



# Veterinary Toxicology

## DIPLOMA COURSE SPECIFICATION

### A. BASIC INFORMATION

<b>University:</b>	<b>Sadat City</b>
<b>Faculty:</b>	<b>Veterinary Medicine</b>
<b>Program on which the course is given:</b>	<b>Diploma of Veterinary Pharmacology and Pharmaceuticals</b>
<b>Department offering the Course:</b>	<b>Forensic Medicine, Toxicology and Veterinary Regulations</b>
<b>Course code:</b>	<b>929</b>
<b>Course title:</b>	<b>Veterinary Toxicology</b>
<b>Lecture (hr/week):</b>	<b>1</b>
<b>Practical (hr/week):</b>	<b>1</b>
<b>Course coordinator:</b>	<b>Dr. Badr Elbially</b>

## B. PROFESSIONAL INFORMATION

### 1) Overall aims of course

Upon successful completion of the course, the student will be able to:

- ❖ Identify the major toxic agents affecting species of veterinary importance and their toxic action and effect.
- ❖ Develop a protocol for diagnosis and treatment of intoxicated animals.

### 2) Intended learning outcomes of course (ILOs)

#### a) KNOWLEDGE AND UNDERSTANDING

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

- a.1. Recognize the basic toxicological terms and concepts.
- a.2. Realize the biotransformation and general mechanisms of action of poisons.
- a.3. Identify the toxic hazard of poisons on different organs.
- a.4. Describe the medical basis for diagnosis and treatment of poisoning in different animals.

#### b) INTELLECTUAL SKILLS

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

- b.1. Analyze and judge the signs and PM lesions induced by poisons to reach proper diagnosis.
- b.2. Interpret the results of laboratory analysis of toxicants.
- b.3. Differentiate cases of poisoning from infectious and metabolic disorders.
- b.4. Relate the mode of action of poisons with the clinical picture of intoxication
- b.5. Select the most suitable and economic way of treatment and prevention of poisoning in animals.

#### c) PROFESSIONAL AND PRACTICAL SKILLS

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

- c.1. Carry proper sampling for toxicological analysis.
- c.2. Perform general toxicity testing of poisons and drugs.
- c.3. Assess the special toxicity of poisons.
- c.4. Detect the residues of inorganic and organic poisons in biological samples.
- c.5. Identify poisonous plants and animals in Egypt.

#### d) GENERAL AND TRANSFERABLE SKILL

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

- d.1. Work effectively as part of a team.
- d.2. Efficiently make use of library facilities and IT tools.
- d.3. Explore appropriate computer / keyboard skills including word
- d.4. Processing, spreadsheets, presentation packages and graph plotting.

### 3) Topics and contents

Topic	No. of hours		
	Lectures	Practical	Total
Toxicological concepts	2		
Toxicokinetics	2		
Diagnosis of toxicosis	2		
Therapy and Management of Toxicoses	4		
General mechanism of action of poisons	4		
Organ- selective action of poisons	8		
Metals	4		

Pesticides	4		
Mycotoxins	4		
Poisonous plants	4		
Venomous animals	2		
Drug toxicity	4		
Sampling in toxicology		4	
Calculations in toxicology		8	
General toxicity testing		4	
Special toxicity testing		12	
Residue analysis		8	
Identification of poisonous plants		4	
Identification of venomous animals		4	
<b>Total</b>	<b>44</b>	<b>44</b>	<b>88</b>

#### 4) Teaching and learning methods

- 4.1. Lectures.
- 4.2. Practical.
- 4.3. Self-learning activities.

#### e) Student assessment

##### a. METHODS:

1- Written examination	For assessment of knowledge, back calling and Intellectual skills
2- Practical examination	For assessment of practical and professional skill.
3- Oral examination	For assessment of knowledge and Intellectual skills
4- Student activities	For assessment of knowledge and general and transferable skills

##### b. MATRIX ALIGNMENT OF THE MEASURED ILOS/ ASSESSMENTS METHODS:

	K.U (a)	I.S (b)	P.P.S (c)	G.S (d)
Written exam	1,2,3,4	3,4,5		
Practical exam			1-5	
Oral exam	1,2,3,4	1,2,3,5		
Student activities (assay, seminar, etc.)	1,2	1,2		1-4

##### c. WEIGHT OF ASSESSMENTS:

Assessment	Allocated Mark	Evidence
Final written exam	50%	Marked and signed written paper
Practical exam	20%	Marked and signed practical exam paper
Oral exam	20%	Signed list of oral exam marks
Student assignments	10%	Representative samples of presented materials

## List of references

### 6.1. Essential textbooks

- J **Clinical Veterinary Toxicology**. Lorgue, G., Lechenet, J. and Riviere, J. Blackwell Sci., Carlton, Australia 1996.
- J **Casarett & Doull's Toxicology. The Basic Science of Poisons**. Klaassen, C.D., 6<sup>th</sup> edition, McGraw-Hill, New York, 2001.
- J **Toxicology**. Osweiler, G.D., The National Veterinary Medical Series for Independent Study Blackwell Pub., 1996.

### 6.3. Periodicals ,web sites

- J Toxicol Appl Pharmacol -Elsevier
- J Reprod toxicol
- J IVIS
- J PubMed
- J Science direct.

## ٧) Facilities required for teaching and learning

- ٧,١ Data-show.
- ٧,٢ Laboratory animals for experimental toxicology.
- ٧,٣ Network for technology transfer.
- ٧,٤ Laboratory kits for experimental toxicology.
- ٧,٥ Computer.

	<b>Course coordinators</b>	<b>Head of department</b>
<b>Name</b>	<b>Dr. Badr Elbially</b>	<b>Prof. Dr. Hesham Elsabbagh</b>
<b>Signature</b>		

## Matrix alignment of course topics and ILOs

Topic	No. of hours /week		Total hours	Hours for lect.	Hours for pract.	ILOs				T&L. methods				
	Lect.	Pract.				K&U (a)	I.S (b)	P.P.S (c)	G.T.S (d)	Lect.	Pract.	Self & active leaning	Audio visual	Case study
Toxicological concepts	1	1	2		2	1			1234					
Toxicokinetics	1	1	2		2	2	4		1234					
Diagnosis of toxicosis	1	1	2		2	4	1.3		1234					
Therapy and Management of Toxicoses	1	1	4		4	4	5		1-4					
General mechanism of action of poisons	1	1	4		4	2.3	4		1-4					
Organ- selective action of poisons	1	1	8		8	3	1.3.4		1-4					
Metals	1	1	4		4	3	1.3.4		1-4					
Pesticides	1	1	4		4	3	1.3.4		1-4					
Mycotoxins	1	1	4		4	3	1.3.4		1-4					
Poisonous plants	1	1	4		4	3	1.3.4		1-4					
Venomous animals	1	1	2		2	3	1.3.4		1-4					
Drug toxicity	1	1	4		4	3	1.3.4		1-4					
Sampling in toxicology	1	1		4	4			1.2	2-4					
Calculations in toxicology	1	1		8	8		1	2	2-4					
General toxicity testing	1	1		4	4		1	1.2	2-4					
Special toxicity testing	1	1		1.2	1.2		1	1.3	2-4					
Residue analysis	1	1		8	8		2	4	2-4					
Identification of poisonous plants	1	1		4	4		3	5	2-4					
Identification of venomous animals	1	1		4	4		3	5	2-4					