

28424 - Toxicology

Información del Plan Docente

Academic Year	2016/17
Academic center	105 - Facultad de Veterinaria
Degree	451 - Degree in Veterinary Science
ECTS	6.0
Course	3
Period	First semester
Subject Type	Compulsory
Module	---

1.Basic info

1.1.Recommendations to take this course

1.2.Activities and key dates for the course

2.Initiation

2.1.Learning outcomes that define the subject

2.2.Introduction

3.Context and competences

3.1.Goals

3.2.Context and meaning of the subject in the degree

3.3.Competences

3.4.Importance of learning outcomes

4.Evaluation

5.Activities and resources

5.1.General methodological presentation

1 - Lectures

Presentations slides used in class will be available online (moodle platform ADD from University of Zaragoza).

2 - Practical sessions.

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Student will carry out experiments at Toxicology lab. A detailed protocol and all necessary reagents will be provided. Additional materials will be available online (moodle platform from University of Zaragoza).

3 - Professional seminars related to the field of Veterinary Toxicology.

Seminar topics should be proposed and chosen by students.

5.2.Learning activities

The previous described activities (lectures, practical sessions and seminars) provide tools for students to achieve the course learning objectives.

5.3.Program

Syllabus of lectures

I. General Toxicology

1. Introduction
2. Experimental Toxicology
3. Toxicokinetics
4. Biotransformation
5. Toxicodynamics
6. Mutagenesis- Carcinogenesis -Teratogenesis
7. Endocrine disruption
8. Analytical Toxicology
9. Risk assessment
10. Treatment of poisoning

II. Industrial Toxicants

1. Persistent contaminants
2. Corrosive substances
3. Alcohols and glycols
4. Petroleum

III. Pesticides

1. Introduction
2. Organochlorines and pyrethrins
3. Insecticides
4. Acaricides
5. Rodenticides
6. Avicides
7. Molluscicides
8. Herbicides y fungicides

IV. Feed and water Contaminants:

1. Urea
2. Water

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3. Teobromine
4. Mycotoxins

V. Poisonous Plants:

1. Introduction
2. Hepatotoxic plants
3. Lectines y leguminismos
4. Cyanogenic plants
5. Oxalates-containing plants
6. Nitrate and nitrite accumulating plants

VI. Drugs of Abuse

1. CNS depressants
2. Stimulants
3. Hallucinogens

4. VII. Metals:

1. Introduction
2. Copper-Molybdenum
3. Lead
4. Mercury
5. Arsenic
6. Cadmium

7. VIII. Poisonous and Venomous Organisms:

1. Bacterial toxins
2. Zootoxins

Syllabus of practical sessions

Practice 1: *In vitro Toxicity* , cell culture. 3h. Place: Toxicology Lab

Practice 2: Calculations in Toxicology problems.

Practice 3: Poisonous and Venomous animals identification. Case studies 2h. Place: Toxicology Lab

Practice 4: Neurotoxicants: AChE inhibitors. 3h. Place: Toxicology Lab

Practice 5: Methemoglobinemia. Nitrite measurement. 3h. Place: Toxicology Lab

5.4.Planning and scheduling

Available at the following website <http://veterinaria.unizar.es/gradoveterinaria/>) updated every academic year.

5.5.Bibliography and recommended resources

<http://psfunizar7.unizar.es/br13/eBuscar.php?tipo=a>