AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Industry Originated Poisons and Their Analysis								
Course Code	VFT668		Couse Level	Third Cycle (Doctorate Degree)					
ECTS Credit	6	Workload	150 *(Hours)*	Theory	1	Practice	2	Laboratory	0
Objectives of the Course	To be informed about products used in industry, impact on the environment, human and animal health hazards (teratogenic, mutagenic and carcinogenic), products (eg organic solvents, atmospheric pollutants, soil and water pollutants, poliklorbifeniller etc.) and sources of contamination in the body metabolism (impact, effect patterns, etc.) and toxicity.								
Course Content	Products used in industry, impact on the environment, human and animal health hazards (teratogenic, mutagenic and carcinogenic), products (eg organic solvents, atmospheric pollutants, soil and water pollutants, poliklorbifeniller etc.) and sources of contamination in the body metabolism (impact, effect patterns. etc) and toxicity are examined.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Experiment, Demonstration, Discussion, Individual Study, Problem Solving								
Name of Lecturer(s)									

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading	
1	Principles and Methods of Toxicology, A. Wallace HAYES, Edward BROTHERS; Ann Arbor Press, 2001.
2	Modern Toxicology, Ernest HODGSON, Patricia E. LEVI; Elsevier, London, 1987.
3	Handbook of Experimental Pharmacology – 199; Comparative and Veterinary Pharmacology, Fiona CUNNINGHAM, Jonathan ELLIOTT, Peter LEES (Editors); Springer Press, 2009.
4	Plant Phenolics and Human Health: Biochemistry, Nutrition, Pharmacology, Cesar G FRAGA (Editor); A John Willey & Sons Inc. Publication, 2010.

Week	Weekly Detailed Course Contents	
1	Theoretical	Features and classification of industrial poisons
	Practice	Examination of environmental pollutants, industrial pollutants and
2	Theoretical	Industrial pollutants and environmental
	Practice	Methods of analysis
3	Theoretical	Industrial pollutants and animal health
	Practice	Methods of analysis
4	Practice	Methods of analysis
5	Theoretical	Heavy metals
	Practice	Methods of analysis
6	Practice	Methods of analysis
7	Practice	Methods of analysis
8	Intermediate Exam	Midterm exam
9	Theoretical	Industrial residues of carcinogenic and teratogenic
	Practice	Heavy metal analysis
10	Theoretical	Industrial food contaminants
	Practice	Heavy metal analysis
11	Theoretical	Industrial pollutants toxicokinetics
	Practice	PCB analysis
12	Theoretical	Methods of analysis of industrial pollutants
	Practice	PCB analysis
13	Theoretical	Methods of analysis of industrial pollutants
	Practice	PAH analysis

14	Theoretical	Protection of industrial pollutants
	Practice	PAH analysis
15	Theoretical	Article discussion
	Practice	Paper presentation
16	Final Exam	FINAL

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	3	1	56
Lecture - Practice	15	3	2	75
Midterm Examination	1	7	1	8
Final Examination	1	10	1	11
			Total Workload (Hours)	150
			[Total Workload (Hours) / 25*] = **ECTS**	6

**25 hour workload is accepted as 1 ECTS*

Learning Outcomes

1	Learns and manufactured products used in industry.
2	Learn about the effects of the environment.
3	Learn health effects of human and animal.
4	Learns toxicities and methods of analysis.
5	To learn knowledge and propose suggestions on the area

Programme Outcomes *(Pharmacology and Toxicology (Veterinary Medicine) Doctorate)*

1	Gains expert knowledge on field of pharmacology and toxicology in veterinary medicine and, gains expert knowledge on interdisciplinary interaction in pharmacology and toxicology
2	To be equipped with the knowledge to develop original ideas about necessary issues in the field by using of both graduate and expertise levels knowledge, to be able to develop original definitions, products and diagnostic procedures, etc. via deepening and questioning these knowledge.
3	Develops and uses strategies in his/her field of expertise in PhD Program of Pharmacology and Toxicology
4	Reviews, evaluates and interprets any data (field observations, available scientific information etc.) towards a specific purpose.
5	Gains expert knowledge on the function and basic pharmacological features of pharmacology and sub-branches of science, relationship between the drug and poison, pharmacokinetic, effects of the drugs, the dose-intensity and dose-effect relationship.
6	Gains expert knowledge on the function and basic toxicological features of poison, classifications and types of poisoning, toxicokinetic, general principles of treatment of poisoning.
7	Can offer training to technical staff who will work in pharmacology and toxicology laboratory
8	Reach to competence to prepare courses at the undergraduate level
9	Determines and uses laboratory equipment and consumables in a pharmacology and toxicology laboratory.
10	To be able to plan an interdisciplinary project and build team for the known or new defined problems and to manage and complete such a project when necessary.
11	To share his/her knowledge in the field with others by attending at field-related or other congresses, panels, symposiums, workshops, seminars, article discussions and problem solving sessions, etc., and to contribute to the solution in the team by establishing relations with the experts in different fields.
12	To contribute the scientific knowledge in the field via publications in national and international peer-reviewed scientific journals.
13	Takes roles in vocational organizations and institution.
14	Forms ideas to solve complex problems using theoretical and practical information gained throughout the pharmacology and toxicology education.
15	To adopt lifelong learning as a principle and acknowledge that the information gained through research is the most valuable gain.
16	Knows and protects rights of ideas and industrial property (patent right)

Contribution of Learning Outcomes to Programme Outcomes *1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High*

	L1	L2	L3	L4	L5
P1	4	5	5	5	
P3					5
P4					5
P5		5	5	5	

P8	4	4	4	4	
P11					5
P13	5	5	5	5	
P14					4