AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Calculation of Pharmacokinetics Parameters								
Course Code	VFT673		Couse Level		Third Cycle (Doctorate Degree)				
ECTS Credit	6	Workload	150 *(Hours)*	Theory	1	Practice	2	Laboratory	0
Objectives of the Course	Pharmacokinetics moddeleme, kinetic parameters and factors affecting them with the WinNonlin software program utilized in the calculation of these parameters provide information.								
Course Content	Behavior of drugs in the body (absorption, distribution, metabolism, and excretion), pharmacokinetic modeling, pharmacokinetic parameters (AUC, Tmax, T1 / 2, OKS, Cl, Vd), the factors that lead to changes in these parameters (age, species, race, disease, genetic , the environment, etc.). drug efficacy and the effects of measures to be taken in this case and the WinNonlin pharmacokinetic software package								
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	Veterinary Pharmacology and Therapeutics, 8th Edition, Jim E. Riviere (Editor), Mark G. Papich (Editor), 2009.
2	Modern Pharmacology, 6th Edition, Lippincott Williams and Wilkins, 2004 (Ed. C.R. Craig and R.E. Stitzel)
3	Basic and Clinical Pharmacology, 9th Edition, McGraw-Hill, New York, 2004 (Ed. B. Katzung)
4	Goodman and Gilman's The Pharmacological Basis of Therapeutics 11th Edition, McGraw-Hill, 2006 (Eds. Brunton, Lazo, Parker, Buxton and Blumenthal)
5	Lippincott's Illustrated Reviews: Pharmacology, 3rd Edition, Lippincott Williams and Wilkins, 2005 (Eds. Howard, Mycek, Harvey & Champe)
6	The Veterinary Formulary edited by Yolande Bishop. London Pharmaceutical Press in association with the British Veterinary Association 2001.
7	Pharmacology. Franklin A. Ahrens. Baltimore, Md. London Williams & Wilkins 1996.
8	The physiological basis of veterinary clinical pharmacology J. Desmond Baggot. Oxford Blackwell Science 2001.
9	Veterinary pharmaclgy and therapeutics edited by H. Richard Adams. Ames, Iwa Iwa State University Press 2001.
10	Veterinary Drug Therapy, 1994. Ths. B. Barragry.

Week	Weekly Detailed Course Contents	
1	Theoretical	Definition and importance of pharmacokinetics
	Practice	Pharmacokinetic study planning
2	Theoretical	Factors affecting of the pharmacokinetics
	Practice	Pharmacokinetic studies materials required
3	Theoretical	Pharmacokinetic study plan
	Practice	Sample collection and storage of pharmacokinetic studies
4	Theoretical	Pharmacokinetic studies points to be considered
	Practice	Chromatographic analysis of pharmacokinetic studies
5	Theoretical	pharmacokinetic parameters
	Practice	Creating plasma concentration-time curve
6	Theoretical	After application of intravenous drug FK
	Practice	WinNonlin software package (Application)
7	Theoretical	Other routes of drug administration and post-FK
	Practice	WinNonlin software package (Application)
8	Intermediate Exam	Mid-term exam
9	Theoretical	Modeling

9	Practice	WinNonlin software package (Application)
10	Theoretical	Compartmentalized according to the method parameters, the calculation of FK
	Practice	WinNonlin software package (Application)
11	Theoretical	Single-and dual-chamber according to the method the calculation of kinetic parameters)
	Practice	WinNonlin software package (Application
12	Theoretical	Package program WinNonlin
	Practice	WinNonlin software package (Application)
13	Theoretical	Package program WinNonlin
	Practice	WinNonlin software package (Application)
14	Theoretical	Package program WinNonlin
	Practice	WinNonlin software package (Application)
15	Theoretical	Discussion
	Practice	Discussion
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	Definition and importance of pharmacokinetics
2	Pharmacokinetic study planning
3	Pharmacokinetic modeling
4	Pharmacokinetic parameters and factors affecting them
5	Calculation of pharmacokinetic parameters

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	3	4	5	3
P4	5			5	
P5	4	5	5	4	4
P8	4	4	4		
P9	5	4	4	5	5
P14		3	5	5	