Beni Suef University
Faculty of Veterinary Medicine
Department of Pharmacology

Program Specification for Master Degree
2017-2018

A-Basic information:

1- Program title: *MVSC.,*
2- Program type: *Single*
3- Department offering program: Pharmacology
4-Academic year: *2017-2018*
5-Approval date of Department Council:
6-Approval date of Faculty Council:
7-External evaluator: Prof. Dr. Taha Abd El fattah Mohamed

B-Professional information:

1- Overall aims of the program:

1-Provide graduates the opportunity to develop communication skills.
2-Enable graduates to achieve competency in modern laboratory technology.
3- Allow graduates to develop practical research project.
4-Develop the ability of graduate to engage critically with scientific literature and to critically review and present their own research data.
5- Identify quality principles and basics of veterinary pharmacology.
6- Identify all branches of pharmacology, pharmacology of systems, pharmacodynamics and pharmacokinetics of different drugs, chemotherapy, endocrine pharmacology, fish pharmacology, clinical pharmacology, physiology and toxicology.

2- Intended learning outcomes of course (ILOs):

a- Knowledge and understanding:

On successful completion of this program the graduate should be able to :

a1-Describe advanced research techniques used in the field of pharmacology.

a2-Acquire specialized principles, theories and hypotheses in the veterinary pharmacology, physiology and toxicology.

a3-Acquire specialized knowledge about drugs affecting ANS, CNS, Reproductive system (Autacoids and reproductive Hormones), Urinary system, Respiratory system, Digestive system, Cardiovascular system, Skin and eye,anasthesia ,metabolism and fish pharmacology.

a4- Identify efficiently veterinary professional practice regulations and ethics.

a5- Sustain quality principles and basics in veterinary professional practice.

b- Intellectual skills:

On successful completion of master program the graduate should be able to:

b1- Identify and conceptualize pharmacological research problems .

b2- critically evaluate their own research data and develop new approach to solving their research questions

b3- develop creative approaches to solving technical problems or issues associate with running and researches project.

b4- identify , summarize and evaluate prior researches finding in a specific area.

b5-Solve veterinary pharmacological problems of the surrounding community.

c- Professional and practical skills:

On successful completion of this program the graduate should be able to:

c1- Apply the principles of good experimental design and analysis to their own research project .

c2- Select and perform relevant statistical analysis on data obtained for their own research .

c3- Prepare the postgraduate to make the drug forms necessary for treatment certain diseases.

c4- Write efficiently the veterinary professional reports.

d- General and transferable skills:

On successful completion of this program the graduate should be able to:

dl- Ensure effective communication.

d2- Utilize the information technology (IT skills) in the development of veterinary professional practice.

d3- Practice self-evaluation and need assessment.

d4- Utilize different available resources for efficient obtaining of knowledge and information.

d5- Mange time and work in research group.

d6- Lead a team work in a certain professional task.

d7- Own continuous and self-learning.

3- Academic standers:

* The faculty mission, vision and strategic objective are confirmed to the academic standard. The learning outcomes are inline with the department and the faculty mission.

* Postgraduates NARS (March 2009) Master degree chapter issued by national authority for quality assurance and accreditation of education (NAQAAE) and Veterinary medicine post graduate academic standards (ARS) for the faculty of veterinary medicine, Beni-Suef University, Beni-Suef, Egypt are selected to confirm the appropriateness of the academic standards .

4- Program Structure and Contents

A- Program duration: At least two academic years from the approval of registration by the Faculty Council and maximum four years. The faculty council has the right to give the applicant another period not excced two years according to the supervisor request

The first year for preliminary courses study, while the second year for researches and preparation of the Master Thesis.

B- Program structure: Hours/ week:

Basic course:-

Theoretical	4	Practical	7	Total	11

Subsidiary courses:-

Theoretical	4-8	Practical	6-8	Total	10-16

☒ **Master Thesis: completed during the second academic year.**

C- Program courses:

1- basic courses

Code	Course title	Hours /week		Academic year	Teaching duration
		theoritical	practical		
	Master Principal course	3	4	Preliminary year	36 weeks
	Research methods	1	3	Preliminary year	36 weeks

2-subsidiary courses

Code	Course title	Hours /week		Academic year	Semester
		Theoretical	practical		
	Selected (3-5) courses depending on the thesis title from the various Faculty Master courses other than specialty of the Master.	5-6	6-9	Preliminary year	36 weeks

D- Courses contents

See master courses specification

5- Program Admission Requirements

a- According to the Faculty of Veterinary Medicine, Beni-Suef University Bylaws for Post Graduate Programs, applicants should have BVSc., from an Egyptian University or equivalent degree from any approved university, with at least general grade (Good) and (Very Good) in the specialized subject.

b- Also if the student has postgraduate diploma in one specialization of total (3 hours) at least with general grade (Good) and (Very good) in the specialized subject.

c- According to Beni-Suef University requirements, all applicants for postgraduate studies should fulfill preliminary courses on the following subjects:

I- English language (Toefl or equivalent degree)

2- Computer skills (ICDL) or equivalent computer course.

d- Admission to the program is open during March and September annually after at least one year from the BVSc degree.

6. Regulations for Progression and Program Completion

After finishing the preliminary courses, the graduate student will be eligible to sit for the examination according to the following roles:

No. of course teaching hours/ week	Allowed time for written exam.	Degree	
		Theoretical	Practical and oral exam
≥ 3 hours	3 hours	50	50
≤ 3 hours	2 hours	25	25

- It is mandatory to pass all the courses each chance except biostatic (212)

-The passing mark in each exam is ⩾ 60%.
-The faculty council has the right to deprive the applicant from entering the exams if his attendance courses is less than 75% .

Qualification grades:

Excellent	≥ 90
Very good	≥80
Good	≥70
Pass	≥60
Failed	45 to less than 60 weak
	Less than 45 Very weak

-After passing, the graduate starts research for Master Thesis at the beginning of the second year.
-The candidate will receive his degree after evaluating and approving the thesis by a committee according to University regulations.
-The applicant should publish at least two scientific papers from the thesis in local or international journals

7-Graduate student assessment

A: Assessment Tools

According the Faculty of Veterinary Medicine, Beni-Suef University Bylaws for Post Graduate, students should be assessed at the end of preliminary year and the thesis should be evaluated and approved by a committee according to University regulations.

1-Preliminary year

Assessments methods for each course	**practical exam**	**Oral exam**	**Written exam**
Time of Assessments	By the end of the year	By the end of the year	By the end of the year
Marks	25	25	50

2-Master Thesis:

All master-degree students should prepare a thesis in pharmacology

The department council must approve the protocol (plan) of the research. The thesis is supervised by one or more staff members and may include other specialties according to the nature of the research. The thesis should be evaluated and approved by a committee according to University regulations.The applicant should publish at least one scientific paper from the thesis in local or international journals

B- Matrix alignment of the measured ILOs

Assessments methods	Matrix alignment of the measured ILOs			
	K&U (a)	I.S (b)	P&P. S (c)	G&T. S (d)
written exam	a1,a3,a4,,a6	b1,b2,b4	c1,c3,c4,	
Practical exam	a3,a4,a5	b1,b2,b4	c1,c2,c5	d1,d2
Oral exam	a1,a2,a3,a4, a5	b1,b2,b3	c1,c2	d1,d3,d4,5,

Course coordinator
Dr. Abeer Mohamed Radi

Head of the Department
Prof. Dr. Mohamed Abd Allah Tohamy

Master Program Specification Matrix (Program Courses with ILOS)

Program ILOs		courses
Knowledge and understanding	**a1**	M-103
	a2	M-103,M-104, M106, M107, M109, M110, M111
	a3	M-104, M-105, M-106, M-107,M-108, M-109, M-110, M-111, M-112
	a4	M-103, M-112
	a5	M-103, M-112
Intellectual skills	**b1**	M-103, M-104, M-105, M-106, M-107,M-108, M-109, M-110, M-111, M-112, Thesis
	b2	M-103, M-104, M-105, M-106, M-107,M-108, M-109, M-110, M-111, M-112, Thesis
	b3	M-103, M-104, M-105, M-106, M-107,M-108, M-109, M-110, M-111, M-112, Thesis
	b4	M-103, M104, M105, M106, M107,M108, M109, M110, M111, M112, Thesis
	b5	M-103, M104, M105, M106, M107,M108, M109, M110, M111, M112, Thesis
Professional and practical skills	**c1**	M-104, M-105, M-106, M-107,M-108, M-109, M-110, M-111, M-112, Thesis
	c2	M-103, M-212, Thesis
	c3	M-103, Thesis
	c4	M-112, Thesis
General and transferable skills	**d1**	M-110, M-112, M-82
	d2	M-103, M-112,M-212
	d3	M-103, M-104, M-105, M-106, M-107,M-108, M-109, M-110, M-111, M-112,M-212
	d4	M-103, M-104, M-105, M-106, M-107,M-108, M-109, M-110, M-111, M-112, M-212, M-82
	d5	M-82,M-103

Program aims – ILOS Matrix for the Master program (MVSc)

مصفوفة اهداف البرنامج مع مخرجات التعلم المستهدفة

Program ILOs Program ILOS		Program aims					
		1-Provide graduates the opportunity to develop communication skills.	2-enable graduates to achieve competency in modern laboratory technology.	3- Allow graduates to develop practical research project.	4- Develop the ability of graduate to engage critically with scientific literature and to critically review and present their own research data.	5- Identify quality principles and basics of veterinary pharmacology.	6- Identify all branches of pharmacology, pharmacology of systems, pharmacodynamics and pharmacokinetics of different drugs, chemotherapy, endocrine pharmacology, fish pharmacology, clinical pharmacology, physiology and toxicology.
Knowledge and understanding	a1-Describe advanced research techniques used in the field of pharmacology.				√		
	a2-Acquire specialized principles, theories and hypotheses in the veterinary pharmacology, physiology and toxicology.						√
	3- Allow graduates to develop practical research project.			√			
	a4- Identify efficiently					√	

Program ILOs / Program ILOS		Program aims					
		1-Provide graduates the opportunity to develop communication skills.	2-enable graduates to achieve competency in modern laboratory technology.	3- Allow graduates to develop practical research project.	4- Develop the ability of graduate to engage critically with scientific literature and to critically review and present their own research data.	5- Identify quality principles and basics of veterinary pharmacology.	6- Identify all branches of pharmacology, pharmacology of systems, pharmacodynamics and pharmacokinetics of different drugs, chemotherapy, endocrine pharmacology, fish pharmacology, clinical pharmacology, physiology and toxicology.
	veterinary professional practice regulations and ethics.						
	a5- Sustain quality principles and basics in veterinary professional practice.					√	
Intellectual skills	b1- Identify and conceptualize pharmacological research problems .		√		√		
	b2- critically evaluate their own research data and develop new approach to solving their research questions			√			
	b3- develop creative approaches to solving technical problems or issues associate with running and researches project.			√	√		
	b4- identify , summarize and		√	√			

Program ILOs Program ILOS		Program aims					
		1-Provide graduates the opportunity to develop communication skills.	2-enable graduates to achieve competency in modern laboratory technology.	3- Allow graduates to develop practical research project.	4- Develop the ability of graduate to engage critically with scientific literature and to critically review and present their own research data.	5- Identify quality principles and basics of veterinary pharmacology.	6- Identify all branches of pharmacology, pharmacology of systems, pharmacodynamics and pharmacokinetics of different drugs, chemotherapy, endocrine pharmacology, fish pharmacology, clinical pharmacology, physiology and toxicology.
	evaluate prior researches finding in a specific area.						
	b5-Solve veterinary pharmacological problems of the surrounding community.		√		√		
Practical and professional skills	c1- Apply the principles of good experimental design and analysis to their own research project .			√	√		
	c2- Select and perform relevant statistical analysis on data obtained for their own research .						
	c3- Prepare the postgraduate to make the drug forms necessary for treatment certain diseases.				√		
	c4- Write efficiently the veterinary professional reports.			√			

Program ILOs Program ILOS		Program aims					
		1-Provide graduates the opportunity to develop communication skills.	2-enable graduates to achieve competency in modern laboratory technology.	3- Allow graduates to develop practical research project.	4- Develop the ability of graduate to engage critically with scientific literature and to critically review and present their own research data.	5- Identify quality principles and basics of veterinary pharmacology.	6- Identify all branches of pharmacology, pharmacology of systems, pharmacodynamics and pharmacokinetics of different drugs, chemotherapy, endocrine pharmacology, fish pharmacology, clinical pharmacology, physiology and toxicology.
General and transferable skills	dl- Ensure effective communication.	√					
	d2- Utilize the information technology (IT skills) in the development of veterinary professional practice.		√	√			
	d3- Practice self-evaluation and need assessment.			√	√		
	d4- Utilize different available resources for efficient obtaining of knowledge and information.		√				
	d5- Mange time and work in research group.	√					
	d6- Lead a team work in a certain professional task.	√					
	d7- Own continuous and self-learning.	√	√				

		Program aims					
Program ILOs **Program ILOS**		1-Provide graduates the opportunity to develop communication skills.	2-enable graduates to achieve competency in modern laboratory technology.	3- Allow graduates to develop practical research project.	4- Develop the ability of graduate to engage critically with scientific literature and to critically review and present their own research data.	5- Identify quality principles and basics of veterinary pharmacology.	6- Identify all branches of pharmacology, pharmacology of systems, pharmacodynamics and pharmacokinetics of different drugs, chemotherapy, endocrine pharmacology, fish pharmacology, clinical pharmacology, physiology and toxicology.

