



**DAMANHOUR UNIVERSITY  
FACULTY OF VETERINARY MEDICINE**

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**THIRD YEAR SUBJECT CODES**

<b>1<sup>st</sup> semester</b>	3APAR	Parasitology
	3ABACT	Bacteriology and Mycology
	3AVIR	Virology
	3APPRO	Poultry Breeding and production
	3APATH	Pathology
	3APHARM	Pharmacology
	3AIM	Basic Immunology
<b>2<sup>nd</sup> semester</b>	3BPAR	Parasitology
	3BBACT	Bacteriology and Mycology
	3BVIR	Virology
	3BPPRO	Poultry Breeding and production
	3BPATH	Pathology
	3BPHARM	Pharmacology
	3BCPATH	Clinical Pathology

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## Pharmacology Course Specifications (2020 - 2021)

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<b>Program(s) on which the course is given:</b>	BVSc	
<b>Department offering the program:</b>	---	
<b>Department offering the course:</b>	Pharmacology	
<b>Major or Minor element of programs:</b>	Major	
<b>Academic year /Level:</b>	3 <sup>rd</sup> Year	1 <sup>st</sup> and 2 <sup>nd</sup> semesters
<b>Date of specification approval:</b>		

### A. BASIC INFORMATION

<b>Title:</b> Pharmacology	<b>Code:</b> 3APHARM, 3BPHARM	
<b>Hours:</b>		
<b>Lectures:</b> 3 hrs/week	<b>Practical:</b> 2 hrs/week	<b>Total:</b> 5 hours/week

### B. PROFESSIONAL INFORMATION

#### 1. Overall aims of the course:

- Knowledge: About the pharmacological bases of therapeutics, clinical Pharmacology and drug-drug interactions in diseased animals. Practical experiments on isolated as well as intact animal preparations to understand the mode and site of action of drugs.
- Skills: Advantages and disadvantages of drug-drug interactions in veterinary practice. Pharmacological control of various drug combinations.

#### 2. Intended Learning Outcomes (ILOs) of the Course:

##### a. Knowledge and Understanding:

- a1** Define the pharmacokinetics of commonly used veterinary drugs.
- a2** Define the pharmacodynamics of commonly used veterinary drugs.
- a3** Explain the expected adverse effects of commonly used veterinary drugs.
- a4** Identify the expected adverse effects of drugs in diseased animals.

##### b. Intellectual Skills:

- b1** Apply the chemotherapeutic agents on pharmacological bases to diseased animals.
- b2** Compare between the chemotherapeutic agents to choose the suitable drug to diseased animals.
- b3** How to manage with problems due to drug administration.
- b4** Evaluate the drugs according to their side effects and efficacy.

##### c. Professional and Practical Skills:

- c1** Carry out routes and techniques of drug administration.

- c2 Practicing dosage calculations, using the metric system and other systems of measurements.
- c3 Capable of using lab equipment and/or applying standard procedures for drug evaluation.
- c4 Designing and carry out research projects.

**d. General and Transferable Skills:**

- d1 Report writing about medications should be administered, and any adverse reactions that may occur.
- d2 Advise the optimal route of drug administration to obtain the maximal bioavailability.
- d3 Group working, good management and problem solving ability.

**3. Contents:**

<b>1<sup>st</sup> Semester</b>	
<b>Topic</b>	<b>Lectures</b>
<b>General Pharmacology:</b>	14
<ul style="list-style-type: none"> <li>▪ Pharmaceutical preparations</li> <li>▪ Drug administration</li> <li>▪ Pharmacokinetics</li> <li>▪ Pharmacodynamics</li> <li>▪ Factors affecting drug actions</li> <li>▪ Drug / drug interactions</li> </ul>	
<b>Special Pharmacology Drugs acting on:</b>	23
<ul style="list-style-type: none"> <li>▪ Central nervous system</li> <li>▪ Autonomic nervous system</li> <li>▪ Cardiovascular system</li> </ul>	
<b>2<sup>nd</sup> Semester</b>	
<b>Special Pharmacology Drugs acting on:</b>	21
<ul style="list-style-type: none"> <li>▪ Reproductive system</li> <li>▪ Respiratory system</li> <li>▪ Gastrointestinal tract</li> <li>▪ Urinary system</li> <li>▪ Skin</li> <li>▪ Eye</li> </ul>	
<b>Autacoids and anti-inflammatory agents</b>	3
<b>Chemotherapy</b>	18
<b>Antiseptic and disinfectants</b>	3
<b>Drug Toxicology</b>	4
<b>Clinical Pharmacology</b>	4
<b>Total</b>	<b>90</b>

