

Course specification (2017/2018)

1-Basic information

Course Code:	TFM:4146
Course title :	Toxicology and forensic medicine (part 1)
Academic year:	4 th Year, 1 st terms
Program title:	Bachelor degree of Veterinary Medical sciences
Contact hours/ week	4 hours/week, (2 Lect./week, 2Practical/week)
Approval Date	

2-Professional information

Overall aims of course:

This course aims to:

- The main purpose of this course is offering the **academic knowledge** and practical experience about the toxicants, their mode of action, signs, diagnosis and how can treat **them** and control .

3- Intended learning outcomes of course (ILOs)

a-Knowledge and understanding:

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

- a1- Enumerate the different types of toxicants, factors affecting toxicity, metabolism and the basic line of diagnosis and treatment.
- a2- list the classes and types of toxicants.
- a3- Describe the mode of action of different kind of toxicant
- a4- Record the diagnosis and treatment of different types of toxicants
- a5- Define methods of sample collection for medico legal lab.
- a6- Recognize the hazard effect of nanoparticles
- a7- State the application of biosensors in diagnosis of toxicants
- a8- Recognize the basis of molecular toxicology

b-Intellectual skills

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

- b1- Practice sample analysis from poisoned animal.
- b2- Demonstrate different types of pesticides, biopesticides , metallic poison, nanoparticles ,Plant poisons, animal poisons, Gases &volatile poisons and corrosives
- b3- Manage thinking for how to diagnosis of toxicants, Enhancing the ability of decision making.
- b4- Distinguish different cases of toxicity and suitable methods for treatment.
- b5- Formulate the molecular basis and mechanisms of nanoparticles toxicity.



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c-Professional and practical skills

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

- c1- Carry out methods for collection & preservation of diagnostic specimens.
- C2- Employ clinical, post-mortem, toxicological examinations of samples from poisoned animal
- C3- Practice methods of treatment of poisoned animal.
- C4- Design control measures to prevent mycotoxicosis.
- C5-Detection of irritants

d-General and transferable skills

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

- d1. Work effectively as part of a team, demonstrating decision making and time management.
- d2. Efficiently make use of library facilities and IT tools.
- d3. Using appropriate computer / keyboard skills including word processing, spreadsheets, presentation packages and graph plotting.
- d4. Undertake written assignments and oral presentations.

4-Topics and contents

Course	Topic	Week	No. of hours	Lectures	Practical
Toxicology (Lec. 2h./week, Pract. 2h./week)	General toxicology	1,2	6	4	2
	Toxicity evaluation tests	2	2	-	2
	Reproductive toxicity tests	3	2	-	2
	Teratology tests	4	2	-	2
	Irritants	3	2	1	1
	Nanoparticles toxicity	3	3	1	2
	Corrosive poisons	4	2	1	1
	biosensors in diagnosis of toxicants	4	2	1	1
	Mycotoxins & mycotoxicosis	5	4	2	2
	Pesticides Toxicology & biopesticides	6	4	2	2



	Plant poisons	7	4	2	2
	Animal poisons	8	4	2	2
Toxicology (Lec.2 h./week, Pract. 2h./week)	Gases & volatile poisons	9,10	4	4	-
	Eco toxicology	11,12	4	4	-
	Drug toxicity	13	4	2	1
	Necropsy protocol	9	2	-	2
	Veterinary analytical toxicology	10	2	-	2
	Total	13	52	26	26

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 different antidote, pesticides, poisonous plants, scorpions and snakes).
- 5.4-Field visit for toxicology center and pesticides center.
- 5.5- Participate in Assay writing and power point presentation

6-Teaching and learning methods for the students with disabilities

-Not applicable.

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-a8	B2-b5	C4	-
Practical exam	a5,a7	B1	C1-c5	d1-d4
Oral exam	A1-a8	B2-b5	-	-



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7.2. Assessment schedules/semester:

Method	Week(s)
Practical exam	14 th week
Final exam	During 15 th -18 th week
Oral exam	During 15 th -18 th week
Student activity	Along the semester

7.3. Weight of assessments:

Assessment	Weight of assessment
Practical exam	20%
Written exam	50%
Students activity	10%
Oral exam	20%
Total	100%

8- List of references

8.1. Notes and books

Not applicable.