Master Program Specification Matrix (Program ILOS with Academic standers ARS)

Academic standers / Program ILOs		Knowledge and understanding						Intellectual skills							Professional and practical skills						General and transferable skills						
		a1	a 2	a 3	a 4	a5	a6	b1	b 2	b 3	b4	b 5	b6	b 7	c1	c2	c3	c4			d 1	d2	d3	d4	d5	d6	d7
Knowledge and understanding	a1						x																				
	a2	x																									
	a3																										
	a4		x	x	x																						
	a5					x																					
Intellectual skills	b1							x																			
	b2								x																		
	b3									x																	
	b4											x															
	b5										x			x													
Professional and practical skills	c1														X												
	c2																										
	c3																X										
	c4												x			X		X									
	c5																										
General and transferable skills	d1																				x					x	
	d2																					x					
	d3																						x				x
	d4																							x			
	d5																								x		

Beni-Suef University
Faculty of Veterinary Medicine

Course specification (2017-2018)

1-Basic information

Course Code:	MBC-Pharm
Course title :	Master Basic Course
Program title:	Master of Veterinary Science (Vet. Pharmacology)
Contact hours/ week	7 hours/ week, (Lect. 3hrs/ week, Practical. 4hrs/week)
Approval Date	

2-Professional information

Overall aims of course:

By the end of this course the student is able to:

a1- Develop communication skills and improve scientific co-operation in research groups.

a2-Identify quality principles and basics in veterinary pharmacology.

a3- Identify all branches of pharmacology, pharmacodynamics and pharmacokinetics of different drugs, chemotherapy, endocrine pharmacology, fish pharmacology, clinical pharmacology, physiology and toxicology.

a4- Develop the ability of graduate to engage critically with scientific literature and to critically review and present their own research data.

a5- Allow graduates to develop practical research project.

a6- Enable graduates to achieve competency in modern laboratory technology.

3- Intended learning outcomes of course (ILOs)

A-Knowledge and understanding:

By the end of this course the student should be able to:

a1- Acquire specialized principles, theories and hypotheses in the veterinary pharmacology.

a2- Identify efficiently the pharmacokinetics and pharmacodynamics of different drugs.

a3- Recognize up to date pharmacological research.

a4- Acquire specialized knowledge about drugs affecting ANS, CNS, Reproductive system, Urinary system, Respiratory system, Digestive system, Cardiovascular system, Skin and eye,anasthesia, metabolism and fish pharmacology.

a5- Sustain quality principles and basics in veterinary professional practice.

a6- Recognize therapeutic uses, side effects and toxicity of different drugs.

a7- Describe advanced research techniques used in the field of pharmacology.

Course specification (2017-2018)

b-Intellectual skills

By the end of this course the student should be able to:

b1- Identify and conceptualize pharmacological research problems .

b2- Solve veterinary pharmacological problems of the surrounding community.

b3- identify , summarize and evaluate prior researches finding in a specific area.

b4- Design a scientific research plan.

b5- Prepare the graduate to deal pharmacologically with certain cases suffering from veterinary diseases.

b6- Discuss therapeutic uses, side effects and toxicity of different drugs.

b7- Differentiate between the effects of different drugs act on body systems.

c-Professional and practical skills

By the end of this course the student should be able to:

c1- Write the veterinary professional reports.

c2- make the drug forms necessary for treatment certain diseases.

c3- Prepare the postgraduate to make the drug forms necessary for treatment certain diseases.

c4- Apply the principles of good experimental design and analysis to their own research project .

c5- Perform the research plan of his/her Master thesis

d-General and transferable skills

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

d1- Practice self-evaluation and need assessment.

d2- Utilize the information technology (IT skills) in the development of veterinary professional practice.

d3- Lead a team work in a certain professional task.

d4- Own continuous connection with drug companies, pharmacists and the friends in the career.

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
General Pharmacology (Lec. h./week, Pract h./week)	Introduction	7	3	4
	Drug sources	7	3	4
	Drug forms	7	3	4
	Drug absorption	7	3	4
	Drug distribution	7	3	4
	Drug metabolism	7	3	4

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	Drug excretion	7	3	4
	Duration of drug action	7	3	4
	Drug residues	7	3	4
	Pharmacodynamics review	7	3	4
	Effects of drug in the body	7	3	4
	Mechanism of drug action	7	3	4
	Concept of cell receptors	7	3	4
	Tachyphlaxis	7	3	4
	Dose response relationship	7	3	4
	Posology	7	3	4
	Therapeutic index	7	3	4
	Drug and body weight	7	3	4
	Drug and age	7	3	4
	Drug and sex	7	3	4
	Drug and species	7	3	4
	Drug and route of drug administration	7	3	4
	Drug and forms	7	3	4
	Drug and frequency of drug administration	7	3	4
	Drug and time of drug administration	7	3	4
	Drug and amount of the dose	7	3	4
	Drug and disease conditions	7	3	4
	Drug accumulation	7	3	4
	Drug intolerance	7	3	4
	Drug tolerance	7	3	4
	Idiosyncrasy	7	3	4
	Drug allergy	7	3	4
	Drug dependence	7	3	4
	Drug tolerance	7	3	4
	Pharmacokinetic interaction	7	3	4
	Pharmacodynamic interaction	7	3	4
	Total	**252**	**108**	**144**

5-Teaching and learning methods

5.1- Lectures using board, data shows

5.2- Self learning by preparing essays and presentations (computer researches and faculty library)

5.3- Practical (models, samples of drugs).

6-Teaching and learning methods for the students with disabilities

Not applicable

7-Student assessment

7.1. Assessments methods:

Course specification (2017-2018)

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	I.S	P&P.S	G.S
Written Exam	a1-a4	b1-b4		
Practical Exam	a1-a4	b1-b4	c1-c5	d1-d4
Oral Exam	a1-a4	b1-b2		d1-d4

7.2. Assessment schedules/semester:

Method	Week(s)
Practical exams	During the last month
Written exams	During the last month
Oral Exam	During the last month

7.3. Weight of assessments:

Assessment	Weight of assessment
Practical exams	25 %
Written exams	50 %
Oral Exam	25 %
Total	100 %

8- List of references

8.1. Notes and books

* Notes of pharmacology (part I and part ll) by staff member of pharmacology department.

* Note of practical pharmacology

8.2. Essential books:

(Available in library of Faculty of Veterinary Medicine, Beni-Suef University)

***Walker, D.G.; Renwick, A.G. and Hillier, K. (2001):**
Medical pharmacology and therapeutics
First Ed. University of Southampton printed in Spain

***Mehdi Borougerdi. (2002):**
Pharmacokinetics: Principles and applications.
Dep. of Pharmaceuitical Science-School of pharmacy, North Easten Univ. Bostom.

8.3. Recommended texts

(Available in library of Faculty of Veterinary Medicine, Beni-Suef University)

***Stockly, I.H. (1999):**
Drug interactions, 5th Ed.

Course specification (2017-2018)

University of Nottingham Medical School, Nottingham, UK

***Goodman, L.S. and Gilman, A. (2001):**
The pharmacological basis of therapeutics, 10th Ed.
Iowa State University Press USA

***Nicholas H. Booth and E. Mcdonald (2005):**
Jones Veterinary Pharmacology and Therapeutics, 5th Ed, Pharmaceutical press publisher

***Robert L. Bill (2006):**
Clinical Pharmacology and Therapeutics For The Veterinary Technician, 3rd Ed. Vet.
Physiology and pharmacology. School of Vet. Medicine. Purdue Univ. indiana

***S. Giguere. J. F. (2006):**
Antimicrobial therapy in Veterinary Medicine, 4th ed.
Black well publishing

***Bertram. G. (2007):**
Basic and clinical pharmacology. 10th .ed.
Dep. of cellular and molecular pharmacology. Unv. of calfornia, San Francisco.

8.4. Journals, Websites ……..etc

Journals:

*Journal of Pharmaceutical Science
*Journal of Veterinary Pharmacology and Therapeutics
*Antimicrobial Agents and Chemotherapy
*British Journal of Pharmacology
*The Pharmacological Basis of Therapeutics
*Journal of Antimicrobial Chemotherapy
*Journal of Antibiotics

Websites:

http//www.sciencedirect.com/scince

ncbi.nlm.nih.gov/entrez/query.fcgi

Course Coordinators	Head of Department
Dr. Abeer Mohammed Radi	Prof. Dr. Mohammed AbdAlla Tohamy

Course specification

Topic	Week	Intended learning outcomes of course (ILOs)			
		K&U (a)	I.S (b)	P.P.S (c)	G.T.S (d)
*General pharmacology	1,2,3	1		1,6	1,3
*Drug affecting Autonomic Nervous System.	3,4,5	2	1,2,3	5	1,3
* Drug affecting Central N.Sys.	5,6,7,8	2	1,2,3	5	1,3
* Drug affecting Reproductive Sys.	8	2	1,2,3		1,3
* Drug affecting Skin and Eye	9	2	1,2,3	4	1,3
* Drug affecting Urinary System.	10	2	1,2,3		1,3
* Drug affecting Cardiovascular System.	10,11	2	1,2,3		1,3
* Drug affecting Respiratory System.	11,12	2	1,2,3	4	1,3
* Drug affecting digestive system	12,13	2	1,2,3	4	1,3
* Drug affecting hormones	13	2	1,2,3		1,3
*Antibiotics	1,2	3	1,2,3	2	1,3
*Sulfonamides	3	3	1,2,3	2	1,3
*Other antimicrobials	3,4	3	1,2,3	2	1,3
*Anthelmintic drugs	4,5	3	1,2,3	2	1,3
*Antifungal drugs	5	3	1,2,3	2	1,3
*Antiprotozoal drugs	6,7	3	1,2,3	2	1,3
*Drug affecting metabolism	7,8	3	1,2,3	2	1,3
*Disinfectants and antiseptics	8	3	1,2,3	2	1,3
*Antiviral drugs	9	3	1,2,3	2	1,3
*Antitubercular drugs	9	3	1,2,3	2	1,3
*Antitumor drugs	9	3	1,2,3	2	1,3
* Clinical pharmacology	10,11	3	1,2	3,4	1,2,3

Course specification

***Drug toxicology**	11,12	4	1,2		1,2,3
***Fish pharmacology**	12,13	4	1,2		1,3

Beni-Suef University
Faculty of Veterinary Medicine

Course Specification of Postgraduate

1-Basic information

Course Code:	M-103
Course title :	General Pharmacology
Program title:	Master of Veterinary Science (Vet. Pharmacology)
Contact hours/ week	4 hours/ week, (Lect. 2hrs/ week, Practical. 2hrs/week)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

a1- Develop communication skills and improve scientific co-operation in research groups.
a2-Identify quality principles and basics in veterinary pharmacology.
a3- Develop the information technology skills of veterinary pharmacology .
a4- Detect and solve the pharmacological problems based on scientific and research evidence.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

By the end of this course the student should be able to:

a1- Acquire specialized principles, theories and hypotheses in the veterinary pharmacology.
a2- Identify efficiently the pharmacokinetics and pharmacodynamics of drugs.
a3- Recognize up to date pharmacological research.
a4- Discuss therapeutic uses, side effects and toxicity of different drugs.

b-Intellectual skills

By the end of this course the student should be able to:

b1- Select the appropriate methods for determination of the drug actions, mechanism of action, kinetics, side effects and toxicity.
b2- Differentiate between the effects of different drugs act on body systems.
b3- Evaluate the drug residues.
b4- Design a scientific research plan.

C- Professional and practical skills

By the end of this course the student should be able to:

c1- Write the veterinary professional reports.
c2- make the drug forms necessary for treatment certain diseases.
c3- Analyze factors that leads to failure of drug treatments.
c5- Perform the research plan of his/her Master thesis

d- General and transferable skills

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

d1- Practice self-evaluation and need assessment.
d2- Own continuous and self-learning of programs of computer related to pharmacology such as (R-strip, Micromath, Scientific software, USA).
d3- Lead a team work in a certain professional task.

Course Specification of Postgraduate

d4- Own continuous connection with drug companies, pharmacists and the friends in the career.

