

TOXICOLOGY (4th year)

No. of credits 7

Subject structure (weekly assigned hours)

Semester	Lecture	Seminar	Practical session	Project
VII	2	-	2	-
VIII	2	-	2	-

Subject status

Compulsory

Person in charge

Lecturer BEȘCHEA-CHIRIAC Sorin-Ioan

Subject objectives (lectures and applications)

- ✚ The students `uptake of knowledges concerning the general and special semiology
- ✚ The metabolism and elimination of toxics from organism, the appropriation of the general principles of toxicological diagnosis
- ✚ Therapy and prophylaxis of animal intoxication
- ✚ Presenting toxicosis with natural substances from plants, pesticides, radioactive substances and mycotoxins
- ✚ Development of practical skills in toxicological diagnosis

Subject content (syllabus)

56 Hours (Sem. 1 + Sem. 2)

Lectures	Hrs.
The subject of toxicology, types of toxicology; the definition of toxic and toxicity; toxicity factors substance and animal dependent; the chronic, acute and super acute (the toxic shock) toxicity; special toxicity: the late neurotoxicity, sterility, mutagenesis, carcinogenesis, teratogenesis.	6
The metabolism of toxics: penetration paths, absorption, metabolization and elimination; the structure and function of the cytochrome P-450-dependent MO system; enzymatic induction and inhibition.	14
General principles of toxicological diagnosis: epidemiological, clinical, morphopatological, analytical and biological testing data.	4
General principles of therapy and prophylaxis; medical attitude in toxicological emergencies at small and large animals; general prophylaxis of toxicosis.	4
Intoxications caused by fodder additives: NaCl, urea and other nitrated compounds	
Intoxications with soil amendments: nitrates-nitrites, phosphates	
Intoxications with pesticides: organochlorides, organophosphorics,	

carbamates, coumarin derivatives, ANTU, zinc phosphide, strychnine, metaldehydes, chlorates, chlorphenoxy derivatives, Pb, Hg, inorganic and organic As, Se, F	28
The toxicity of the ionizing radiation and of the radiomimetic substances Intoxications with natural toxics from plants: solanine, nicotine, oxalic ac. / ethylene glycol, cyanogenetic glycosides	
Iatrogenic intoxications with medicines: chemotherapeutics, antibiotics, neuroexcitants, neurodepressors, histamine releasing Mycotoxicoses: aflatoxicosis, ergotism, mycotoxic chronic nephropathy, stachybotryotoxicosis, mycotoxic estrogenic syndrome, lupinosis, trichothecenes	

56 Hours (Sem. 1 + Sem. 2)

Practical Sessions	Hrs.
Practical laboratory work: methods of collecting and dispatching samples for toxicological examination in the laboratory, qualitative and quantitative determinations of toxic substances, preparation and administration of antidotes	12
Fundamental concepts of experimental toxicology: determining the chronic, acute toxicity; experimental intoxications in animals and presentation of video cassettes concerning clinical aspects in toxicoses	32
Practical aspects of complex diagnosis in toxicoses and of general prophylaxis of the animal intoxications.	12
<i>Total</i>	56

Bibliography

1. Popescu O, Enache T, 1996. Medicina Veterinara Legala (Toxicologie) II, Ed. All, Bucuresti.
2. Suteanu E, Danielescu N, Popescu O, Trif A, 1995. Toxicologie și Toxicoze, EDP RA, Bucuresti.
3. Solcan G, Beșchea Chiriac SI. 2005. Toxicologie Veterinară Manual Practic, Tehnopress.
4. Gupta R, 2005. Veterinary Toxicology –Basic and Clinical Principles
5. Crivineanu V, Goran G, 2004. Toxicologie Veterinara –Editura Printech
6. Oros A, 2006. Introducere in Toxicologia Veterinara –Editura Risoprint ClujNapoca.

**Evaluation method: 1st semester – preliminary exam
2nd semester - oral exam.**

Specification	Points	%
Lecture Presence	1	10
Continuous evaluation	3,0	30
Examination	6	60
Final Grade	10	100

Hour's consultations (date, time): Tuesday and Wednesday 14.00 – 15.00

Contact person

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