8.2. Essential books:

- 1- Principles and Methods of Toxicology (2001). A. Wallace Hayes 4th Ed. Taylor & Francis
- 2- Veterinary toxicology (1995). E.G.C. Clarke and Myral. Clarke.1st, 2nd and 3rd Ed. Macmillan publishing Co. Inc., New York.
- 3- Veterinary Jurisprudence.(1981). S.N. Sharma. 3rd Ed. Oxford of IBH Publishing Co. Put. LTD.
- 4- Veterinary Jurisprudence.(1981). S.N. Sharma. 3rd Ed. Oxford of IBH Publishing Co. Put. LTD.

These books are found in the library of faculty of veterinary medicine , Beni-suef Univ.

8.3. Recommended texts

- 1- Molecular Toxicology. (2003). N. Plant Garland Science / Bios scientific publisher Taylor & Francis group.
- 2- Small animal Toxicology. (1998). Roger. W. Feller, DUM Shawn P. Messonnier, DUM.St. Louis Baltimore Boston Carlsbad. Chicago Minneapolis New York.
- 3- Hand Book of toxicology. (1995). Michael. J. Derelanko and Manfred A. Hollinger. DNLN/DLC for library of Congress. Boca. Raton New York London Tokyo.
- 4- Ecotoxicology (1996). Michael C. Newman and Charles H. Jagoe. Lewis Publisher.
- 5- Developmental toxicology. (1997). Ronald d. hood. CRC Press INC. United State



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America.

6- Poisoning and Toxicology (1998). Jerrold. B. Leikin and Frank P. paloucek. Lexi-comp INC. Canada.

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8.4. Journals, Websitesetc

Journals:

- Toxicology & applied pharmacology.
- Toxicology letters.
- American journal of clinical nutrition.
- Animal feed science & technology.
- journal of eco toxicology

Websites:

- [Chtt:// www.toxicology.net/](http://www.toxicology.net/)
- [Chtt://www.ncbi.nlm.nih.gov](http://www.ncbi.nlm.nih.gov)
- [C http://www.Google.com](http://www.Google.com)
- [Chttp://intl.clinchem.org/](http://intl.clinchem.org/)
- [www. Journal. of Toxicology and applied pharmacology.](http://www.Journal.of.Toxicology.and.applied.pharmacology.)
- www.ivis.com
- www. Egyptian society of natural toxin
- www. Egyptian society of environmental toxin

Course Coordinators

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Head of Department

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Topic 1 st term	Week	Intended learning outcomes of course (ILOs)			
		K&U (a)	I.S (b)	P.P.S (c)	G.T.S (d)
General toxicology	1,2	a1-a5	b1, b3, b4.	C1-c3.	-
Toxicity evaluation tests	2	-	b3	C1	-
Reproductive toxicity tests	3	-	b1,b2,b4	C1	-
Teratology tests	4	-	b1,b2,b4	C1	-
Irritants	3	a1-a5	b1,b2,b4	C5	-
Nanoparticles toxicity	3	a1-a6	B5	C1-c3.	-
Corrosive poisons	4	a1-a5	b1,b2,b4	C1-c3.	-
Biosensors in diagnosis of toxicants	4	a7,8	-	C1	-
Mycotoxins &mycotoxicosis	5	a1-a4	b1,b2,b4	C4	-
Pesticides & biopesticides toxicology	6	a1- a5.	b2-b4	C1-c3.	-
Plant poisons	7	a1-a4	b1,b2,b4	C1-c3.	-
Animal poisons	8	a1-a4	b1,b2,b4	C1-c3.	-
Gases &volatile poisons	9,10	a1-a4	b1,b2,b4	C1-c3.	-
Eco toxicology	11,12	-	-	C1	-
Drug toxicity	13	a1-a4	b1,b2,b4	C1-c3.	-
Necropsy protocol	9	a5	b3	C1,c2	-
Student activity		-	-	-	D1-d4