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
General Pharmacology (Lec. h./week, Pract h./week)	Introduction	4	2	2
	Drug sources	4	2	2
	Drug forms	4	2	2
	Drug absorption	4	2	2
	Drug distribution	4	2	2
	Drug metabolism	4	2	2
	Drug excretion	4	2	2
	Duration of drug action	4	2	2
	Drug residues	4	2	2
	Pharmacodynamics review	4	2	2
	Effects of drug in the body	4	2	2
	Mechanism of drug action	4	2	4
	Concept of cell receptors	4	2	2
	Tachyphlaxis	4	2	2
	Dose response relationship	4	2	2
	Posology	4	2	2
	Therapeutic index	4	2	2
	Drug and body weight	4	2	2
	Drug and age	4	2	2
	Drug and sex	4	2	2
	Drug and species	4	2	2
	Drug and route of drug administration	4	2	2
	Drug and forms	4	2	2
	Drug and frequency of drug administration	4	2	2
	Drug and time of drug administration	4	2	2
	Drug and amount of the dose	4	2	2
	Drug and disease conditions	4	2	2
	Drug accumulation	4	2	2
	Drug intolerance	4	2	2
	Drug tolerance	4	2	2
	Idiosyncrasy	4	2	2
	Drug allergy	4	2	2
	Drug dependence	4	2	2
	Drug tolerance	4	2	2
	Pharmacokinetic interaction	4	2	2
	Pharmacodynamic interaction	4	2	2
	Total	**144**	**72**	**72**

Course Specification of Postgraduate

5-Teaching and learning methods

5.1- Lectures using board, data shows

5.2- Self learning by preparing essays and presentations (computer researches and faculty library)

5.3- Practical (models, samples of drugs).

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	**I.S**	**P&P.S**	**G.S**
Written Exam	a1-a4	b1-b4		
Practical Exam	a1-a4	b1-b4	c1-c5	d1-d4
Oral Exam	a1-a4	b1-b2		d1-d4

7.2. Assessment schedules

Method	Week(s)
Practical exams	During the last month
Written exams	During the last month
Oral Exam	During the last month

7.3. Weight of assessments

Assessment	Weight of assessment
Practical exams	25 %
Written exams	50 %
Oral Exam	25 %
Total	100 %

8- List of references

8.1. Notes and books

Departmental notes on:

* Basis of pharmacology by Prof. Dr. Mohamed Abd Allah Tohamy (2015/25136).

*Textbook of practical pharmacology

8.2. Essential books:

- ***(Present in library of Faculty of Veterinary Medicine, Beni-Suef University)***

***Walker, D.G.; Renwick, A.G. and Hillier, K. (2001):**

Medical pharmacology and therapeutics.

First Ed. University of Southampton printed in Spain

8.3. Recommended texts:

-- ***(Present in library of Faculty of Veterinary Medicine, Beni-Suef University)***

***Nicholas H. Booth and E. Mcdonald (2005):**

5th Edition, Jones Veterinary Pharmacology and Therapeutics (2005)

***Goodman, L.S. and Gilman, A. (2006):**

Course Specification of Postgraduate

The pharmacological basis of therapeutics 8th Ed. Iowa State University Press USA
***Robert L. Bill (2006):**
3rd Edition, Clinical Pharmacology and Therapeutics for the Veterinary Technician
***Satish K. Garg (2006):** 1st Edition-Reprint, Veterinary Toxicology

8.4. Journals, Websites ……..etc

Journals:

*Journal of Veterinary Pharmacology and Therapeutics
*The Pharmacological Basis of Therapeutics
*British Journal of Pharmacology

Websites:

httpi//www.sciencedirect.com/scince?

ncbi.nlm.nih.gov/entrez/query.fcgi?

Course Coordinators	Head of Department
Dr. Abeer Mohamed Radi	Prof. Dr. Mohamed Abd Allah Tohamy

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
			K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	**Introduction**	1	a3	b1-b4		d1-d4
2	**Drug sources**	2	a1	b1-b2	c1-c5	d1,d2,d4
3	**Drug forms**	3	a1	b1-b2	c1-c5	d1,d2,d4
4	**Drug absorption**	4	a2	b1-b2	c1-c5	d1,d2,d4
5	**Drug distribution**	5	a2	b1-b2	c1-c5	d1,d2,d4
6	**Drug metabolism**	6	a2	b1-b2	c1-c5	d1,d2,d4
7	**Drug excretion**	7	a2	b1-b2	c1-c5	d1,d2,d4
8	**Duration of drug action**	8	a2	b1-b2	c1-c5	d1,d2,d4
9	**Drug residues**	9	a1-a3	b1-b2	c1-c5	d1,d2,d4
10	**Introduction of pharmacodynamic**	10	a2,a4	b1-b2	c1-c5	d1-d4
11	**Effect of drugs**	11	a1- a4	b2	c1-c5	d1-d4
12	**Mechanism of drug action**	12	a2	b2	c1-c5	d1-d4
13	**Concept of cell receptors**	13	a2	b2	c1-c5	d1-d4
14	**Tachyphlaxis**	14	a2	b3	c1-c5	d1-d4
15	**Dose response relationship**	15	a1	b1-b2	c1-c5	d1-d4
16	**Posology**	16	a1	b1-b2	c1-c5	d1-d4
17	**Therapeutic index**	17	a2	b1-b2	c1-c5	d1-d4
18	**Drug and body weight**	18	a2- a4	b1-b2	c1-c5	d1-d4
19	**Drug and age**	19	a2- a4	b1-b2	c1-c5	d1-d4
20	**Drug and sex**	20	a2- a4	b1-b2	c1-c5	d1-d4
21	**Drug and species**	21	a2- a4	b1-b2	c1-c5	d1-d4
22	**Drug and route of drug administration**	22	a2- a4	b1-b2	c1-c5	d1-d4

Course specification

23	**Drug and forms**	23	a2	b1-b2	c1-c5	d1-d4
24	**Drug and frequency of drug administration**	24	a2	b1-b2	c1-c5	d1-d4
25	**Drug and time of drug administration**	25	a2	b1-b2	c1-c5	d1-d4
26	**Drug and amount of the dose**	26	a2	b1-b2	c1-c5	d1-d4
27	**Drug and disease conditions**	27	a2	b1-b2	c1-c5	d1-d4
28	**Drug accumulation**	28	a2- a4	b3	c1-c5	d1-d4
29	**Drug intolerance**	29	a2- a4	b3	c1-c5	d1-d4
30	**Drug tolerance**	30	a2- a4	b3	c1-c5	d1-d4
31	**Idiosyncrasy**	31	a2- a4	b3	c1-c5	d1-d4
32	**Drug allergy**	32	a2- a4	b3	c1-c5	d1-d4
33	**Drug dependence**	33	a2- a4	b3	c1-c5	d1-d4
34	**Drug tolerance**	34	a2- a4	b3	c1-c5	d1-d4
35	**Pharmacokinetic interaction**	35	a2- a4	b1-b4	c1-c5	d1-d4
36	**Pharmacodynamic interaction**	36	a2- a4	b1-b4	c1-c5	d1-d4

Beni-Suef University
Faculty of Veterinary Medicine

Course Specification of Postgraduate

1-Basic information

Course Code:	M-104
Course title :	Central nervous system pharmacology
Program title:	Master of Veterinary Science (Vet. Pharmacology)
Contact hours/ week	4 hours/ week, (Lect. 2hrs/week, Practical. 2hrs/week)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

-Acquire knowledge and skills related to the pharmacological actions of different drugs on central nervous system.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

By the end of this course the student should be able to:

a1- Acquire specialized principles about different C.N.S transmitters and C.N.S receptors.
a2- describes pharmacological action, therapeutic uses, toxicity and antidotal treatment.
a3- Acquire specialized knowledge about C.N.S drugs and their therapeutic uses and mechanism of action .
a4- Recognize therapeutic uses, side effects and toxicity of different drugs.

b-Intellectual skills

By the end of this course the student should be able to:

b1- Select the appropriate C.N.S acting drugs, pharmacological actions and mechanism of action.
b2- Interpret the effect of different drugs on C.N.S
b3- Prepare the student to deal pharmacologically with certain cases suffering from veterinary diseases.
b4- Take decisions regarding the therapeutic uses of these drugs

C- Professional and practical skills

By the end of this course the student should be able to:

c1- Practice pharmacological actions of C.N.S acting drugs, their toxicity and antidotal treatment.
c2- Prepare the postgraduate to make the drug forms necessary for treatment certain diseases.
c3- Perform the research plan of his/her Master thesis

d- General and transferable skills

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

d1- Practice self-evaluation and need assessment.
d2- Lead a team work in a certain professional task.
d3- Own continuous connection with drug companies, pharmacists and the friends in the career.

Course Specification of Postgraduate

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
Central nervous system pharmacology (Lec. h./week, Pract h./week)	Introduction	4	4	-
	Chemical transmitters in the CNS	4	4	-
	Mechanism of action of centrally acting drugs	8	8	-
	CNS stimulants review	8	2	6
	Cerebral cortex stimulants	4	4	-
	Medullary stimulants	4	2	2
	Spinal cord stimulants	4	2	2
	CNS depressants review	8	4	4
	Sedatives	4	2	2
	Hypnotics	8	4	4
	Tranquilizers	8	4	4
	Analgesics	8	8	-
	Narcotic analgesics	8	6	2
	Antipyretic analgesics	8	2	6
	Pre-anesthetic medication	8	4	4
	General anesthesia	4	2	2
	Volatile anesthetics	4	2	2
	Non volatile anesthetics	8	2	6
	Local anesthetics	8	2	6
	Methods of producing local anesthesia	4	2	2
	Methods of application of local anesthetics	4	2	2
	Methods of prolonging duration of action of local anesthetics	8	2	6
	General pharmacological actions of local anesthetics	8	2	6
	Total	**144**	**72**	**72**

5-Teaching and learning methods

5.1- Lectures using board, data shows

5.2- Self learning by preparing essays and presentations (computer researches and faculty library)

5.3- Practical (models, samples of C.N.S drugs).

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	**I.S**	**P&P.S**	**G.S**
Written Exam	a1-a3	b1-b4		
Practical Exam	a1-a3		c1-c3	d1-d3
Oral Exam	a1-a3	b1-b4		d1-d3

Course Specification of Postgraduate

7.2. Assessment schedules

Method	Week(s)
Practical exams	During the last month
Written exams	During the last month
Oral Exam	During the last month

7.3. Weight of assessments

Assessment	Weight of assessment
Practical exams	25 %
Written exams	50 %
Oral Exam	25 %
Total	100 %

8- List of references

8.1. Notes and books

Departmental notes on:

* Basis of pharmacology by Prof. Dr. Mohamed Abd Allah Tohamy (2015/25136).
*Textbook of practical pharmacology

8.2. Essential books:

- ***(Present in library of Faculty of Veterinary Medicine, Beni-Suef University)***

***Walker, D.G.; Renwick, A.G. and Hillier, K. (2001):**

Medical pharmacology and therapeutics.
First Ed. University of Southampton printed in Spain

8.3. Recommended texts:

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***Goodman, L.S. and Gilman, A. (2006):**

The pharmacological basis of therapeutics 8th Ed. Iowa State University Press USA

***Robert L. Bill (2006):**

3rd Edition, Clinical Pharmacology and Therapeutics for the Veterinary Technician

***Satish K. Garg (2006):** 1st Edition-Reprint, Veterinary Toxicology

Norman Holland and Michael Patrick Adams (2007):

2nd Edition, Core Concepts In Pharmacology

8.4. Journals, Websites ……..etc

Journals:

*Journal of Veterinary Pharmacology and Therapeutics
*The Science and Practice of Pharmacy
*The Pharmacological Basis of Therapeutics
*Journal of Antimicrobial Chemotherapy
*British Journal of Pharmacology
*International Journal of Antimicrobial Agents

Websites:

Course Specification of Postgraduate

httpi//www.sciencedirect.com/scince?...

ncbi.nlm.nih.gov/entrez/query.fcgi?...

Course Coordinators
Dr. Abeer Mohamed Radi

Head of Department
Prof. Dr. Mohamed Abd Allah Tohamy

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
			K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	Introduction	1	a1-a4	b1-b3	c1-c3	d1-d3
2	Chemical transmitters in the CNS	2	a1	b1-b2	c1	d1,d2,d4
3	Mechanism of action of centrally acting drugs	3, 4	a1	b1-b2	c1	d1,d2,d4
4	CNS stimulants review	5,6	a2	b1-b2	c1	d1,d2,d4
5	Cerebral cortex stimulants	7	a2	b1-b2	c1	d1,d2,d4
6	Medullary stimulants	8	a2	b1-b2	c1	d1,d2,d4
7	Spinal cord stimulants	9	a2	b1-b2	c1	d1,d2,d4
8	CNS depressants review	10,11	a2	b1-b2	c1	d1,d2,d4
9	Sedatives	12	a1-a4	b1-b2	c1	d1,d2,d4
10	Hypnotics	13,14	a1-a4	b1-b2	c1	d1-d4
11	Tranquilizers	15,16	a2- a4	b2	c1	d1-d4
12	Analgesics	17,18	a2- a4	b2	c1	d1-d4
13	Narcotic analgesics	19,20	a2- a4	b2	c1	d1-d4
14	Antipyretic analgesics	21,22	a2- a4	b3	c1	d1-d4
15	Pre-anesthetic medication	24,23	a2- a4	b1-b2	c1	d1-d4
16	General anesthesia	25	a2- a4	b1-b2	c1	d1-d4
17	Volatile anesthetics	26	a2- a4	b1-b2	c1-c3	d1-d4
18	Non volatile anesthetics	28,27	a2- a4	b1-b2	c1-c3	d1-d4
19	Local anesthetics	30,29	a2- a4	b1-b2	c1-c3	d1-d4
20	Methods of producing local anesthesia	31	a2- a4	b1-b2	c1-c3	d1-d4
21	Methods of application of local anesthetics	32	a2- a4	b1-b2	c1-c3	d1-d4

Course specification

22	Methods of prolonging duration of action of local anesthetics	33,34	a2- a4	b1-b2	c1-c3	d1-d4
23	General pharmacological actions of local anesthetics	35,36	a2	b1-b2	c1-c3	d1-d4

Beni-Suef University
Faculty of Veterinary Medicine

Course Specification of Postgraduate

1-Basic information

Course Code:	M-105
Course title :	Autonomic nervous system and autacoids pharmacology
Program title:	Master of Veterinary Science (Vet. Pharmacology)
Contact hours/ week	4 hours/ week, (Lect. 2hrs/week, Practical. 2hrs/week)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

a- Acquire knowledge and skills related to the background of physiology of autonomic nervous system.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

By the end of this course the student should be able to:

a1- Define autonomic drugs and autacoids, anti-inflammatory drugs and different groups of drugs acting on autonomic nervous system.

a2- Identify anatomy and physiology of autonomic nervous system and pharmacological action of different groups.

a3- Discuss classification of autonomic drugs and autacoids and their mechanism of action.

a4- Recognize therapeutic uses, side effects and toxicity of different drugs.

b-Intellectual skills

By the end of this course the student should be able to:

b1- Select the appropriate methods for determination of the drug actions, mechanism of action, kinetics, side effects and toxicity.

b2- Differentiate between the effects of different drugs act on body systems.

b3- Prepare the student to deal pharmacologically with certain cases suffering from veterinary diseases.

b4- Creates a good planning technique for performing and analysis of drug bioassays.

C- Professional and practical skills

By the end of this course the student should be able to:

c1- Assess pharmacological effects of drugs on laboratory animals as well as isolated tissue preparations.

c2- Demonstrate the site of action of drugs.

c3- Use antidotal treatment in case of toxicity.

c4- Perform the research plan of his/her Master thesis.

d- General and transferable skills

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

d1- Practice self-evaluation and need assessment.

d2- Utilize different available resources for efficient obtaining of knowledge and

Course Specification of Postgraduate

information.

d3- Own continuous and self-learning of programs of computer related to pharmacology such as (R-strip, Micromath, Scientific software, USA).

d4- Lead a team work in a certain professional task.

d5- Own continuous connection with drug companies, pharmacists and the friends in the career.

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
Autonomic nervous system and autacoids pharmacology (Lec. h./week, Pract h./week)	Introduction	4	4	-
	Autonomic receptors	4	4	-
	Parasympathomimetics review	8	8	-
	Choline esters	4	4	-
	Cholinomimetic drugs	8	2	6
	Anti-cholinesterases	4	2	2
	Parasympatholytics review	8	4	4
	Atropine	4	2	2
	Synthetic and semi-synthetic atropine substitutes	4	2	2
	Drugs acting on autonomic ganglia	8	2	6
	Drugs acting on skeletal muscles	8	2	6
	Sympathomimetics review	8	8	-
	Catecholamines	8	6	2
	Non catecholamines	8	2	6
	sympatholytics review	8	4	4
	Adrenergic receptors blocking drugs	4	2	2
	Adrenergic neurons blocking drugs	4	2	2
	Autacoids	8	2	6
	Anti-histaminics	8	2	6
	angiotensin	4	2	2
	5-hydroxy tryptamine	4	2	2
	prostaglandins	8	2	6
	Anti-inflammatory drugs	8	2	6
	Total	**144**	**72**	**72**

5-Teaching and learning methods

5.1- Lectures using board, data shows

5.2- Self learning by preparing essays and presentations (computer researches and faculty library)

Course Specification of Postgraduate

5.3- Practical (models, samples of autonomic drugs).

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	**I.S**	**P&P.S**	**G.S**
Written Exam	a1-a4	b4		d1-d5
Practical Exam	a1-a4		c1-c4	d1-d5
Oral Exam	a1-a4	b1-b3		d1-d5

7.2. Assessment schedules

Method	Week(s)
Practical exams	During the last month
Written exams	During the last month
Oral Exam	During the last month

7.3. Weight of assessments

Assessment	Weight of assessment
Practical exams	25 %
Written exams	50 %
Oral Exam	25 %
Total	100 %

8- List of references

8.1. Notes and books

Departmental notes on:

* Basis of pharmacology by Prof. Dr. Mohamed Abd Allah Tohamy (2015/25136).

*Textbook of practical pharmacology

8.2. Essential books:

- ***(Present in library of Faculty of Veterinary Medicine, Beni-Suef University)***

***Walker, D.G.; Renwick, A.G. and Hillier, K. (2001):**

Medical pharmacology and therapeutics.

First Ed. University of Southampton printed in Spain

8.3. Recommended texts:

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***Robert L. Bill (2006):**

3rd Edition, Clinical Pharmacology and Therapeutics for the Veterinary Technician

***Satish K. Garg (2006):** 1st Edition-Reprint, Veterinary Toxicology

Norman Holland and Michael Patrick Adams (2007):

2nd Edition, Core Concepts In Pharmacology

Course Specification of Postgraduate

8.4. Journals, Websites ……..etc

Journals:

*Journal of Veterinary Pharmacology and Therapeutics
*The Science and Practice of Pharmacy
*The Pharmacological Basis of Therapeutics
*Journal of Antimicrobial Chemotherapy
*Journal of Antibiotics
*British Journal of Pharmacology
*International Journal of Antimicrobial Agents

Websites:

httpi//www.sciencedirect.com/scince?...

ncbi.nlm.nih.gov/entrez/query.fcgi?...

Course Coordinators	Head of Department
Dr. Abeer Mohamed Radi	Prof. Dr. Mohamed Abd Allah Tohamy

Course specification

22	prostaglandins	33,34	a2- a4	b1-b2	c1-c3	d1-d4
23	Anti-inflammatory drugs	35,36	a2	b1-b2	c1-c3	d1-d4

Beni-Suef University
Faculty of Veterinary Medicine

Course Specification of Postgraduate

1-Basic information

Course Code:	M-106
Course title :	Pharmacology of anesthesia
Program title:	Master of Veterinary Science (Vet. Pharmacology)
Contact hours/ week	4 hours/ week, (Lect. 2hrs/week, Practical. 2hrs/week)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

-Acquire knowledge and skills studying the different types of pre anaesthetics, anaesthetic drugs and its side effects to reach to efficient anaesthetic profiles.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

By the end of this course the student should be able to:

a1- Acquire specialized knowledge about different anesthetic drugs and their classification.

a2- Summarize the most common anesthetic drugs.

a3- describe the pharmacokinetic and pharmacodynamics of anesthetic drugs.

a4- Recognize therapeutic uses, side effects and toxicity of different drugs.

b-Intellectual skills

By the end of this course the student should be able to:

b1- Apply his knowledge about anesthesia according to the case.

b2- Take decisions regarding about the best pre anesthetic drug according to different animal species

b3- Prepare the student to deal pharmacologically with certain cases suffering from veterinary diseases.

b4- Evaluate the effect of anesthetic with lower side effect.

C- Professional and practical skills

By the end of this course the student should be able to:

c1- Practice method of injection according to different animal species.

c2- Design safe anesthetic profiles

c3- Use the correct drug according to animal species with correct site of injection and correct dose.

c4- Analyze factors that leads to failure of drug treatments.

c5- Perform the research plan of his/her Master thesis about different anesthetic drugs used in veterinary medicine.

d- General and transferable skills

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

d1- Practice self-evaluation and need assessment.

d2- Utilize different available resources for efficient obtaining of knowledge and information.

Course Specification of Postgraduate

d3- Lead a team work in a certain professional task.
d4- Own continuous connection with drug companies, pharmacists and the friends in the career.

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
(Lec. h./week, Pract h./week) Pharmacology of anesthesia	Introduction	4	4	-
	Pre –anesthetic medication	4	4	-
	General anesthesia review	4	6	-
	Classification of general anesthetics	8	8	-
	Volatile anesthetics	8	8	-
	Mechanism of action of volatile anesthetics	8	2	6
	Liquid anesthetics	4	2	-
	Gas anesthetics	8	2	6
	The most common non volatile anesthetics used in veterinary practice	8	2	6
	Non volatile anesthetics	8	2	6
	Mechanism of action of non volatile anesthetics	4	2	4
	Intravenous anesthetics	8	6	-
	Intraperitoneal anesthetics	4	6	-
	Rectal anesthetics	4	2	4
	The most common non volatile anesthetics used in veterinary practice	8	2	4
	Local anesthetics review	8	2	4
	Mechanism of action of local anesthetics	4	2	4
	Methods of producing local anesthesia	4	2	4
	Methods of application of local anesthetics	8	2	4
	Classification of local anesthetics	4	2	4
	Methods of prolonging duration of action of local anesthetics	8	2	6
	General pharmacological actions of local anesthetics	8	2	4
	The most common local anesthetics used in veterinary practice	8	2	6
	Total	**144**	**72**	**72**

5-Teaching and learning methods

5.1- Lectures using board, data shows
5.2- Self learning by preparing essays and presentations (computer researches and faculty library)
5.3- Practical (models, samples of……..).

7-Student assessment

Course Specification of Postgraduate

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	**I.S**	**P&P.S**	**G.S**
Written Exam	a1-a4	b1-b4		d1-d5
Practical Exam	a1-a4		c1-c5	d1-d5
Oral Exam	a1-a4	b1-b4		d1-d5

7.2. Assessment schedules

Method	Week(s)
Practical exams	During the last month
Written exams	During the last month
Oral Exam	During the last month

7.3. Weight of assessments

Assessment	Weight of assessment
Practical exams	25 %
Written exams	50 %
Oral Exam	25 %
Total	100 %

8- List of references

8.1. Notes and books

Departmental notes on:

* Basis of pharmacology by Prof. Dr. Mohamed Abd Allah Tohamy (2015/25136).

*Textbook of practical pharmacology

8.2. Essential books:

- ***(Present in library of Faculty of Veterinary Medicine, Beni-Suef University)***

***Walker, D.G.; Renwick, A.G. and Hillier, K. (2001):**

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8.3. Recommended texts:

-- ***(Present in library of Faculty of Veterinary Medicine, Beni-Suef University)***

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***Goodman, L.S. and Gilman, A. (2006):**

The pharmacological basis of therapeutics 8th Ed. Iowa State University Press USA

***Robert L. Bill (2006):**

3rd Edition, Clinical Pharmacology and Therapeutics for the Veterinary Technician

***Satish K. Garg (2006):** 1st Edition-Reprint, Veterinary Toxicology

8.4. Journals, Websites ……..etc

Journals:

*Journal of Veterinary Pharmacology and Therapeutics

*The Science and Practice of Pharmacy

*The Pharmacological Basis of Therapeutics

Course Specification of Postgraduate

*Journal of Antimicrobial Chemotherapy
*Journal of Antibiotics
*British Journal of Pharmacology
*International Journal of Antimicrobial Agents

Websites:

httpi//www.sciencedirect.com/scince?...

ncbi.nlm.nih.gov/entrez/query.fcgi?...

Course Coordinators	Head of Department
Dr. Abeer Mohamed Radi	Prof. Dr. Mohamed Abd Allah Tohamy

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
			K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	Introduction	1	a1-a4	b1-b4	c1-c5	d1-d4
2	Pre –anesthetic medication	2	a1	b1-b4	c1	d1,d2,d4
3	General anesthesia review	3	a1	b1-b4	c1	d1,d2,d4
4	Classification of general anesthetics	4,5	a2	b1-b4	c1	d1,d2,d4
5	Volatile anesthetics	6,7	a2	b1-b2	c1	d1,d2,d4
6	Mechanism of action of volatile anesthetics	8,9	a2	b1-b2	c1	d1,d2,d4
7	Liquid anesthetics	10	a2	b1-b2	c1	d1,d2,d4
8	Gas anesthetics	11,12	a2	b1-b2	c1	d1,d2,d4
9	The most common non volatile anesthetics used in veterinary practice	13,14	a1-a4	b1-b2	c1	d1,d2,d4
10	Non volatile anesthetics	15,16	a1-a4	b1-b4	c1	d1-d4
11	Mechanism of action of non volatile anesthetics	17	a2- a4	b2	c1	d1-d4
12	Intravenous anesthetics	18,19	a2- a4	b2	c1	d1-d4
13	Intraperitoneal anesthetics	20	a2- a4	b2	c1	d1-d4
14	Rectal anesthetics	21	a2- a4	b3	c1	d1-d4
15	The most common non volatile anesthetics used in veterinary practice	22,23	a2- a4	b1-b2	c1	d1-d4
16	Local anesthetics review	24,25	a2- a4	b1-b4	c1	d1-d4
17	Mechanism of action of local anesthetics	26	a2- a4	b1-b4	c1-c5	d1-d4
18	Methods of producing local anesthesia	27	a2- a4	b1-b2	c1-c5	d1-d4
19	Methods of application of local anesthetics	28,29	a2- a4	b1-b4	c1-c5	d1-d4
20	Classification of local anesthetics	30	a2- a4	b1-b2	c1-c5	d1-d4

Course specification

21	Methods of prolonging duration of action of local anesthetics	31,32	a2- a4	b1-b4	c1-c5	d1-d4
22	General pharmacological actions of local anesthetics	33,34	a2- a4	b1-b4	c1-c5	d1-d4
23	The most common local anesthetics used in veterinary practice	35,36	a2	b1-b4	c1-c5	d1-d4

Beni-Suef University
Faculty of Veterinary Medicine

Course Specification of Postgraduate

1-Basic information

Course Code:	M-107
Course title :	Pharmacology of the systems
Program title:	Master of Veterinary Science (Vet. Pharmacology)
Contact hours/ week	4 hours/week, (Lect. 2hrs/week, Practical. 2hrs/week)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

-Acquire knowledge and skills about studying the drug affecting their pharmacological actions, therapeutic uses, doses, route of each system in the body.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

By the end of this course the student should be able to:

a1- Define different drugs used in each system.

a2- Be aware about the pharmacokinetics and pharmacodynamics of drugs.

a3- Acquire specialized knowledge about drugs affecting Reproductive system (Autacoids and reproductive Hormones), Urinary system, Respiratory system, Digestive system, Cardiovascular system, Skin and eye.

a4- Recognize therapeutic uses, side effects and toxicity of different drugs.

b-Intellectual skills

By the end of this course the student should be able to:

b1- Select the appropriate methods for determination of the drug actions, mechanism of action, kinetics, side effects and toxicity.

b2- Differentiate between the effects of different drugs act on body systems.

b3- Prepare the student to deal pharmacologically with certain cases suffering from veterinary diseases.

b4- Interpret the cause of using specific drug in the treatment.

C- Professional and practical skills

By the end of this course the student should be able to:

c1- Apply combination between drugs to broaden the spectrum.

c2- Practice the knowledge about drugs in the treatment.

c3- Write efficiently prescriptions for treating diseases.

c4- Analyze factors that leads to failure of drug treatments.

c5- Perform the research plan of his/her Master thesis.

d- General and transferable skills

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

d1- Practice self-evaluation and need assessment.

d2- Utilize different available resources for efficient obtaining of knowledge and information.

Course Specification of Postgraduate

d3- Own continuous and self-learning of programs of computer related to pharmacology such as (R-strip, Micromath, Scientific software, USA).
d4- Lead a team work in a certain professional task.
d5- Own continuous connection with drug companies, pharmacists and the friends in the career.

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
Pharmacology of the systems (Lec. h./week, Pract h./week)	Introduction	4	2	2
	Pharmacology of cardiovascular system review	4	2	2
	Cardiac stimulants	4	2	2
	Cardiac depressants	4	2	2
	Drugs acting on blood vessels	4	2	2
	Drugs acting on blood	4	2	2
	Pharmacology of urinary system review	4	2	2
	Classification of diuretics	4	2	2
	Therapeutic uses of diuretics	4	2	2
	Adverse effects of diuretics	4	2	2
	Antidiuretic drugs	4	2	2
	Drugs for treating of gout and hyperuricemia	4	2	2
	Pharmacology of respiratory system review	4	2	2
	Respiratory stimulants	4	2	2
	Respiratory depressants	4	2	2
	Pharmacology of bronchial smooth muscle	4	2	2
	Pharmacology of bronchial asthma	4	2	2
	Pharmacology of digestive system review	4	2	2
	Drugs affecting mouth, pharynx and esophagus	4	2	2
	Drugs affecting stomach	4	2	2
	Drugs affecting the intestinal tract	4	2	2
	Drugs affecting liver	4	2	2
	Drugs affecting rumen	4	2	2
	Pharmacology of reproductive system review	4	2	2
	Uterine stimulants	4	2	2
	Uterine relaxants	4	2	2
	Reproductive endocrinology	4	2	2
	Pharmacology of eye review	4	2	2
	Drugs affecting size of eye pupil	4	2	2
	Drugs affecting accommodation	4	2	2
	Drugs affecting intraocular pressure	4	2	2
	Drugs for treating eye infection	4	2	2
	Routes of administration of ophthalmic drugs	4	2	2
	Pharmacology of skin review	4	2	2

Course Specification of Postgraduate

	Skin astringents	4	2	2
	Counter irritants	4	2	2
	Total	**144**	**72**	**72**

5-Teaching and learning methods

5.1- Lectures using board, data shows

5.2- Self learning by preparing essays and presentations (computer researches and faculty library)

5.3- Practical (models, samples of……..).

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	**I.S**	**P&P.S**	**G.S**
Written Exam	a1-a4	b1-b4		d1-d5
Practical Exam	a1-a4		c1-c5	d1-d5
Oral Exam	a1-a4	b1-b4		d1-d5

7.2. Assessment schedules

Method	Week(s)
Practical exams	During the last month
Written exams	During the last month
Oral Exam	During the last month

7.3. Weight of assessments

Assessment	Weight of assessment
Practical exams	25 %
Written exams	50 %
Oral Exam	25 %
Total	100 %

8- List of references

8.1. Notes and books

Departmental notes on:

* Basis of pharmacology by Prof. Dr. Mohamed Abd Allah Tohamy (2015/25136).

*Textbook of practical pharmacology

8.2. Essential books:

- ***(Present in library of Faculty of Veterinary Medicine, Beni-Suef University)***

***Walker, D.G.; Renwick, A.G. and Hillier, K. (2001):**

Medical pharmacology and therapeutics.

First Ed. University of Southampton printed in Spain

Course Specification of Postgraduate

8.3. Recommended texts:

-- ***(Present in library of Faculty of Veterinary Medicine, Beni-Suef University)***

***Nicholas H. Booth and E. Mcdonald (2005):**
5th Edition, Jones Veterinary Pharmacology and Therapeutics (2005)

***Goodman, L.S. and Gilman, A. (2006):**
The pharmacological basis of therapeutics 8th Ed. Iowa State University Press USA

***Satish K. Garg (2006):** 1st Edition-Reprint, Veterinary Toxicology

Norman Holland and Michael Patrick Adams (2007):
2nd Edition, Core Concepts In Pharmacology

8.4. Journals, Websites ……..etc

Journals:

*Journal of Veterinary Pharmacology and Therapeutics
*The Science and Practice of Pharmacy
*Journal of Antimicrobial Chemotherapy
*British Journal of Pharmacology
*International Journal of Antimicrobial Agents

Websites:

httpi//www.sciencedirect.com/scince?...

ncbi.nlm.nih.gov/entrez/query.fcgi?...

httpi//www.elsevier.com/scince?...

Course Coordinators	Head of Department
Dr. Abeer Mohamed Radi	Prof. Dr. Mohamed Abd Allah Tohamy

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
			K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	Introduction	1	a1-a4	b1-b4	c1-c5	d1-d5
2	Pharmacology of cardiovascular system review	2	a1	b1-b2	c1-c5	d1,d2,d4
3	Cardiac stimulants	3	a1	b1-b2	c1-c5	d1,d2,d4
4	Cardiac depressants	4	a2	b1-b2	c1-c5	d1,d2,d4
5	Drugs acting on blood vessels	5	a2	b1-b2	c1-c5	d1,d2,d4
6	Drugs acting on blood	6	a2	b1-b2	c1-c5	d1,d2,d4
7	Pharmacology of urinary system review	7	a2	b1-b2	c1-c5	d1,d2,d4
8	Classification of diuretics	8	a2	b1-b2	c1-c5	d1,d2,d4
9	Therapeutic uses of diuretics	9	a1-a4	b1-b2	c1-c5	d1,d2,d4
10	Adverse effects of diuretics	10	a1-a4	b1-b2	c1-c5	d1-d5
11	Antidiuretic drugs	11	a2- a4	b2	c1-c5	d1-d5
12	Drugs for treating of gout and hyperuricemia	12	a2- a4	b2	c1-c5	d1-d5
13	Pharmacology of respiratory system review	13	a2- a4	b2	c1-c5	d1-d5
14	Respiratory stimulants	14	a2- a4	b3	c1-c5	d1-d5
15	Respiratory depressants	15	a2- a4	b1-b2	c1-c5	d1-d5
16	Pharmacology of bronchial smooth muscle	16	a2- a4	b1-b2	c1-c5	d1-d5
17	Pharmacology of bronchial asthma	17	a2- a4	b1-b2	c1-c5	d1-d5
18	Pharmacology of digestive system review	18	a2- a4	b1-b2	c1-c5	d1-d5
19	Drugs affecting mouth, pharynx and esophagus	19	a2- a4	b1-b2	c1-c5	d1-d5
20	Drugs affecting stomach	20	a2- a4	b1-b2	c1-c5	d1-d5
21	Drugs affecting the intestinal tract	21	a2- a4	b1-b2	c1-c5	d1-d5
22	Drugs affecting liver	22	a2- a4	b1-b2	c1-c5	d1-d5

Course specification

23	Drugs affecting rumen	23	a2	b1-b2	c1-c5	d1-d5
24	Pharmacology of reproductive system review	24	a2	b1-b2	c1-c5	d1-d5
25	Uterine stimulants	25	a2	b1-b2	c1-c5	d1-d5
26	Uterine relaxants	26	a2	b1-b2	c1-c5	d1-d5
27	Reproductive endocrinology	27	a2	b1-b2	c1-c5	d1-d5
28	Pharmacology of eye review	28	a2- a4	b3	c1-c5	d1-d5
29	Drugs affecting size of eye pupil	29	a2- a4	b3	c1-c5	d1-d5
30	Drugs affecting accommodation	30	a2- a4	b3	c1-c5	d1-d5
31	Drugs affecting intraocular pressure	31	a2- a4	b3	c1-c5	d1-d5
32	Drugs for treating eye infection	32	a2- a4	b3	c1-c5	d1-d5
33	Routes of administration of ophthalmic drugs	33	a2- a4	b3	c1-c5	d1-d5
34	Pharmacology of skin review	34	a2- a4	b3	c1-c5	d1-d5
35	Skin astringents	35	a2- a4	b1-b4	c1-c5	d1-d5
36	Counter irritants	36	a2- a4	b1-b4	c1-c5	d1-d5

Beni-Suef University
Faculty of Veterinary Medicine

Course Specification of Postgraduate

1-Basic information

Course Code:	M-108
Course title :	Pharmacology of food metabolism
Program title:	Master of Veterinary Science (Vet. Pharmacology)
Contact hours/ week	4 hours/ week, (Lect. 2hrs/week, Practical 2hrs/ week)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

-Acquire knowledge and skills about drugs affecting tissue metabolism, metabolic hormones& feed additives.

3- Intended learning outcomes of course (ILOs)

A-Knowledge and understanding:

By the end of this course the student should be able to:

a1- Define different drugs affecting tissue metabolism.
a2- Identify metabolic hormones, vitamins and minerals.
a3- Explain how use the drugs as growth promoters.
a4- Describe the drug of choice in the treatment of metabolic diseases.

b-Intellectual skills

By the end of this course the student should be able to:

b1- Apply the drugs to be used as growth promoters.
b2- Take decisions regarding about the drug of choice in the treatment of metabolic disorders.
b3- Prepare the student to deal pharmacologically with certain cases suffering from veterinary diseases.

C- Professional and practical skills

By the end of this course the student should be able to:

c1- apply his knowledge about metabolic disease & its treatment.
c2- Prepare the postgraduate to make the drug forms necessary for treatment certain metabolic diseases.
c3- Write efficiently prescriptions for treating diseases.
c4- Perform the research plan of his/her Master thesis.

d- General and transferable skills

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

d1- Practice self-evaluation and need assessment.
d2- Utilize different available resources for efficient obtaining of knowledge and information.
d3- Lead a team work in a certain professional task.
d4- Own continuous connection with drug companies, pharmacists and the friends in the career.

4-Topics and contents

Course Specification of Postgraduate

Course	Topic	No. of hours	Lectures	Practical
Pharmacology of food metabolism (Lec. h./week, Pract h./week)	Introduction	8	4	4
	Drugs affecting water and electrolyte balance	8	4	4
	Drugs affecting in-organic metabolism	8	4	4
	Drugs affecting tissue metabolism	8	4	4
	Drugs affecting carbohyderate metabolism	8	4	4
	Growth promoters and feed additives	8	4	4
	Antimicrobials	8	4	4
	Non specific chemicals	8	4	4
	Tranquilizers	8	4	4
	Vitamins	8	4	4
	Tissue extracts	8	4	4
	Blood	8	4	4
	Fresh adult ruminal contents	8	4	4
	Sex hormones	8	4	4
	Anti-thyroid drugs	8	4	4
	Ionophores	8	4	4
	Probiotics	8	4	4
	Prebiotics	8	4	4
	Total	**144**	**72**	**72**

5-Teaching and learning methods

5.1- Lectures using board, data shows

5.2- Self learning by preparing essays and presentations (computer researches and faculty library)

5.3- Practical (models, samples of……..).

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	**I.S**	**P&P.S**	**G.S**
Written Exam	a1-a4	b1-b3		d1-d4
Practical Exam	a1-a4		c1-c4	d1-d4
Oral Exam	a1-a4	b1-b3		d1-d4

7.2. Assessment schedules

Course Specification of Postgraduate

Method	Week(s)
Practical exams	During the last month
Written exams	During the last month
Oral Exam	During the last month

7.3. Weight of assessments

Assessment	Weight of assessment
Practical exams	25 %
Written exams	50 %
Oral Exam	25 %
Total	100 %

8- List of references

8.1. Notes and books

Departmental notes on:

* Basis of pharmacology by Prof. Dr. Mohamed Abd Allah Tohamy (2015/25136).

*Textbook of practical pharmacology

8.2. Essential books:

- ***(Present in library of Faculty of Veterinary Medicine, Beni-Suef University)***

***Walker, D.G.; Renwick, A.G. and Hillier, K. (2001):**

Medical pharmacology and therapeutics.

First Ed. University of Southampton printed in Spain

8.3. Recommended texts:

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5th Edition, Jones Veterinary Pharmacology and Therapeutics (2005)

***Goodman, L.S. and Gilman, A. (2006):**

The pharmacological basis of therapeutics 8th Ed. Iowa State University Press USA

***Robert L. Bill (2006):**

3rd Edition, Clinical Pharmacology and Therapeutics for the Veterinary Technician

***Satish K. Garg (2006):** 1st Edition-Reprint, Veterinary Toxicology

Norman Holland and Michael Patrick Adams (2007):

2nd Edition, Core Concepts In Pharmacology

8.4. Journals, Websites ……..etc

Journals:

Course Specification of Postgraduate

*Journal of Veterinary Pharmacology and Therapeutics
*The Science and Practice of Pharmacy
*The Pharmacological Basis of Therapeutics
*British Journal of Pharmacology
*International Journal of Antimicrobial Agents

Websites:

httpi//www.sciencedirect.com/scince?...

ncbi.nlm.nih.gov/entrez/query.fcgi?...

httpi//www.sciencedirect.com/scince?...

Course Coordinators	Head of Department
Dr. Abeer Mohamed Radi	Prof. Dr. Mohamed Abd Allah Tohamy

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
			K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	Introduction	1,2	a1-a4	b1-b3	c1-c3	d1-d4
2	Drugs affecting water and electrolyte balance	3,4	a1	b1-b2	c1	d1,d2,d4
3	Drugs affecting in-organic metabolism	5,6	a1	b1-b2	c1	d1,d2,d4
4	Drugs affecting tissue metabolism	7,8	a2	b1-b2	c1	d1,d2,d4
5	Drugs affecting carbohyderate metabolism	9,10	a2	b1-b2	c1	d1,d2,d4
6	Growth promoters and feed additives	11,12	a2	b1-b2	c1	d1,d2,d4
7	Antimicrobials	13,14	a2	b1-b2	c1	d1,d2,d4
8	Non specific chemicals	15,16	a2	b1-b2	c1	d1,d2,d4
9	Tranquilizers	17,18	a1-a4	b1-b2	c1	d1,d2,d4
10	Vitamins	19,20	a1-a4	b1-b2	c1	d1-d4
11	Tissue extracts	21,22	a2- a4	b2	c1	d1-d4
12	Blood	23,24	a2- a4	b2	c1	d1-d4
13	Fresh adult ruminal contents	25,26	a2- a4	b2	c1	d1-d4
14	Sex hormones	27,28	a2- a4	b3	c1	d1-d4
15	Anti-thyroid drugs	29,30	a2- a4	b1-b2	c1	d1-d4
16	Ionophores	31,32	a2- a4	b1-b2	c1	d1-d4
17	Probiotics	33,34	a2- a4	b1-b2	c1-c3	d1-d4
18	Prebiotics	35,36	a2- a4	b1-b2	c1-c3	d1-d4

Beni-Suef University
Faculty of Veterinary Medicine

Course Specification of Postgraduate

1-Basic information

Course Code:	M-109
Course title :	Pharmacology of hormones
Program title:	Master of Veterinary Science (Vet. Pharmacology)
Contact hours/ week	4 hours/ week, (Lect. 2hrs/week, Practical 2hrs/ week)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

a1-Prepare qualified graduates for the requirements of the hormones.
a2-Identify quality principles and basics in veterinary pharmacology.
a3- Develop the information technology skills of hormones .

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

By the end of this course the student should be able to:

a1- Acquire specialized principles, theories and hypotheses of hormones.
a2- Be aware about the pharmacokinetics and pharmacodynamics of drugs affecting hormones.
a3- Acquire specialized knowledge about drugs affecting hormones.
a4- Recognize therapeutic uses, side effects and toxicity of different drugs affecting hormones.

b-Intellectual skills

By the end of this course the student should be able to:

b1- Select the appropriate methods for determination of the actions, mechanism of action, kinetics, side effects and toxicity of drug affecting hormones.
b2- Differentiate between the effects of different hormones act on body systems.
b3- Prepare the student to deal pharmacologically with certain cases suffering from veterinary diseases.
b4- Creates a good planning technique for performing and analysis of drug bioassays.

C- Professional and practical skills

By the end of this course the student should be able to:

c1-Prepare the postgraduate for injection of living laboratory animals with different drugs.
c2- Prepare the postgraduate to make the drug forms necessary for treatment certain diseases.
c3- Analyze factors that leads to failure of drug treatments.
c4- Assess pharmacological effects of drugs on laboratory animals as well as isolated tissue preparations.

d- General and transferable skills

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

d1- Practice self-evaluation and need assessment.

Course Specification of Postgraduate

d2- Utilize different available resources for efficient obtaining of knowledge and information.
d3- Lead a team work in a certain professional task.
d4- Own continuous connection with drug companies, pharmacists and the friends in the career.

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
Pharmacology of hormones (Lec. h./week, Pract h./week)	Introduction	8	4	4
	Classification of hormones	8	4	4
	Pharmacological actions of hormones	8	4	4
	Mechanism of action of hormones	8	4	4
	Sources of hormones	8	4	4
	Therapeutic uses of hormones	8	4	4
	Hormones of anterior pituitary lobe of pituitary gland	8	4	4
	Hormones of posterior pituitary lobe of pituitary gland	8	4	4
	Adrenal cortex hormones	8	4	4
	Adrenal medulla hormones	8	4	4
	Thyroid gland hormones	8	4	4
	Antithyroid drugs	8	4	4
	Parathyroid gland hormone	8	4	4
	Endocrine pancreas	8	4	4
	Insulin hormone	8	4	4
	Glucagon hormone	8	4	4
	Oral hypoglycemic drugs	8	4	4
	Glucogenic agents	8	4	4
	Total	**144**	**72**	**72**

5-Teaching and learning methods

5.1- Lectures using board, data shows
5.2- Self learning by preparing essays and presentations (computer researches and faculty library)
5.3- Practical (models, samples of……..).

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	**I.S**	**P&P.S**	**G.S**
Written Exam	a1-a4	b1-b4	C2	d1-d4
Practical Exam	a1-a4		c1-c4	d1-d4
Oral Exam	a1-a4	b1-b4	B1	d1-d4

Course Specification of Postgraduate

7.2. Assessment schedules

Method	Week(s)
Practical exams	During the last month
Written exams	During the last month
Oral Exam	During the last month

7.3. Weight of assessments

Assessment	Weight of assessment
Practical exams	25 %
Written exams	50 %
Oral Exam	25 %
Total	100 %

8- List of references

8.1. Notes and books

Departmental notes on:

* Basis of pharmacology by Prof. Dr. Mohamed Abd Allah Tohamy (2015/25136).
*Textbook of practical pharmacology

8.2. Essential books:

- ***(Present in library of Faculty of Veterinary Medicine, Beni-Suef University)***

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***Robert L. Bill (2006):**

3rd Edition, Clinical Pharmacology and Therapeutics for the Veterinary Technician

***Satish K. Garg (2006):** 1st Edition-Reprint, Veterinary Toxicology

Norman Holland and Michael Patrick Adams (2007):

2nd Edition, Core Concepts In Pharmacology

8.4. Journals, Websites ……..etc

Journals:

*Journal of Veterinary Pharmacology and Therapeutics
*The Science and Practice of Pharmacy
*The Pharmacological Basis of Therapeutics
*Journal of Antimicrobial Chemotherapy
*Journal of Antibiotics
*British Journal of Pharmacology
*International Journal of Antimicrobial Agents

Course Specification of Postgraduate

Websites:

httpi//www.sciencedirect.com/scince?...

ncbi.nlm.nih.gov/entrez/query.fcgi?...

httpi//www.sciencedirect.com/scince?...

ncbi.nlm.nih.gov/entrez/query.fcgi?...

Course Coordinators
Dr. Abeer Mohamed Radi

Head of Department
Prof. Dr. Mohamed Abd Allah Tohamy

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
			K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	Introduction	1,2	a1-a4	b1-b4	c1-c4	d1-d4
2	Classification of hormones	3,4	a1	b1-b4	c1-c4	d1,d2,d4
3	Pharmacological actions of hormones	5,6	a1	b1-b4	c1-c4	d1,d2,d4
4	Mechanism of action of hormones	7,8	a2	b1-b4	c1-c4	d1,d2,d4
5	Sources of hormones	9,10	a2	b1-b2	c1-c4	d1,d2,d4
6	Therapeutic uses of hormones	11,12	a2	b1-b2	c1-c4	d1,d2,d4
7	Hormones of anterior pituitary lobe of pituitary gland	13,14	a2	b1-b2	c1	d1,d2,d4
8	Hormones of posterior pituitary lobe of pituitary gland	15,16	a2	b1-b2	c1	d1,d2,d4
9	Adrenal cortex hormones	17, 18	a1-a4	b1-b2	c1	d1,d2,d4
10	Adrenal medulla hormones	19,20	a1-a4	b1-b4	c1	d1-d4
11	Thyroid gland hormones	21,22	a2- a4	b2	c1	d1-d4
12	Antithyroid drugs	23,24	a2- a4	b2	c1	d1-d4
13	Parathyroid gland hormone	25,26	a2- a4	b2	c1	d1-d4
14	Endocrine pancreas	27,28	a2- a4	b3	c1	d1-d4
15	Insulin hormone	29, 30	a2- a4	b1-b2	c1	d1-d4
16	Glucagon hormone	31,32	a2- a4	b1-b4	c1	d1-d4
17	Oral hypoglycemic drugs	33,34	a2- a4	b1-b4	c1-c4	d1-d4
18	Glucogenic agents	35,36	a2- a4	b1-b2	c1-c4	d1-d4

Beni-Suef University
Faculty of Veterinary Medicine

Course Specification of Postgraduate

1-Basic information

Course Code:	M-110
Course title :	Chemotherapy
Program title:	Master of Veterinary Science (Vet. Pharmacology)
Contact hours/ week	4 hours/ week ,(Lect. 2hrs/week, Practical 2hrs/ week)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

a2-Identify quality principles and basics in veterinary pharmacology.
a3- Develop the information technology skills of veterinary pharmacology .
a4-Acquire specific Knowledge about Chemotherapy and Clinical pharmacology.
a5- Acquire specific Knowledge about Drug toxicology and Fish pharmacology.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

By the end of this course the student should be able to:

a1- Acquire specialized principles, theories and hypotheses in the chemotherapy.
a2- Be aware about the pharmacokinetics and pharmacodynamics of drugs.
a3- Recognize therapeutic uses, side effects and toxicity of different drugs.

b-Intellectual skills

By the end of this course the student should be able to:

b1- Select the appropriate methods for determination of the drug actions, mechanism of action, kinetics, side effects and toxicity.
b2- Differentiate between the effects of different drugs act on body systems.
b3- Prepare the student to deal pharmacologically with certain cases suffering from veterinary diseases.
b4- Creates a good planning technique for performing and analysis of drug bioassays.

C- Professional and practical skills

By the end of this course the student should be able to:

c1-Assesse the postgraduate for injection of living laboratory animals with different drugs.
c2- Perfrom the postgraduate to make the drug forms necessary for treatment certain diseases.
c3- Write efficiently prescriptions for treating diseases.
c4- Analyze factors that leads to failure of drug treatments.
c5- Assess pharmacological effects of drugs on laboratory animals as well as isolated tissue preparations.

d- General and transferable skills

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

d1- Practice self-evaluation and need assessment.
d2- Utilize different available resources for efficient obtaining of knowledge and

Course Specification of Postgraduate

information.

d3- Own continuous and self-learning of programs of computer related to pharmacology such as (R-strip, Micromath, Scientific software, USA).

d4- Lead a team work in a certain professional task.

d5- Own continuous connection with drug companies, pharmacists and the friends in the career.

