# AYDIN ADNAN MENDERES UNIVERSITY
# COURSE INFORMATION FORM

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|---|---|---|---|---|---|---|---|---|---|
| Course Title | Pharmacogenetics and Applications | | | | | | | | |
| Course Code | VFT555 | | Couse Level | Second Cycle (Master's Degree) | | | | | |
| ECTS Credit | 4 | Workload | 100 *(Hours)* | Theory | 1 | Practice | 2 | Laboratory | 0 |
| Objectives of the Course | To be informed about pharmacogenetics, their genetic structure their responses to drugs due to existing variations with changes in its metabolism of drugs involved or the effective functioning of the mechanism of the drug in some people, the usefulness of the genetic differences in the structures and/or harmful. | | | | | | | | |
| Course Content | Pharmacogenetics; their genetic structure their responses to drugs due to existing variations evaluate changes of the drugs involved in its metabolism, or the effective functioning of the mechanism of the drug in some people, the usefulness of the genetic differences in the structures and/or harmful effects 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 | | |
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| Method | Quantity | Percentage (%) |
| Midterm Examination | 1 | 40 |
| Final Examination | 1 | 60 |

| Recommended or Required Reading | |
|---|---|
| 1 | Laboratuvar Testleri Klinik Klavuzu, Alan H. B. WU; Güneş Tıp Kitabevi, 2011 |
| 2 | İmmunoloji, Prof. Dr. Mustafa ARDA, Prof. Dr. Ahmet MİNBAY, Prof. Dr. Nejat AYDIN, Prof. Dr. Ömer AKAY, Prof. Dr. Müjgan İZGÜR, Doç. Dr. K.Serdar DİKER; Medisan Yayınevi, 1994. |
| 3 | Principles and Methods of Toxicology, A. Wallace HAYES, Edward BROTHERS; Ann Arbor Press, 2001 |
| 4 | Plant Phenolics and Human Health: Biochemistry, Nutrition, Pharmacology, Cesar G FRAGA (Editor); A John Willey & Sons Inc. Publication, 2010. |
| 5 | Veterinary Pharmacology and Therapeutics, H. Richard ADAMS; Iowa University Press |

| 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, 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 | Pharmacogenetics domains |
| | Practice | Genetic risk assessment methods |
| 6 | Theoretical | Change due to drug interactions and genetics |
| | Practice | Genetic risk assessment methods |
| 7 | Theoretical | Article discussion |
| | Practice | Paper presentation |
| 8 | Intermediate Exam | Midterm exam |
| 9 | Theoretical | Genetic difference in impact on drug interactions - or inhibition of enzyme induction |
| | Practice | Impact of pharmacogenetics in the treatment of drug tests |
| 10 | Theoretical | Pharmacodynamics of drugs that changes the genetic difference |
| | Practice | Examination of the application fields of pharmacogenetic tests |
| 11 | Theoretical | Examination of drug and enzyme polymorphism |
| | Practice | Phenotypic methods applications |
| 12 | Theoretical | Examination of drug and enzyme polymorphism |

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| 12 | Practice | Probe drug applications |
| 13 | Theoretical | Clinical use of pharmacogenomics studies |
| | Practice | Pharmacogenetic applications of molecular cytogenetic testing |
| 14 | Theoretical | Clinical use of pharmacogenomics studies |
| | Practice | Pharmacogenetic applications of molecular genetic testing |
| 15 | Theoretical | Article discussion |
| | Practice | Method to determine the applications guide |
| 16 | Final Exam | Final |

| **Workload Calculation** | | | | |
|---|---|---|---|---|
| Activity | