



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Toxicogenetics and Applications							
Course Code		VFT675		Course Level		Third Cycle (Doctorate Degree)			
ECTS Credit	6	Workload	152 (<i>Hours</i>)	Theory	1	Practice	2	Laboratory	0
Objectives of the Course		Learn about toxic factors in the relationship between genetic and hereditary disorders, and epidemiological frequency effects the usefulness of toxic substances and/or detrimental effects caused by toxic substances and substances and properties of the effects of genetic mutation, teratogenicity and carcinogenicity testing and practical.							
Course Content		Toxic factors in the relationship between genetic and hereditary disorders, and epidemiological frequency effects the usefulness of toxic substances and/or detrimental effects caused by toxic substances and substances and properties of the effects of genetic mutation, teratogenicity and carcinogenicity testing and practical 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	30
Final Examination	1	70

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 Wiley & Sons Inc. Publication, 2010.
5	Principles of Biochemical Toxicology, 3rd Edition, John TIMBRELL; Taylor & Francis Group Press, London, 2000.

Week	Weekly Detailed Course Contents	
1	Theoretical	Basic concepts in genetic structure
	Practice	Method to determine the applications guide
2	Theoretical	Evaluation of the contribution of genetic and environmental factors
	Practice	Method to determine the applications guide
3	Theoretical	Genetic damage, and markers of the effects
	Practice	Selection of genetic testing and study design
4	Theoretical	DNA damage repair, and genetic risk assessment process
	Practice	Selection of genetic testing and study design
5	Theoretical	Fields of toxicogenetic
	Practice	Genetic hazard and risk assessment methods
6	Theoretical	The effects of toxic substances - or inhibition of enzyme induction
	Practice	Genetic hazard and risk assessment methods
7	Theoretical	Article discussion
	Practice	Paper presentation
8	Theoretical	(Midterm exam) Discussion
9	Theoretical	Mutation, the mutagenic properties of substances and
	Practice	Mutagenicity tests and applications
10	Theoretical	Mutation, the mutagenic properties of substances
	Practice	Mutagenicity tests and applications
11	Theoretical	Teratogenicity, teratogenic substances and their properties
	Practice	Teratogenic tests and applications



12	Theoretical	Teratogenicity, teratogenic substances and their properties
	Practice	Teratogenic tests and applications
13	Theoretical	Carcinogenicity, carcinogenic substances and their properties
	Practice	Tests and applications of carcinogenic
14	Theoretical	Carcinogenicity, carcinogenic substances and their properties
	Practice	Tests and applications of carcinogenic
15	Final Exam	Final

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	3	1	56
Lecture - Practice	14	3.5	2	77
Midterm Examination	1	7	1	8
Final Examination	1	10	1	11
Total Workload (Hours)				152
[Total Workload (Hours) / 25*] = ECTS				6

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	Learn about the relationship between toxic substances and genetically.
2	Learn about the genetic effects of toxic substances and their properties.
3	Gain information about the toxicity tests and applications.
4	To learn knowledge and propose suggestions on the area
5	To find out and use resources about the profession 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				
P2					5



P3			4	5	5
P4				5	
P5	4	4			
P6	5	5			
P7			4		
P9			5		
P11				4	
P12					5
P13			4		
P14				4	

