. Exams
2. Quizzes

## 23. Course Policies:

A- Attendance policies:

**Attendance: Mandatory.**

**First warning** – with 4 absences

**Last warning** – with 5 absences

Failing in the subject – with 6 absences

B- Absences from exams and handing in assignments on time:

Will result in zero achievement unless health report or other significant excuse is documented.

C- Health and safety procedures:

NA

D- Honesty policy regarding cheating, plagiarism, misbehavior:

The participation, the commitment of cheating will lead to applying all following penalties together

- 1) Failing the subject he/she cheated at
- 2) Failing the other subjects taken in the same course
- 3) Not allowed to register for the next semester. The summer semester is not considered as a semester

E- Grading policy:

Exams and Quizzes.

Mid Exam:	40 points
Quizz:	10 points
Final Exam:	50 points

Total

100 points

F- Available university services that support achievement in the course:

Classrooms, internet classes

#### 24. Required equipment:

Datashow and internet connection

#### 25. References:

A- Required book (s), assigned reading and audio-visuals:

1. Pathologic basis of disease, professional edition. Robbins and Cotran. Eighth Edition. Saunders Elsevier. 2010

Pharmacotherapy; A pathophysiologic approach. Joseph T. DiPiro et al.,. Eighth Edition. McGraw Hill. 2011

B- Recommended books, materials, and media:

Pathophysiology of Disease: An Introduction to Clinical Medicine 7/E 7th Edition  
by Gary D. Hammer, Stephen J. McPhee

#### 26. Additional information:

Name of Course Coordinator: Eman Alefishat -Signature: ----- Date:

Feb, 14, 2016

Head of curriculum committee/Department: ----- Signature: -----  
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Head of Department: Nailya Bulatova Signature: -----

Head of curriculum committee/Faculty: ----- Signature: -----  
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Dean: ----- -Signature: -----

Assurance

Copy to:  
Head of Department  
Assistant Dean for Quality

Course File