



COURSE SPECIFICATION

(2016 / 2017)

1 - Basic Information:

Course title: Veterinary pharmacology (A& B)

Academic Year: third year *of B. V. Sc. Program*

Total teaching hours: 150 hrs

- Lectures: **90 hrs**

- Practical/small group sessions: **60 hrs**

2 - OVERALL AIMS OF THE COURSE:

- 1- To qualify students to understand the pharmacology of different body systems, chemotherapy of parasitic, viral, fungal and microbial infections, drug pharmacokinetics, pharmacodynamics with special reference to drugs sources, chemical structure, drugs side effects, interactions, toxicity, residues, therapeutic uses and their clinical application in the veterinary field.
- 2- To credit the students in performing different types of drug bioassays and evaluation of drug activity.

3 - INTENDED LEARNING OUTCOMES (I. L. Os.):

3-A: KNOWLEDGE and UNDERSTANDING:

By the end of the course, students should be able to:

- A1.** Explain the principles of general pharmacology, pharmacokinetics and pharmacodynamics of drugs .
- A2.** Recognize the major classes of drugs affecting the different body organs and systems beside autacoids and anti inflammatory agents.
- A3.** Describe the drugs affecting metabolism and growth promoting agents.
- A4.** Discuss the different chemotherapeutic agents acting on bacterial , parasitic, mycotic ,viral, and cancer diseases beside insecticides , rodenticides ,antiseptics and disinfectants .

A5. Identify the general and special toxicology with reference to the general lines of treatment of toxicity cases and use of antidotes.

A6. List the clinical application of drugs to various field problems and drug bioassays.

3-B: INTELLECTUAL SKILLS:

By the end of the course, students should be able to:

B1. Investigate the basic lines for the use of drugs in farm animals and poultry.

B2. Assess a good link between drugs and their economy use in the veterinary field.

B3. Solve and manage of veterinary therapeutics problems such as drug residues, drug-drug interactions, drug side effects and toxicity.

B4. Develop the different lines of treatment and evaluate the field efficacy of antidotes against the different toxic conditions.

B5. Select the appropriate laboratory animal or in-vitro test for a specific experiment.

B6. Interpret the results of different laboratory tests.

3- C: PRACTICAL AND PROFESSIONAL SKILLS:

By the end of the course, students should be able to:

C1. Estimate the drugs actions in-vivo and in-vitro.

C2. Use appropriate basic laboratory equipment and animals safely and efficiently.

C3. Differentiate between the different forms of drugs and routes of administration.

C4. Write different types of prescriptions.

C5. Prepare some drugs and pharmaceutical preparations essential for veterinary field.

3- D: GENERAL SKILLS:

By the end of studying the course, the graduate should be able to:

D1. Coach and work in groups.

D2. Classify different duties.

D3. Utilize computer and internet skills in editing and presentations.

D4. Develop the ethical behaviors between students and staff members as well as among the students themselves.



4 - COURSE CONTENTS:

4.A:- First semester topics:-

TOPIC	Total hours (Semester)	Hours for lecture	Hours for practical
Introduction and general pharmacology	15	15	-
Drug affecting on autonomic nervous system, autacoids and anti-inflammatory drugs	15	15	-
Drugs affecting on central nervous system and general anaesthetic drugs	12	12	-
Drug affecting on cardiovascular system	3	3	-
Drug sources and active principles of plants	2	-	2
Laboratory animals and routes of drug administration.	2	-	2
Autonomic drugs	2	-	2
Experimental pharmacology on isolated tissue preparations	12	-	12
Experimental pharmacology on intact animals.	12	-	12
Total	75	45	30

4.B:- Second semester topics:-

TOPIC	Total hours (Semester)	Hours for lecture	Hours for practical
Pharmacology of systems	12	12	-
Drugs affecting metabolism and growth promoting agents	3	3	-
Chemotherapy	20	20	-
Drug toxicology	5	5	-
Clinical pharmacology and miscellaneous drug studies	5	5	-
Drug forms and preparations	2	-	2
Prescription writing and Types	2	-	2
Posology and metrology	2	-	2
Compounding and dispensing of drugs	20	-	20
Drug samples	4	-	4
Total	75	45	30

5- TEACHING & LEARNING METHODS:

*Lectures:

- Using data show and white board.

*Practical and small group sessions:

- Practical training.
- Practical demonstrations, practice of skills and discussions.

* Site visits:

- No site visits.

* Self learning:

- **Computer researches and faculty library visits to prepare essays and presentations:**
 - Library researches.
 - Internet researches.
 - Discussion in the researches.
 - Preparation of scientific reports.

* Audiovisual:

- Video show.

6. METHODS FOR STUDENTS With limited capabilities:-

- **No disabled students until now, but if present the methods are:**
 - Activation of office hours.
 - Discussion with them during practical session.
 - Activation of electronic lectures.

