AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Pesticides and Analytical Procedures								
Course Code	VFT606		Couse Level	Third Cycle (Doctorate Degree)					
ECTS Credit	6	Workload	150 *(Hours)*	Theory	1	Practice	2	Laboratory	0
Objectives of the Course	Pesticides structure, classification and analysis provide information about the mechanisms of action.								
Course Content	Pesticides in human and animal health, and their place in Toxicology, structure-activity relationship of chemical structure-source relationship, and pesticides are classified according to the kind of interference assumed to act insecticides, molluscides, fungicides and herbicides by examining the effects of their domain, forms, methods of analysis to their clinical use shapes and their practical evaluation.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Experiment, Demonstration, Discussion								
Name of Lecturer(s)	Prof. Selim SEKKİN								

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

Recommended or Required Reading	
1	Hayes, WA (2007) Prenciples and Methods of Toxicology, 5th Edition, Taylor and Francis, London.
2	Klaassen, C. (2008) Casarett & Doull's Toxicology: The Basic Science of Poisons, 7th Edition, McGraw-Hill Companies, USA.
3	Hodgson, E (2010) A textbook of modern toxicology, 4 th Edition, John Wiley and Sons, Inc., Hoboken, Canada.

Week	Weekly Detailed Course Contents	
1	Theoretical	General information about pesticides
	Practice	Laboratory safety and materials (thin layer chromatography (TLC) system, high pressure liquid chromatography (HPLC) system, spectrophotometers, sterilizers, refrigerated centrifuge, rotavapor, distilled water, equipment, incubators, precision scales, water bath, routine tools and equipment, etc.), presentation , use and disclosure
2	Theoretical	Mechanism of action of pesticides
	Practice	Precision weighing, unit conversion, to prepare the solution for analysis, and calculation of the amount of the assay done-I
3	Theoretical	Classification of pesticides
	Practice	From the laboratory processing of samples for analysis, evaluation and preparation of reports
4	Theoretical	Organophosphate insecticides
	Practice	Pesticide analytical methods-1
5	Theoretical	Organochlorine insecticides
	Practice	Pesticide analytical methods-2
6	Theoretical	Ivermectins
	Practice	Pesticide analytical methods-3
7	Theoretical	Pyrethroids
	Practice	Analysis of organophosphorus pesticide-1
8	Practice	Analysis of organophosphorus insecticide-2
	Intermediate Exam	Midterm exam
9	Theoretical	Analysis of organophosphorus insecticides
	Practice	Analysis of organochlorine pesticide-1
10	Theoretical	Analysis of organochlorine insecticides
	Practice	Analysis of organochlorine pesticide-2
11	Theoretical	Analysis of ivermectins
	Practice	Analysis of ivermectins-1
12	Theoretical	Analysis of pyrethroids
	Practice	Analysis of ivermectins-2

13	Theoretical	Comparison of methods for pesticide analysis
	Practice	Analysis of pyrethroids-1
14	Theoretical	General evaluation
	Practice	Analysis of pyrethroids-2
15	Theoretical	Discussion
	Practice	Analysis of pyrethroids-3
16	Final Exam	Final

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	4	1	70
Lecture - Practice	14	3	2	70
Midterm Examination	1	3	1	4
Final Examination	1	5	1	6
			Total Workload (Hours)	150
			[Total Workload (Hours) / 25*] = **ECTS**	6

**25 hour workload is accepted as 1 ECTS*

Learning Outcomes

1	To obtain information on pesticides.
2	Learn about the methods and methods of analysis of pesticides.
3	To obtain information on the classification of pesticides.
4	To learn knowledge and propose suggestions on the area.
5	To give lectures and/or presentations and discuss with professionals in 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	5	5	4		
P2	4	4	5		

P3	3	5	3	4	
P4	4	3	4	5	
P6	5	4	5		
P7	5	5	3		
P8	5	4	4		4
P9	5	3	4		
P10	4	5	5		
P11	3	4	3	4	5
P12	4	3	5		
P13	5	5	5		
P14	5	4	5	4	5
P15	4	3	4		
P16	5	5	3		