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
Chemotherapy (Lec. h./week, Pract h./week)	Introduction	4	2	2
	Classification of antimicrobial agents	4	2	2
	Factors determining for choice of antimicrobials	4	2	2
	Antimicrobial drugs combination	4	2	2
	Pencillins	4	2	2
	Cephalosporins	4	2	2
	Beta-lactamase inhibitors	4	2	2
	Aminoglycosides	4	2	2
	Broad spectrum antibiotics	4	2	2
	Polypeptide antibiotics	4	2	2
	Lincosamides antibiotics	4	2	2
	Macrolides antibiotics	4	2	2
	Sulphonamides	4	2	2
	Trimethoprim	4	2	2
	Potentiated sulphonamides	4	2	2
	Other antimicrobial agents	4	2	2
	Anti-parasitic drugs	4	2	2
	General mode of action of antiparasitic drugs	4	2	2
	Drugs for treating of internal parasites	4	2	2
	Chemotherapy of nematodes	4	2	2
	Chemotherapy of cestodes	4	2	2
	Chemotherapy of trematodes	4	2	2
	Pesticides	4	2	2
	Chemotherapy of coccidiosis	4	2	2
	Chemotherapy of amoebiasis	4	2	2
	Chemotherapy of babesiasis	4	2	2
	Chemotherapy of anaplasmosis	4	2	2
	Chemotherapy of trypanosomiasis	4	2	2
	Antifungal drugs for topical use	4	2	2
	Antifungal drugs for systemic use	4	2	2
	Antiviral drugs	4	2	2
	Immuno-stimulants	4	2	2
	First line drugs in tuberculosis	4	2	2
	Second line drugs in tuberculosis	4	2	2

Course Specification of Postgraduate

	Anti-cancer drugs	4	2	2
	Adverse effects and toxicity of anti-cancer drugs	4	2	2
	Total	**144**	**72**	**72**

5-Teaching and learning methods

5.1- Lectures (brain storm, discussion) using board, data shows

5.2- Self learning by preparing essays and presentations (computer researches and faculty library)

5.3- Practical (models, samples of……..).

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	**I.S**	**P&P.S**	**G.S**
written Exam	a1-a3	b1-b4		d1-d5
Practical Exam	a1-a3		c1-c5	d1-d5
Oral Exam	a1-a3	b1-b4		d1-d5

7.2. Assessment schedules

Method	Week(s)
Practical exams	During the last month
written exams	During the last month
Oral Exam	During the last month

7.3. Weight of assessments

Assessment	Weight of assessment
Practical exams	25 %
written exams	50 %
Oral Exam	25 %
Total	100 %

8- List of references

8.1. Notes and books

Departmental notes on:

* Basis of pharmacology by Prof. Dr. Mohamed Abd Allah Tohamy (2015/25136).

*Textbook of practical pharmacology

8.2. Essential books:

- ***(Present in library of Faculty of Veterinary Medicine, Beni-Suef University)***

***Walker, D.G.; Renwick, A.G. and Hillier, K. (2001):**

Medical pharmacology and therapeutics.

First Ed. University of Southampton printed in Spain

Course Specification of Postgraduate

8.3. Recommended texts:

-- ***(Present in library of Faculty of Veterinary Medicine, Beni-Suef University)***

***Nicholas H. Booth and E. Mcdonald (2005):**
5th Edition, Jones Veterinary Pharmacology and Therapeutics (2005)

***Goodman, L.S. and Gilman, A. (2006):**
The pharmacological basis of therapeutics 8th Ed. Iowa State University Press USA

***Robert L. Bill (2006):**
3rd Edition, Clinical Pharmacology and Therapeutics for the Veterinary Technician

***Satish K. Garg (2006):** 1st Edition-Reprint, Veterinary Toxicology

Norman Holland and Michael Patrick Adams (2007):
2nd Edition, Core Concepts In Pharmacology

8.4. Journals, Websites ……..etc

Journals:

*Journal of Veterinary Pharmacology and Therapeutics
*The Science and Practice of Pharmacy
*The Pharmacological Basis of Therapeutics
*Journal of Antimicrobial Chemotherapy
*Journal of Antibiotics
*British Journal of Pharmacology
*International Journal of Antimicrobial Agents

Websites:

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ncbi.nlm.nih.gov/entrez/query.fcgi?...

httpi//www.sciencedirect.com/scince?...

ncbi.nlm.nih.gov/entrez/query.fcgi?...

Course Coordinators	Head of Department
Dr. Abeer Mohamed Radi	Prof. Dr. Mohamed Abd Allah Tohamy

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
			K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	Introduction	1	a1-a3	b1-b4	c1-c5	d1-d5
2	Classification of antimicrobial agents	2	a1	b1-b2	c1-c5	d1,d2,d4
3	Factors determining for choice of antimicrobials	3	a1	b1-b2	c1-c5	d1,d2,d4
4	Antimicrobial drugs combination	4	a2	b1-b2	c1-c5	d1,d2,d4
5	Pencillins	5	a2	b1-b2	c1-c5	d1,d2,d4
6	Cephalosporins	6	a2	b1-b2	c1-c5	d1,d2,d4
7	Beta-lactamase inhibitors	7	a2	b1-b2	c1-c5	d1,d2,d4
8	Aminoglycosides	8	a2	b1-b2	c1-c5	d1,d2,d4
9	Broad spectrum antibiotics	9	a1- a3	b1-b2	c1-c5	d1,d2,d4
10	Polypeptide antibiotics	10	a1- a3	b1-b2	c1-c5	d1-d5
11	Lincosamides antibiotics	11	a2- a3	b2	c1-c5	d1-d5
12	Macrolides antibiotics	12	a2- a3	b2	c1-c5	d1-d5
13	Sulphonamides	13	a2- a3	b2	c1-c5	d1-d5
14	Trimethoprim	14	a2- a3	b3	c1-c5	d1-d5
15	Potentiated sulphonamides	15	a2- a3	b1-b2	c1-c5	d1-d5
16	Other antimicrobial agents	16	a2- a3	b1-b2	c1-c5	d1-d5
17	Anti-parasitic drugs	17	a2- a3	b1-b2	c1-c5	d1-d5
18	General mode of action of antiparasitic drugs	18	a2- a3	b1-b2	c1-c5	d1-d5
19	Drugs for treating of internal parasites	19	a2- a3	b1-b2	c1-c5	d1-d5
20	Chemotherapy of nematodes	20	a2- a3	b1-b2	c1-c5	d1-d5
21	Chemotherapy of cestodes	21	a2- a3	b1-b2	c1-c5	d1-d5
22	Chemotherapy of trematodes	22	a2- a3	b1-b2	c1-c5	d1-d5

Course specification

23	Pesticides	23	a2	b1-b2	c1-c5	d1-d5
24	Chemotherapy of coccidiosis	24	a2	b1-b2	c1-c5	d1-d5
25	Chemotherapy of amoebiasis	25	a2	b1-b2	c1-c5	d1-d5
26	Chemotherapy of babesiasis	26	a2	b1-b2	c1-c5	d1-d5
27	Chemotherapy of anaplasmosis	27	a2	b1-b2	c1-c5	d1-d5
28	Chemotherapy of trypanosomiasis	28	a2- a3	b3	c1-c5	d1-d5
29	Antifungal drugs for topical use	29	a2- a3	b3	c1-c5	d1-d5
30	Antifungal drugs for systemic use	30	a2- a3	b3	c1-c5	d1-d5
31	Antiviral drugs	31	a2- a3	b3	c1-c5	d1-d5
32	Immuno-stimulants	32	a2- a3	b3	c1-c5	d1-d5
33	First line drugs in tuberculosis	33	a2- a3	b3	c1-c5	d1-d5
34	Second line drugs in tuberculosis	34	a2- a3	b3	c1-c5	d1-d5
35	Anti-cancer drugs	35	a2- a3	b1-b4	c1-c5	d1-d5
36	Adverse effects and toxicity of anti-cancer drugs	36	a2- a3	b1-b4	c1-c5	d1-d5

Beni-Suef University
Faculty of Veterinary Medicine

Course Specification of Postgraduate

1-Basic information

Course Code:	M-111
Course title :	Drug toxicology
Program title:	Master of Veterinary Science (Vet. Pharmacology)
Contact hours/ week	3 hours/ week, (Lect. 2hrs/week, Practical 2hrs/ week)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

a1-Prepare qualified graduates for the requirements of the veterinary pharmacology.
a2-Identify quality principles and basics in veterinary pharmacology.
a3- Develop the information technology skills of veterinary pharmacology .
a4-Acquire specific Knowledge about Chemotherapy and Clinical pharmacology.
a5- Acquire specific Knowledge about Drug toxicology and Fish pharmacology.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

By the end of this course the student should be able to:

a1- Acquire specialized principles, theories and hypotheses in the drug toxicology.
a2- Be aware about the pharmacokinetics and pharmacodynamics of drugs.
a3- Recognize therapeutic uses, side effects and toxicity of different drugs.

b-Intellectual skills

By the end of this course the student should be able to:

b1- Select the appropriate methods for determination of the drug actions, mechanism of action, kinetics, side effects and toxicity.
b2- Differentiate between the effects of different drugs act on body systems.
b3- Prepare the student to deal pharmacologically with certain cases suffering from veterinary diseases.
b4- Creates a good planning technique for performing and analysis of drug bioassays.

C- Professional and practical skills

By the end of this course the student should be able to:

c1-Prepare the postgraduate for injection of living laboratory animals with different drugs.
c2- Prepare the postgraduate to make the drug forms necessary for treatment certain diseases.
c3- Write efficiently prescriptions for treating diseases.
c4- Analyze factors that leads to failure of drug treatments.
c5- Assess pharmacological effects of drugs on laboratory animals as well as isolated tissue preparations.

d- General and transferable skills

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

d1- Practice self-evaluation and need assessment.

Course Specification of Postgraduate

d2- Utilize different available resources for efficient obtaining of knowledge and information.
d3- Own continuous and self-learning of programs of computer related to pharmacology such as (R-strip, Micromath, Scientific software, USA).
d4- Lead a team work in a certain professional task.
d5- Own continuous connection with drug companies, pharmacists and the friends in the career.

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
Drug toxicology (Lec. h./week, Pract h./week)	Introduction	4	2	2
	General toxicology	4	2	2
	Causes of poisoning	4	2	2
	Fate of poison in the body	4	2	2
	Factors modifying effect of poisons	4	2	2
	General signs of poisoning	4	2	2
	Universal antidote	4	2	2
	Chelating agents	4	2	2
	Classification of poisons	4	2	2
	Diagnosis of poisoning	4	2	2
	General treatment of poisoning	4	2	2
	Special toxicology	4	2	2
	Metallic poisoning	4	2	2
	Lead poisoning	4	2	2
	Mercury poisoning	4	2	2
	Arsenic poisoning	4	2	2
	Copper poisoning	4	2	2
	Cyanide poisoning	4	2	2
	Selenium poisoning	4	2	2
	Pesticides	4	2	2
	Sources of pesticides poisoning	4	2	2
	Chlorinated hydrocarbon pesticides	4	2	2
	Organophosphorus compounds	4	2	2
	Carbamate pesticides	4	2	2
	Poisons of plant origin	4	2	2
	Atropine toxicity	4	2	2
	Strychnine toxicity	4	2	2
	Nicotine toxicity	4	2	2
	Morphine toxicity	4	2	2
	Digitoxin toxicity	4	2	2
	Ergot alkaloids toxicity	4	2	2
	Aflatoxins toxicity	4	2	2
	Tricothrecene toxicity	4	2	2

Course Specification of Postgraduate

	Poisons of animal origin	4	2	2
	Snake and vipers venom	4	2	2
	Scorpion poisons	4	2	2
	Total	**144**	**72**	**72**

5-Teaching and learning methods

5.1- Lectures using board, data shows

5.2- Self learning by preparing essays and presentations (computer researches and faculty library)

5.3- Practical (models, samples of……..).

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	**I.S**	**P&P.S**	**G.S**
Written Exam	a1-a3	b1-b4		d1-d5
Practical Exam	a1-a3		c1-c5	d1-d5
Oral Exam	a1-a3	b1-b4		d1-d5

7.2. Assessment schedules

Method	Week(s)
Practical exams	During the last month
Written exams	During the last month
Oral Exam	During the last month

7.3. Weight of assessments

Assessment	Weight of assessment
Practical exams	25 %
Written exams	50 %
Oral Exam	25 %
Total	100 %

8- List of references

8.1. Notes and books

Departmental notes on:

* Basis of pharmacology by Prof. Dr. Mohamed Abd Allah Tohamy (2015/25136).

*Textbook of practical pharmacology

8.2. Essential books:

- ***(Present in library of Faculty of Veterinary Medicine, Beni-Suef University)***

***Walker, D.G.; Renwick, A.G. and Hillier, K. (2001):**

Medical pharmacology and therapeutics.

First Ed. University of Southampton printed in Spain

Course Specification of Postgraduate

8.3. Recommended texts:

-- ***(Present in library of Faculty of Veterinary Medicine, Beni-Suef University)***

***Nicholas H. Booth and E. Mcdonald (2005):**
5th Edition, Jones Veterinary Pharmacology and Therapeutics (2005)

***Goodman, L.S. and Gilman, A. (2006):**
The pharmacological basis of therapeutics 8th Ed. Iowa State University Press USA

***Robert L. Bill (2006):**
3rd Edition, Clinical Pharmacology and Therapeutics for the Veterinary Technician

***Satish K. Garg (2006):** 1st Edition-Reprint, Veterinary Toxicology

Norman Holland and Michael Patrick Adams (2007):
2nd Edition, Core Concepts In Pharmacology

8.4. Journals, Websites ……..etc

Journals:

*Journal of Veterinary Pharmacology and Therapeutics
*The Science and Practice of Pharmacy
*The Pharmacological Basis of Therapeutics
*Journal of Antimicrobial Chemotherapy
*Journal of Antibiotics
*British Journal of Pharmacology
*International Journal of Antimicrobial Agents

Websites:

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httpi//www.sciencedirect.com/scince?...

ncbi.nlm.nih.gov/entrez/query.fcgi?...

