

Faculty : Pharmacy
Department: Clinical pharmacy and therapeutics
Academic Year: 2018-2019
Semester : Second

(Course Syllabus)

Subject Name	Credit Hours	Course No.	Prerequisite	Concurrent course
Practical pharmacology	1	906321	Pharmacology I 906310	Pharmacology II 906320

Coordinator Name	Lecturer/s	Room No.	E-mail	Course website	Office Hours
Samar Khater, Msc.	Dr. May Abu Taha Dr. Luay Hason Samar Khater, Msc. Rajaa Daghash, Msc.	4208 4118 4213 4205	m_abutaha@asu.edu.jo loalhasoun1@yahoo.com samar_ktr@asu.edu.jo r_dagash@asu.edu.jo	http://bio.asu.edu.jo/bio/index.jsp	As shown on individual lecturer time table

Course Description:

The course is designed to allow the students to perform experiments on laboratory animals, thus enabling them to implement and observe some of the pharmacological phenomena and acquire some principles of scientific research. Pharmacological experiments include handling of animal, routes of administration, dose response relationship, drug-drug interactions, organophosphate insecticide poisoning, insulin hypoglycemic shock, and evaluation of the analgesic activity of drugs.

Course objectives:

- 1- To introduce pharmacy students to some of the basic methods used for studying the effects of drugs on animals.
- 2- To enable the students to understand how can the effects of drugs be modified by other drugs and conditions.
- 3- To extend the student's knowledge to the effects and therapeutic uses of drugs in humans.

Intended Learning Outcomes:

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

Knowledge and understanding: The student should be able to:

- A1. Have knowledge about the types of animals used in experimental pharmacology and the importance of these methods.
- A2. Differentiate between the different routes of drug administration used in experimental animals, including their advantages and disadvantages.
- A3. Appreciate the importance of establishing dose response relationships for drugs and list their types.
- A4. Differentiate between pharmacodynamic and pharmacokinetic drug interactions.
- A5. Describe the effects of different drugs on the eye and explain the mechanism producing these effects.
- A6. Describe the pharmacological effects of cholinergic agonists with special emphasis on glandular secretions.
- A7. List the signs and symptoms of poisoning with organophosphates and relate these to the mechanism

of action and list the antidotes used in treatment.

- A8. List and differentiate between the classes of analgesics and their therapeutic uses.
A9. List the signs and symptoms of insulin induced hypoglycemia with examples of conditions that may enhance it.
A10. Appreciate the effect of drugs on motor coordination in mice.

B. Subject specific skills: The student should be able to:

- B1. Correctly handle and administer drugs to major types of experimental animals.
B2. Calculate drug doses for animals based on the body weight.
B3. Perform some experimental techniques to evaluate specific drug actions, for example: hypnotic, hypoglycemia and analgesic effects.
B4. Observe and record effects of drugs after administration of drugs.
B5. Explain the effects of drugs observed on animal and relate them to the mechanism of drug action.

C. Cognitive and Intellectual skills: The student should be able to:

- C1. Calculate drug doses and dose volumes for experimental animals.
C2. Explain and interpret drug effects observed on experimental animals.
C3. Analyse of data collected from experimental animals.

Transferable Skills: The student should be able to:

- D1. Work effectively within a team.

Teaching and Learning Methods:

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

ILOs	Learning Methods	Evaluation Methods
A1-A9 B1- B5	Short oral lectures Demonstration of experimental procedure	Written quizzess and written final exam
B1- B5 C1-C3 D1	Performing experiments on animals Oral discussion of experimental results	Evaluation of group performance of experiment and data collection Written quizzess and written final exam
C1-C3 D1	Writing reports after each experiment	Grading lab reports

Course Content:



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Week	Date	Lecture number	Topic's Details	Exams/ quizzes/ holidays	Main Reference (chapter)	ILOs achieved
1	24/2-28/2		No lab			
2	3/3-7/3	Lab 1	Safety rules and Animal Handling A visit to the animal house		Practical pharmacology manual	A1
3	10/3-14/3	Lab 2	Routes of administration in animals by measurement of blood glucose after administration of glucose to animals using different routes of administration		Practical pharmacology manual	A2, B2, C1, D1
4	17/3-21/3	Lab 3	Dose response relationship Studying the dose response relationship using the diuretic effect of furosemide		Practical pharmacology manual	A3,D1
5	24/3-28/3	Lab 4	Drug Interactions Factors influencing ethanol action including drug-drug interaction		Practical pharmacology manual	A4, B1-B5,D1
6	31-/4/4 <u>First exam</u>	Lab 5	Effect of drugs on the rabbit eye and glanular secretions in rats. To investigate effects of certain drugs on the eye and the parasympathetic system on glandular secretions, and to pharmacodynamically explain those effects		Practical pharmacology manual	A5, A6, B1-B5, C2
7	7/4-11/4 <u>First exam</u>	Lab 6	Effect of drugs on motor coordination in mice by using the Rota-Rod method		Practical pharmacology manual	A9, B1-B5, C1-C3
8	14/4-18/4	Lab 7	Insulin hypoglycemic shock :Testing the effect of different conditions on the hypoglycemic effect of insulin in mice.		Practical pharmacology manual	A9, B1-B5, C1-C3 ,D1
9	21/4-25/4	Lab 8	Evaluation of the analgesic effect of drugs Evaluation of the analgesic effects of drugs using the Hot-plate method in mice		Practical pharmacology manual	A8, B1-B5,C1-C3 D1
10	28/4-2/5	Lab 9	Evaluation of the analgesic effect of drugs Evaluation of the analgesic effects of drugs		Practical pharmacology manual	A8, B1-B5, C1-C3 D1

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24/233 Resolution number

Accreditation date: 31/01/2018



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			using the acetic acid writhing test in mice			
11	5/5-9/5	Lab 10	Organophosphate Insecticide Poisoning To review organophosphorous insecticide poisoning and its treatment, and to study the effects of organophosphates in animals and the antidotes used for treatment of poisoning.		Practical pharmacology manual	A7, B1-B5, C1-C3 D1
12	12/5-16/5 Second exam period		Off lab week			
13	19/5-23/5 Second exam period		Off lab week			
14	26/5-30/5		Final practical exams			
15	2/6- 9/6		Eid Holiday			
/16						

Grade Distribution:

Your course grade will be determined by the following:

Assessment Method	% of Final Grade	Due Date
Written lab reports	15	
Lab work evaluation	15	
Written quizzes	30	
Final Exam(written)	40	

* Provisional dates are scheduled in the course schedule. Each instructor will announce the exact date for the quizzes of each section at the beginning of the semester.

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

Example:

Course Policies:

A- Attendance policies:

Attendance: Mandatory.

First warning – with 1 absences

Last warning – with 2 absences

Failing in the subject – with 3 absences

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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.

Exams and Quizzes.

Reports and evaluation	30 points
Written quizzes	30 points
Final exam	40 points
Total:	100 points

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

Classrooms, internet classes, ASU online web site (messages, assignment, and notes)

24. Required equipment:

Equipment for pharmacology lab, white board

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:

Manual of practical pharmacology

Other References:

Additional information:

No side talks during lecture

No mobile phones during lecture

Entering the lecture theatre after the instructor is not permitted.



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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 hand-outs and guidelines which will be uploaded there.

In addition, course related announcements and exam results will be posted on the ASU online AND/OR course website and is the responsibility of each student to check the sites regularly.

Name of Course Coordinator: Samar Khater

Signature:

Samar Khater
سamar khater

Date: 3/3/2019

Head of curriculum committee:

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رئيسة اللجنة المركزية والمناهج

Signature:

Head of Department: _____

Signature:

د. ريم أبو تايه
رئيسة اللجنة المركزية والمناهج

Dean: _____

Signature:

[Handwritten Signature]

Copy to:
Head of Department
Head of curriculum committee
Course File