



فلنجعل من الأردن العرب جامعة للعرب

Faculty : Pharmacy
Department : Clinical Pharmacy & Therapeutics
Academic Year : 2018-2019
Semester : Second

(Course Syllabus)

| Subject Name | Credit Hours | Course No. | Prerequisite | Concurrent course |
|---------------|--------------|------------|------------------------|-------------------|
| Physiology II | 2 | 906220 | 906210 Physiology I | ----- |

| Coordinator Name | Lecturer/s | Room No. | E-mail | Course website | Office Hours |
|--------------------|--------------------------------------|----------|--|---|--------------|
| Prof. M. Abu-Samak | Prof.M. Abu-Samak Dr. Muna Brakat | 218 | m_abusamak@asu.edu.jo m_barakat@asu.edu.jo; | http://bio.asu.edu.jo/bio/index.jsp | |

Course description:

This course is a continuation of physiology I. The course will cover a selection of the following topics: Neurophysiology, endocrine and Renal physiology. The course is pharmaceutically-directed to prepare pharmacy student for better understanding of pathophysiological basis and the mechanism of drug action.

Course Objectives

Upon successful completion of the course:

1. The students should be able to understand homeostatic mechanisms in all body systems particularly, nervous, endocrine and renal.
2. The students should be able to describe mechanisms of neurotransmitters actions for more understanding of drug action in pharmacology I.
3. The students should be able to describe the mechanism of action of neuropeptides, hormones and antihypertensive factors for more understanding of drug action in pharmacology I, II and III.

Intended Learning Outcomes

Following the successful completion of this course, the student should be able to:

A. Knowledge and understanding:

- A1. Describe the general physiological processes used by the body to maintain homeostasis
- A2. Describe the homeostatic mechanisms in normal and abnormal conditions
- A3. Describe abnormal changes in physiological regulatory mechanisms on the basis of physiological laws.
- A4. Describe drug action and treatment of the disease on the basis of physiological concepts and laws.

B. Subject specific skills:

- B1. To correlate between scientific laws and physiology concepts.
- B2. To apply constructivism method of knowledge on physiology course topics
- B3. To develop student's skills of identifying, describing and using concepts of human physiology-II in any course of pharmaceutical sciences they need.

C. Cognitive and Intellectual skills:

C.1. **Lecture notes** based on the course textbook and latest scientific references in pathophysiology .

C.2. **Problem solving** based on a constructivism method of thinking: The ability to conceptualise, apply analyze, synthesize and/or evaluate information gathered from, or generated by, observation experience reflection, reasoning or communication .

C.3 **Critical thinking** : The ability to analyze critique and to synthesize logic correlation in order to solve human health problems in relation to pathophysiology .

C.4 **Promotion of intrinsic motivation** via encourage alternative methods of assessment : (group discussion, , improve learning method of the course by participating or creating applicable ideas (e.g L: E-learning method : animation , new data , project...).

D. Transferable Skills:

D1. To have **constructivism method of knowledge and thinking** : Help students to transfer their skills to the real world.

D2. **Writing skills** : The ability to communicate information in different assignment forms.

D3. **Oral communication skills** : The ability to communicate information verbally, formally or informally, to people both expert (faculty staff) and non-expert in the field (students) ; Students are required to deliver an oral presentation or in class group discussion.

D4 **Promotion of intrinsic motivation** : How to learn via student participation in the development of the course (e.g. search and provide the course with new related data or material :animation , projects , information.

D5. **Team work**: The ability to work effectively in teams and to be able to re-adjust roles from one project situation to another

D6. **IT skills**: The ability to accept learn and adapt to new technology and make the most of the opportunities it presents (e.g., Online Exam, online assignments, report design , online team communication via ASU online system)

D7. **Administrative skills**: The ability to commit and respect the regulations and instructions .

(e.g., Attendance , Online Exam, online assignments, report design , online team communication ..)

Teaching and Learning Methods:

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

| ILOs | Learning Methods | Evaluation Methods |
|----------------|--|--|
| A1-A4 | 1. Lecture notes based on data show slides and animations. | Electronic online exam (Multiple choice questions). |
| B1-B3 | 1. Assignments 2. Class discussion 3. Team work and group discussion 4. Promotion of intrinsic motivation | Provided assignment form (1-5 marks) 1 mark for each participation Discussion committee (1-5) Scientific materials to develop the course (1-3 marks). |
| C1-C4 D1-D7 | 1. Lecture notes based on data show slides and animations. 2. Assignments 3. Class discussion 4. Team work and group discussion 5. Promotion of intrinsic motivation | Electronic online exam (Multiple choice questions) Provided assignment form (1-5 marks) 1 mark for each participation Discussion committee (1-5) Scientific materials to develop the course (1-3 marks). |