7. STUDENT ASSESSMENT:

<u>7.a Used methods</u>	Written examination	Oral examination	Practical examination	Activities
<u>7.b time</u>	Two hours written exam at the end of each term	One oral exam at the end of each term	One practical sheet and one practical experiment at the end of each term	One exam and one research after 5th week of each term
<u>7.c grads</u>	50	20	20	10

8. LEARNING AND REFERENCE MATERIALS:

8-1: BASIC MATERIALS:

- **Department notes:** available for students to purchase from bookshops in front of the faculty.

8-2: Recmended books:

- **Richard A Harvey, Pamela C. Champe, Richard Finkel, and Luigi X. Cubeddu (2014).** Lippincott's Illustrated Reviews: Pharmacology, 6th Edition (Lippincott's Illustrated Reviews Series).
- **Bertram G. Katzung, Susan B. Masters, and Anthony J. Trevor (2015).** Basic and Clinical Pharmacology, 13th Edition (LANGE Basic Science).

8-3: Suggested books:

- **James M. Olson (2016).** Clinical Pharmacology Made Ridiculously Simple (5th Edition).
- **Laurence L. Brunton, Bruce A. Chabner and Björn C. Knollmann (2011).** Goodman & Gilman's The Pharmacological Basis of Therapeutics (12th ed.). New York: McGraw-Hill. ISBN 978-0-07-162442-8. 2084 pp.

Bertram G. Katzung, Susan B. Masters, and Anthony J. Trevor (2015). Basic and Clinical Pharmacology, 13th Edition (LANGE Basic Science).

- **Henry Hitner and Barbara Nagle (2015).** Pharmacology: An Introduction (7th edition) (Revised).
- **Marilyn Winterton Edmunds PhD ANP/GNP and Maren Stewart Mayhew MS, ANP/SBN (2014).** Pharmacology for the Primary Care Provider (4th edition).

8.4: Web sites and jouranlsand so on:

- WWW.PubMed.com
- Intrnational of veterinary information services (IVIS)
- www.Vet.net.com
- Journal of molecular pharmacology
- Biological and pharmaceutical bulletin
- Journal of veterinary pharmacology



Intended learning out comes of each topic of the course:

TOPIC	K.U (a)	I.S (b)	P.P.S (c)	G.T.S (d)
1st Semester				
Introduction and general pharmacology	A1	B3	-	D3
Drug affecting on autonomic nervous system, autacoids and anti-inflammatory drugs	A2- A6	B1-B2-B3	-	D3
Drugs affecting on central nervous system and general anaesthetic drugs	A2- A6	B1-B2-B3	-	D3
Drug affecting on cardiovascular system	A2- A6	B1-B2-B3	-	D3
Drug sources and active principles of plants	-	B5-B6	C3- C5	D1- D2- D4
Laboratory animals and routes of drug administration.	-	B5-B6	C2- C3	D1- D2- D4
Autonomic drugs	-	B5-B6	C1- C2	D1- D2- D4
Experimental pharmacology on isolated tissue preparations.	-	B5-B6	C1- C2	D1- D2- D4
Experimental pharmacology on intact animals.	-	B5-B6	C1- C2	D1- D2- D4
2nd Semester				
Pharmacology of systems	A1-A2-A6	B1-B2-B3	-	D3
Drugs affecting metabolism and growth promoting agents	A1 -A3-A6	B1-B2-B3	-	D3
Chemotherapy	A1- A4-A6	B1-B2-B3	-	D3
Drug toxicology	A1- A5-A6	B3- B4	-	D3
Clinical pharmacology and miscellaneous drug studies	A6	B1-B2-B3	-	D3
Drug forms and preparations	-	B1-B2-B3	C3	D1- D2- D4
Prescription writing and Types	-	B1-B2-B3	C4	D1- D2- D4
Posology and metrology	-	B1-B2-B3	C4	D1- D2- D4
Compounding and dispensing of drugs	-	B1-B2-B3	C4- C5	D1- D2- D4



Kafrelsheikh University
Faculty of Veterinary Medicine



Drug samples	-	B1-B2-B3	C3- C5	D1- D2- D4
Total				

Intended learning out comes Evaluation

Methods	I.L.O.S Evaluation				Marks allocated
	Knowledge	Intellectual	Practical	general	
Written examination	A1.A2.A3.A4. A5.A6	B1-B2-B3- B4	-	-	50
Oral examination	A1.A2.A3.A4. A5.A6	B1-B2-B3- B4	-	D4	20
Practical examination	-	B5- B6	C1-C2-C3- C4-C5	-	20
Activities	-	B1-B2- B3- B4	-	D1-D2-D3-D4	10

Course Coordinator

Head of Department

Dr. America Almeldeen

Prof. Dr. Kamal Ahmed El-Shazly