



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		In Vitro Evaluations of Antibiotic Effects and Applications							
Course Code		VFT666		Course Level		Third Cycle (Doctorate Degree)			
ECTS Credit	6	Workload	150 (<i>Hours</i>)	Theory	1	Practice	2	Laboratory	0
Objectives of the Course		To be informed about in vitro evaluation of the effect of antibiotics and their applications.							
Course Content		General principles and interpretation of antibiotic activity as in vitro subjects are examined.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Experiment, Demonstration, Discussion, Case Study, 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)

Week	Weekly Detailed Course Contents	
1	Theoretical	Efficacy of antibiotic drugs
	Practice	Recognition of antibiotic drugs
2	Theoretical	Effect modes of antibiotic drugs
	Practice	Determination of the density of the smallest effective antibiotic drugs - the disk diffusion method
3	Theoretical	The potency of antibiotic drugs
	Practice	Determination of the density of the smallest effective antibiotic drugs - the disk diffusion method
4	Theoretical	The smallest effective concentration of antibiotic drugs
	Practice	Determination of the density of the smallest effective antibiotic drugs - the disk diffusion method
5	Theoretical	Minimum lethal concentration of antibiotic drugs
	Practice	Determination of the density of the smallest effective antibiotic drugs - microdilution method
6	Theoretical	Spectrum of antibiotic drugs
	Practice	Determination of the density of the smallest effective antibiotic drugs - microdilution method
7	Theoretical	Article discussion
	Practice	Determination of the density of the smallest effective antibiotic drugs - microdilution method
8	Practice	Determination of the density of the smallest effective antibiotic drugs - microdilution method
	Intermediate Exam	Midterm exam
9	Theoretical	Methods for determining the strength of effect of antibiotic drugs
	Practice	Determination of the density of the smallest effective antibiotic drugs - E-test
10	Theoretical	Antibiotic resistance mechanisms to drugs
	Practice	Determination of the density of the smallest effective antibiotic drugs - E-test
11	Theoretical	Antibiotic drug combinations
	Practice	Combination of antibiotic drugs (Calculation of FIC)
12	Theoretical	Antibiotic drug combinations
	Practice	Combination of antibiotic drugs (Calculation of FIC)
13	Theoretical	Post-antibiotic effect
	Practice	Combination of antibiotic drugs (Calculation of FIC)
14	Theoretical	Homework (the possible combinations of antibiotics), the discussion
	Practice	Determine the effect of antibiotic drugs, antibiotic
15	Theoretical	Article discussion



15	Practice	Article 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	Learn about Efficacy of antibiotic drugs, the action spectrum, impact strength, minimum effective concentration, minimal lethal concentration, methods of determining the strength of effect, after the effects of antibiotics, mode of action of antibiotics and antibiotic resistance mechanisms.
2	Learn about mechanisms of interaction between antibiotic combinations.
3	To learn knowledge and propose suggestions on the area
4	To find out and use resources about the profession in 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	4	3			
P2				4	
P3			5	4	
P4	5		5		
P5	4	5			



P8	4	4			5
P9	5	4			
P11			5		5
P12				4	
P13		4			
P14			5		4