Course Content:

| Week | Date | Lecture number | Topic's Details | Exams/ /quizes / holiday s | Main Reference (chapter) | ILOs achieved |
|------|-----------|----------------|---|--|-----------------------------|------------------------------|
| 1 | 24/2/2019 | 2 | An introduction to Physiology-II Concepts of physiology laws and constructivism method of thinking | | Ref1: Ch.1 | A1, B1, C1 |
| 2 | 3/3/2019 | 2 | Neurophysiology I: Cell Membrane and Membrane Potentials Electrical Signals and Synaptic Transmission | | Ref1: Ch.2 | A2, B2, C.1, , C.2 |
| 3 | 10/3/2019 | 2 | Neurophysiology II: Synapses and NMJ | | Ref1: Ch.4- Ch.6 | A2, B2, C.1, , C.2 |
| 4 | 17/3/2019 | 4 | Neurophysiology III:ANS Neurotransmitters | | Ref1: Ch.7; Ch.17 | A3,A4, B2, B3,C.1- C.4 |
| 5 | 31/3/2019 | 2 | Neurophysiology IV: CNS | | Ref1: Ch.10-ch 16 | A3,A4, B2, B3,C.1- C.4 |
| | 7/4/2019 | | FIRST EXAM | | | |
| 6 | 15/4/2019 | 3 | Endocrine System I: Hypothalamic- pituitary axis physiology | | Ref1: Ch.18;Ch.24 | A3,A4, B2, B3,C.1- C.4 |

| | | | | | |
|-------|-----------|---|--|-----------------------------------|------------------------------|
| 7 | 22/4/2019 | 3 | Endocrine System II: Thyroid, adrenal , parathyroid glands and gonads physiology | Ref1: Ch.20;Ch.22; Ch.23;Ch.25 | A3,A4, B2, B3,C.1- C.4 |
| 8 | 29/4/2019 | 3 | Endocrine System III Pancrease and Diabetes Mellitus physiology | Ref1: Ch.17-Ch.21 | A3,A4, B2, B3,C.1- C.4 |
| 9 | 5/5/2019 | | SECOND EXAM | | |
| 10 | 12/5/2019 | 2 | Renal physiology I GFR and regulation of renal function | Ref1: Ch.38 | A3,A4, B2, B3,C.1- C.4 |
| 11 | 19/5/2019 | 2 | Renal physiology II Renal regulation of blood pressure and blood volume | Ref1: Ch.39 | A3,A4, B2, B3,C.1- C.4 |
| 12 | 26/5/2019 | 2 | Renal physiology III Renal regulation of acid-base, potassium , calcium balance | Ref1: Ch.40 | A3,A4, B2, B3,C.1- C.4 |
| 13 | 2/6/2019 | 2 | Renal physiology IV Renal regulation of erythropoieisis | Ref1: Ch.39 | A3,A4, B2, B3,C.1- C.4 |
| 14 | 27/5/2018 | 2 | Evaluation of student activities | | B1,B2,B3 C2-C3 D1-D7 |
| 15&16 | | | FINAL EXAM | | |

Grade Distribution:

Your course grade will be determined by the following:

| Assessment Method | % of Final Grade | Due Date |
|---|------------------|---|
| Exams | 90 | To be annouced by Examination committe |
| Student activities : assignments , Class participation; Attendance; responsibilities | 10 | To be annouced by the course coordinator |

Distribution of examination material (may vary depending on material included)

Course Policies:

A- Attendance policies:

Attendance: Mandatory.

First warning – with _____ 5 _____ absences

Last warning – with _____ 7 _____ absences

Failing in the subject – with _____ 8 _____ 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: N/A

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.
4. The summer semester is not considered as a semester

E- Grading policy:

Exams and Activities.

First Exam: _ 20 _____ points
Second Exam _ 20 _____ points
Assignments/activities : _ 10 _____ points
Final Exam: _ 50 _____ points
Total: _ 1 00 _____ points

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

Required equipment:

Data show and internet connection

Make-up Exam Policy:

Make-up exams will be offered for valid reasons. They may be different from regular exams, both in content and format.

Textbooks information:

Main Reference:

Principles of Anatomy and Physiology, by Gerard J. Tortora, Bryan H. Derrickson, 15th Edition. ISBN: 978-1-119-32064-7 , December 2016.

Other References:

1. Ganong's Review of Medical Physiology by Kim E. Barrett, Susan M. Barman, Heddwen L. Brooks, Jason X.-J. Yuan, 26th edition. McGraw-Hill Education / Medical; 26 edition (January 29, 2019).
- 2.
3. Guyton and Hall Textbook of Medical Physiology (Guyton Physiology) by John Hall. Saunders; 13 edition (June 3, 2015)

No side talks during lecture

No mobile phones during lecture

Entering the lecture theatre after the instructor is not permitted.

Homework should be done by students independently and will be asked at the exams

Course Material and Announcements

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

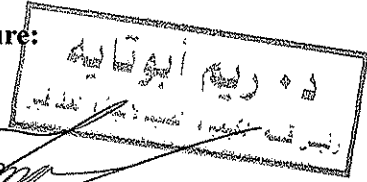
In addition, course related announcements and exam results will be posted on the e-learning page and is the responsibility of each student to check the site regularly.

Name of Course Coordinator: Prof. Mahmoud Abu-Samak Signature:  Date: 25-02-2018

Head of curriculum committee: Reem Abotayeh Signature: 

Head of Department:  Signature: 

Dean: _____ Signature: 



Copy to:

Head of Department
Head of curriculum committee
Course File

C 26 / version 3

Date:

رقم إجراء الخطة الدراسية 19 (29 UF) QP