<b>1<sup>st</sup> Semester</b>	
<b>Practical Topic 1<sup>st</sup> semester</b>	<b>No. of hours</b>
▪ Sources of drugs.	2
▪ Laboratory animals.	2
▪ Action of autonomic drugs on isolated perfused rabbit's intestine.	2
▪ Demonstration of the mode of action and site of action of an unknown drug on isolated rabbit's intestine.	2
▪ Demonstration of the effect of autonomic drugs on toad's heart.	2
▪ Demonstration of the mode and site of action of an unknown drug on the heart.	2
▪ Demonstration of the site and mode of action of an unknown provided on isolated toad's.	2
▪ Effect of Drugs on uterine muscles.	2
▪ Effect of neuromuscular blockers on the isolated rectus abdominis of the toad's.	2
▪ Effect of locally instilled drugs on the rabbit's eye.	2
▪ Demonstration of the mode of action of unknown drug that produce mydriasis on topical application of rabbit's eye.	2
▪ Central Nervous System Stimulants and General anesthesia.	2
<b>Total 24</b>	
<b>2<sup>nd</sup> Semester</b>	
<b>Practical Topic 2<sup>nd</sup> semester</b>	<b>No. of hours</b>
▪ Drug forms.	2
▪ Prescription.	2
▪ Posology, Metrology and Medical dosage.	2
▪ Dispensing solutions.	2
▪ Dispensing lotions.	2
▪ Dispensing emulsions.	2
▪ Dispensing solutions liniments.	2
▪ Dispensing ointments.	2

▪ Dispensing bolus and electuaries.	2
▪ Dispensing powders.	2
▪ Dispensing mixtures.	2
▪ Dispensing ophthalmic preparations.	2
<b>Total</b>	<b>24</b>

#### 4. Teaching and Learning Methods:

- 4.1 Lectures and practical for every topic in the course
- 4.2 Collection of some information from textbooks.
- 4.3 Field visits (drug companies)
- 4.4 Study of pharmacological principles on isolated animal preparations as well as on intact anesthetized animals.

#### 5. Student Assessment Methods:

Exam		
5.1	Written Mid-term	To assess the ability to remember and understand
5.2	Written Final-term	To assess the ability to remember and understand
5.3	Practical Final-term	To assess professional skills
5.4	Oral Final-term	To assess skills of discussion

#### Assessment Schedule (in each semester):

	Exam	Week
Assessment 1	Written Mid-term	8 <sup>th</sup>
Assessment 2	Written Final-term	16 <sup>th</sup>
Assessment 3	Practical Final-term	16 <sup>th</sup>
Assessment 4	Oral Final-term	16 <sup>th</sup>

#### Weighing of assessments

	Exam	Per Semester (%)	Total (%)
Assessment 1	Written Mid-term	10	20
Assessment 2	Written Final-term	25	50
Assessment 3	Practical Final-term	10	20
Assessment 4	Oral Final-term	5	10
	<b>Total</b>	<b>50</b>	<b>100</b>

#### 6. List of References:

##### 6.1. Course Notes:

Lecture and Practical Notes. By staff members

##### 6.2. Essential Books:

- 1- Applied Pharmacology for Veterinary Technicians. 5th Edition Authors: Boyce Wanamaker Kathy Massey. eBook ISBN: 9780323291705. eBook ISBN: 9780323186636  
Paperback ISBN: 9780323186629. Imprint: Saunders. Published Date: 27th March 2014
- 2- Veterinary Pharmacology and Therapeutics, 9th Edition. Jim E. Riviere (Editor), Mark G. Papich (Editor). ISBN: 978-0-813-82061-3 Mar 2009, Wiley-Blackwell

##### 6.3. Recommended Books:

Veterinary Pharmacology and Therapeutics, 9th Edition. Jim E. Riviere (Editor), Mark G. Papich (Editor). ISBN: 978-0-813-82061-3  
Mar 2009, Wiley-Blackwell

**6.4. Periodicals, websites, ..... etc**

- 1- J. Vet. Pharmacology and Therapeutics.
- 2- Am. J. Vet. Res.

**7. Facilities Required for Teaching and Learning**

- Microscope, computers, overhead projectors, mobile screens for exhibition.
- Organ baths.
- Kymograph.
- Glass wares

**Course Coordinator:** Prof. Hazem Mohammed Shaheen

**Date:** 14/10/2020