

TOXICOLOGY

Study Programme: MIMV Curricular Year: 5th Semester: 9th Compulsory Credits: 4.5 ECTS

Lecturer(s): Manuela Rodeia (SPC), Anabela Moreira (R), Berta São Braz.

1. Contact hours:

Lectures - 26 hours; **Practicals** - 26 hours; **Total** - 52 hours

2. Objectives:

Acquisition of basic and specific knowledge of General and Special Toxicology (terminology, concepts, classifications and categories, methodologies).

Understanding acquired knowledge, interpretation and interrelations with other areas of knowledge covered throughout the study programme.

Approach and problem solving in the context of Applied Toxicology, namely in the areas of Clinical and Forensic Toxicology, under the scope of Veterinary Medicine.

Acquire the ability to act multidisciplinary and interdisciplinary, combining information from different backgrounds, in solving problems of toxicological area

3. Programme:

Theoretical Course:

General Toxicology - Introduction; General concepts and their application; Toxicokinetics and Toxicodynamics; Toxicity and indicators; Analytical toxicology and Toxicologic assays; Risk Analysis in toxicology.

Special Toxicology - Anthropogenic Xenobiotics: Drugs, Drugs of abuse, Food additives, Pollutants and Contaminants (Persistent Organic Pollutants, Pesticides, Metals and Metalloids). Natural Xenobiotics: Phytotoxins, Zootoxins, Mycotoxins, Protists toxins.

Applied Toxicology – Ecotoxicology and Veterinary Medicine, Veterinary Toxicology and Food Safety, Veterinary Clinical Toxicology, Veterinary Forensic Toxicology

Practical Course:

Laboratory Work - Case study, through an analytical toxicology approach

Monographic Work – Monograph execution, presentation and defense about a specific theme of Veterinary Toxicology, carried out through collection, analysis and synthesis of bibliographic information.

4. Bibliography:

Gupta PK. 2019. *Concepts and applications in Veterinary Toxicology – an interactive guide*. Springer.

Gupta RC, editor. 2018. *Veterinary Toxicology, basic and clinical principles*. 3rdedition. Academic Press.

Hovda LR, Brutlag AG, Poppenga RH, Epstein SE, editors. 2024. *Blackwell's Five-Minute Veterinary Consult Clinical Companion: Small Animal Toxicology*. 3rdedition. Wiley-Blackwell.

Klaassen CD, Watkins III JB, editors. 2021. *Casarett and Doull's - Essentials of Toxicology*. 4thedition. McGraw Hill Professional.

Peterson ME, Talcott PA. 2012. *Small Animal Toxicology*. 3rdedition. Saunders

Poppenga RH, Gwaltney-Brant SM, editors. 2011. *Small Animal Toxicology Essentials*. Wiley-Blackwell.

Other resources (papers, online resources and audiovisuals/resources developed by lecturers)

5. Assessment:

Practical Course - Continuous assessment (scale 0-20). At least 9.5 for approval and admission to theoretical final examination. Contributes 50% of the final grade.

Theoretical Course - Written exam covering theoretical subjects, held at the end of the semester (scale 0-20). At least 9.5 for approval. Contributes 50% of the final grade.