NEAR EAST UNIVERSITY
Faculty of Veterinary Medicine Course Curriculum

1.	**Course Name**	TOXICOLOGY and ENVIRONMENTAL PROTECTION
2.	**Course Code**	VTE409
3.	**Course Type**	Compulsory
4.	**Course Level**	Undergraduate
5.	**Year**	4
6.	**Semester**	Fall, VET7
7.	**ECTS Credits**	3
8.	**National credits**	2
9.	**Theoretical Course Hours (hours/week)**	2h/week
10.	**Practical Course Hours (hours/week)**	1h/week
11.	**Course Prerequisites**	None
12.	**Other Topics Recommended for the Course**	None
13.	**Course Language**	English
14.	**Course Format**	Face to face/Online
15.	**Course Coordinator**	Prof. Dr. Oğuzhan YAVUZ
16.	**Other Lecturers that Give the Course**	-
17.	**Communication Details of the Coordinator**	oguzhan.yavuz@neu.edu.tr
18.	**Course Web Address**	
19.	**Course Aim**	To study the nature of the toxic effects of poisons, drugs and chemicals on living systems. To be able to predict the probability of occurrence of these toxic effects. To determine the benefit/harm ratio. To teach how to develop antidote drugs against poisonings and to make a risk assessment.

20.	**Contribution of the Course to Occupational Development**	It increases the knowledge about the qualitative and quantitative analysis of the harmful effects of physical, chemical and biological agents observed in the form of structural and functional changes in living biological systems, and provides a multidisciplinary study to protect all living things from harmful effects and to determine the safety of chemical substances. It also improves the toxicology risk assessment, which is both very old and very new in the modern sense and has a high predictive quality.

21.	**Course Learning Outcomes**	**LO1**	To learn the basic concepts and terminology of toxicology
		LO2	To learn the sources and general properties of poisons
		LO3	To gain knowledge on the absorption, distribution, metabolism and extraction of poisons
		LO4	To gain knowledge on the concept of dose, forms and routes of administration of poisons
		LO5	To learn the mechanism of action of poisons
		LO6	To learn the undesirable effects and toxic effects of drugs and other substances and their interactions

22.	**Course Content**	**WEEK**	**THEORETICAL COURSE CONTENT**	**APPLICATION CONTENT**
		1.	Definition of toxicology and poison concepts, types of poisoning, effects of poisons and interactions between poisons, poisoning toxicity trials.	Introduction, use and information of laboratory materials
		2.	Dose-intensity and dose-effect relationship, poisoning and factors affecting toxicity.	Introduction of chemicals used in the laboratory, their properties, label information and possible interaction risks.
		3.	Toxicokinetics (entry routes to the body and absorption, distribution and accumulation, changes in the body, excretion, the effect of gastrointestinal microflora on toxic substances).	Taking samples and sending them to the laboratory for diagnosis and analysis in poisonings, preparing official reports, examining the relevant regulations and communiques
		4.	Effects of poisons, causes of poisoning, diagnosis and treatment.	Processing, evaluation and report preparation of samples coming to the laboratory for analysis
		5.	Heavy metal poisonings	Taking anamnesis, sending pathogenic substances to the laboratory for diagnosis, keeping a report, preparing a report and applying treatment principles in metal-related poisonings

		6.	Other inorganic substances and radioactive substances	Taking anamnesis in poisonings caused by other inorganic and radioactive substances, sending the pathogenic substance to the laboratory for diagnosis, keeping a report, preparing a report, applying the treatment principles
		7.	Organic substances, toxic gas, vapor and particles	Taking anamnesis, sending pathogenic substance to the laboratory for diagnosis, keeping a report, preparing a report and applying the principles of treatment in poisonings caused by organic substances, toxic gases, vapours and particles
		8.	Herbal poisons	Taking anamnesis, sending a pathogenic substance to the laboratory for diagnosis, keeping a report, preparing a report and applying the principles of treatment
		9.	Insecticides, rat poisons, molluscicides, fungicides	Taking anamnesis in insecticide, rat poison, molluscicides, fungicidal poisoning, sending pathogenic substance to the laboratory for diagnosis, keeping a report, preparing a report and applying the treatment principles
		10.	Herbicides, plant growth regulators and algicides	Taking anamnesis, sending pathogenic substance to the laboratory for diagnosis, keeping records, preparing reports and applying treatment principles in weedicides, herbicides, plant growth regulators and algicide poisonings
		11.	Mycotoxin poisonings	Taking anamnesis, sending pathogenic substance to the laboratory for diagnosis, keeping a report, preparing reports and applying treatment principles in mycotoxin-induced poisonings

		12.	Poisoning caused by large mushrooms and poisonous animals	Taking anamnesis, sending pathogenic material to the laboratory for diagnosis, keeping records, preparing reports and applying treatment principles in poisonings caused by large mushrooms and poisonous animals
		13.	Substances used for doping, capturing and humane killing of animals	Submitting samples to the laboratory for doping, keeping records and preparing reports. Selection of appropriate material for euthanasia according to animal species.
		14.	Substances causing growth retardation and yield loss in poultry, genetic toxicology. Veterinary drugs, environmental toxicology, food pollution	Taking samples in the determination of environmental pollutants, sending samples to the laboratory, keeping records and preparing reports. Taking samples in the determination of food contaminants, sending samples to the laboratory, keeping records and preparing reports.
23.	**Course Book, References and/or Other Resources**	Toxicology Course notes (Prof. Dr. Bilal Cem Liman) Ecotoxicology Course notes (Prof. Dr. Bilal Cem Liman)		

	Evaluation	**SEMESTER WORK**	**NUMBER**	**PERCENTAGE OF CONTRIBUTION**
		Midterm Exam	1	40%
		Short Exam		
		Homework, Performance		
		End of Year Exam	1	60%
		Total	2	100%
24.		Evaluation Approaches	-	

	ECTS / Workload Table	**Activity**	**NUMBER**	**Duration [Hours]**	**Total Workload [Hours]**
		Theoretical Courses	28	2	28
		Applied Courses	14	1	14
		Extracurricular Lesson Study Time (Preparation, revising)			
		Homework, Performance			
		Projects			
25.		Field Studies			

		Midterm Exams	1	1	1
		Other			
		End Of Semester Exams	1	1	1
		Total Workload			44
		Total Workload / 30 hours			
		Course ECTS Credits	3		