Course Coordinators	Head of Department
Dr. Abeer Mohamed Radi	Prof. Dr. Mohamed Abd Allah Tohamy

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
			K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	Introduction	1	a1-a3	b1-b4	c1-c5	d1-d5
2	General toxicology	2	a1	b1-b2	c1-c5	d1,d2,d4
3	Causes of poisoning	3	a1	b1-b2	c1-c5	d1,d2,d4
4	Fate of poison in the body	4	a2	b1-b2	c1-c5	d1,d2,d4
5	Factors modifying effect of poisons	5	a2	b1-b2	c1-c5	d1,d2,d4
6	General signs of poisoning	6	a2	b1-b2	c1-c5	d1,d2,d4
7	Universal antidote	7	a2	b1-b2	c1-c5	d1,d2,d4
8	Chelating agents	8	a2	b1-b2	c1-c5	d1,d2,d4
9	Classification of poisons	9	a1-a3	b1-b2	c1-c5	d1,d2,d4
10	Diagnosis of poisoning	10	a1-a3	b1-b2	c1-c5	d1-d5
11	General treatment of poisoning	11	a2- a3	b2	c1-c5	d1-d5
12	Special toxicology	12	a2- a3	b2	c1-c5	d1-d5
13	Metallic poisoning	13	a2- a3	b2	c1-c5	d1-d5
14	Lead poisoning	14	a2- a3	b3	c1-c5	d1-d5
15	Mercury poisoning	15	a2- a3	b1-b2	c1-c5	d1-d5
16	Arsenic poisoning	16	a2- a3	b1-b2	c1-c5	d1-d5
17	Copper poisoning	17	a2- a3	b1-b2	c1-c5	d1-d5
18	Cyanide poisoning	18	a2- a3	b1-b2	c1-c5	d1-d5
19	Selenium poisoning	19	a2- a3	b1-b2	c1-c5	d1-d5
20	Pesticides	20	a2- a3	b1-b2	c1-c5	d1-d5
21	Sources of pesticides poisoning	21	a2- a3	b1-b2	c1-c5	d1-d5
22	Chlorinated hydrocarbon pesticides	22	a2- a3	b1-b2	c1-c5	d1-d5

Course specification

23	Organophosphorus compounds	23	a2	b1-b2	c1-c5	d1-d5
24	Carbamate pesticides	24	a2	b1-b2	c1-c5	d1-d5
25	Poisons of plant origin	25	a2	b1-b2	c1-c5	d1-d5
26	Atropine toxicity	26	a2	b1-b2	c1-c5	d1-d5
27	Strychnine toxicity	27	a2	b1-b2	c1-c5	d1-d5
28	Nicotine toxicity	28	a2- a3	b3	c1-c5	d1-d5
29	Morphine toxicity	29	a2- a3	b3	c1-c5	d1-d5
30	Digitoxin toxicity	30	a2- a3	b3	c1-c5	d1-d5
31	Ergot alkaloids toxicity	31	a2- a3	b3	c1-c5	d1-d5
32	Aflatoxins toxicity	32	a2- a3	b3	c1-c5	d1-d5
33	Tricothrecene toxicity	33	a2- a3	b3	c1-c5	d1-d5
34	Poisons of animal origin	34	a2- a3	b3	c1-c5	d1-d5
35	Snake and vipers venom	35	a2- a3	b1-b4	c1-c5	d1-d5
36	Scorpion poisons	36	a2- a3	b1-b4	c1-c5	d1-d5

Beni-Suef University
Faculty of Veterinary Medicine

Course Specification of Postgraduate

1-Basic information

Course Code:	M-112
Course title :	Drug bioassay
Program title:	Master of Veterinary Science (Vet. Pharmacology)
Contact hours/ week	2 hours/ week, (Lect. 2hrs/week, Practical 2hrs/ week)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

a1-Prepare qualified graduates for the requirements of the drug bioassay.
a2-Identify quality principles and basics in drug bioassay.
a3- Develop the information technology skills of drug bioassay.

3- Intended learning outcomes of course (ILOs)

a- Knowledge and understanding:

By the end of this course the student should be able to:

a1- Define bioassay of drugs.
a2- Identify different method assay activity of drugs in vitro or intact animals.
a3- Explain the results of bioassay.
a4- Describe the method of bioassay of different drugs.

b-Intellectual skills

By the end of this course the student should be able to:

b1- Design experiment for bioassay of different drug to evaluate activity.
b2- Evaluate the drug activity.
b3- Creates a good planning technique for performing and analysis of drug bioassays.

C- Professional and practical skills

By the end of this course the student should be able to:

c1-Prepare the postgraduate for injection of living laboratory animals with different drugs.
c2- Practice bioassay of drugs both in vitro and intact animal.
c3- Use bioassay of detecting activity of different extracts, patent drugs or chemical.

d- General and transferable skills

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

d1- Practice self-evaluation and need assessment.
d2- Utilize different available resources for efficient obtaining of knowledge and information.
d3- Lead a team work in a certain professional task.
d4- Own continuous connection with drug companies, pharmacists and the friends in the career.

Course Specification of Postgraduate

4-Topics and contents

Course	Topic	No. of hours	Lectures	Practical
Drug bioassay (Lec. h./week, Pract h./week)	Introduction	2	2	-
	Experiments of isolated tissue preparations	4	2	2
	The effect of drugs on rabbit intestine	2	1	1
	Determination the site of action of drugs	2	1	1
	The effect of drugs on rat uterus	4	2	2
	The effect of drugs on fasciola flukes	4	2	2
	Effect of drugs on the muscle of eye	2	1	1
	Corneal anesthetic effect of drugs	4	2	2
	Local anesthetic effect of drugs in rabbits	2	1	1
	Effect of drugs on skeletal muscle preparations	2	1	1
	Effect of drugs on isolated heart of frogs	2	1	1
	Effect of digitalis on isolated heart of frogs	2	1	1
	Effect of drugs on isolated perfused rabbit heart	2	1	1
	Effect of drugs on guinea pig tracheal strip	2	1	1
	Effect of drugs on arterial blood pressure and respiration	2	1	1
	Effect of drugs on glucose level	2	1	1
	Determination of antifungal activity of drugs	2	1	1
	effect of anticoagulants on clotting time	2	1	1
	Determination of LD_{50} of drugs	2	1	1
	Effect of drugs and medicinal preparations on CNS	2	1	1
	Anti-ulcer activity of drugs	2	1	1
	Anti-histaminic activity of drugs	2	1	1
	Anti-arthritic activity of drugs	2	1	1
	Hepatoprotective activity of drugs	4	2	2
	Hypnotic and anesthetic activity of drugs	2	1	1
	Biological assay of drugs	4	2	2
	Extraction technique of medicinal plants	2	1	1
	Phytochemical screening and evaluation of biological activities of medicinal plants	2	1	1
	Drug excretion	2	1	1
	Conversion of dose from human to animals	2	2	2
	Total	**72**	**36**	**36**

5-Teaching and learning methods

5.1- Lectures using board, data shows

5.2- Self learning by preparing essays and presentations (computer researches and faculty library)

5.3- Practical (models, samples of……..).

Course Specification of Postgraduate

7-Student assessment

7.1. Assessments methods:

Method	Matrix alignment of the measured ILOs/ Assessments methods			
	K&U	**I.S**	**P&P.S**	**G.S**
Final Exam	a1-a4	b1-b3		d1-d4
Practical Exam	a1-a4		c1-c3	d1-d4
Oral Exam	a1-a4	b1-b3		d1-d4

7.2. Assessment schedules

Method	Week(s)
Practical exams	During the last month
Written exams	During the last month
Oral Exam	During the last month

7.3. Weight of assessments

Assessment	Weight of assessment
Practical exams	25 %
Written exams	50 %
Oral Exam	25 %
Total	100 %

8- List of references

8.1. Notes and books

Departmental notes on:

* Basis of pharmacology by Prof. Dr. Mohamed Abd Allah Tohamy (2015/25136).
*Textbook of practical pharmacology

8.2. Essential books:

- ***(Present in library of Faculty of Veterinary Medicine, Beni-Suef University)***

***Walker, D.G.; Renwick, A.G. and Hillier, K. (2001):**

Medical pharmacology and therapeutics.
First Ed. University of Southampton printed in Spain

8.3. Recommended texts:

-- ***(Present in library of Faculty of Veterinary Medicine, Beni-Suef University)***

***Nicholas H. Booth and E. Mcdonald (2005):**

5th Edition, Jones Veterinary Pharmacology and Therapeutics (2005)

***Goodman, L.S. and Gilman, A. (2006):**

The pharmacological basis of therapeutics 8th Ed. Iowa State University Press USA

***Robert L. Bill (2006):**

3rd Edition, Clinical Pharmacology and Therapeutics for the Veterinary Technician

***Satish K. Garg (2006):** 1st Edition-Reprint, Veterinary Toxicology

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Norman Holland and Michael Patrick Adams (2007):
2nd Edition, Core Concepts In Pharmacology

8.4. Journals, Websites ……..etc

Journals:

*Journal of Veterinary Pharmacology and Therapeutics
*The Science and Practice of Pharmacy
*The Pharmacological Basis of Therapeutics
*Journal of Antimicrobial Chemotherapy
*Journal of Antibiotics
*British Journal of Pharmacology
*International Journal of Antimicrobial Agents

Websites:

httpi//www.sciencedirect.com/scince?...

ncbi.nlm.nih.gov/entrez/query.fcgi?...

httpi//www.sciencedirect.com/scince?...

ncbi.nlm.nih.gov/entrez/query.fcgi?...

Course Coordinators	Head of Department
Dr. Abeer Mohamed Radi	Prof. Dr. Mohamed Abd Allah Tohamy

Course specification

	Topics	week	Intended learning outcomes of course (ILOs)			
			K and U (a)	I.S (b)	P. P.S. (c)	G.T.S (d)
1	Introduction	1	a1-a4	b1-b3	c1-c3	d1-d4
2	Experiments of isolated tissue preparations	2,3	a1	b1-b2	c1	d1,d2,d4
3	The effect of drugs on rabbit intestine	4	a1	b1-b2	c1	d1,d2,d4
4	Determination the site of action of drugs	5	a2	b1-b2	c1	d1,d2,d4
5	The effect of drugs on rat uterus	6,7	a2	b1-b2	c1	d1,d2,d4
6	The effect of drugs on fasciola flukes	8,9	a2	b1-b2	c1	d1,d2,d4
7	Effect of drugs on the muscle of eye	10	a2	b1-b2	c1	d1,d2,d4
8	Corneal anesthetic effect of drugs	11,12	a2	b1-b2	c1	d1,d2,d4
9	Local anesthetic effect of drugs in rabbits	13	a1-a4	b1-b2	c1	d1,d2,d4
10	Effect of drugs on skeletal muscle preparations	14	a1-a4	b1-b2	c1	d1-d4
11	Effect of drugs on isolated heart of frogs	15	a2- a4	b2	c1	d1-d4
12	Effect of digitalis on isolated heart of frogs	16	a2- a4	b2	c1	d1-d4
13	Effect of drugs on isolated perfused rabbit heart	17	a2- a4	b2	c1	d1-d4
14	Effect of drugs on guinea pig tracheal strip	18	a2- a4	b3	c1	d1-d4
15	Effect of drugs on arterial blood pressure and respiration	19	a2- a4	b1-b2	c1	d1-d4
16	Effect of drugs on glucose level	20	a2- a4	b1-b2	c1	d1-d4
17	Determination of antifungal activity of drugs	21	a2- a4	b1-b2	c1-c3	d1-d4
18	effect of anticoagulants on clotting time	22	a2- a4	b1-b2	c1-c3	d1-d4
19	Determination of LD_{50} of drugs	23	a2- a4	b1-b2	c1-c3	d1-d4
20	Effect of drugs and medicinal preparations on CNS	24	a2- a4	b1-b2	c1-c3	d1-d4

Course specification

21	Anti-ulcer activity of drugs	25	a2- a4	b1-b2	c1-c3	d1-d4
22	Anti-histaminic activity of drugs	26	a2- a4	b1-b2	c1-c3	d1-d4
23	Anti-arthritic activity of drugs	27	a2	b1-b2	c1-c3	d1-d4
24	Hepatoprotective activity of drugs	28, 29	a2	b1-b2	c1-c3	d1-d4
25	Hypnotic and anesthetic activity of drugs	30	a2	b1-b2	c1-c3	d1-d4
26	Biological assay of drugs	31, 32	a2	b1-b2	c1-c3	d1-d4
27	Extraction technique of medicinal plants	33	a2	b1-b2	c1-c3	d1-d4
28	Phytochemical screening and evaluation of biological activities of medicinal plants	34	a2- a4	b3	c1-c3	d1-d4
29	Drug excretion	35	a2- a4	b3	c1-c3	d1-d4
30	Conversion of dose from human to animals	36	a2- a4	b3	c1-c3	d1-d4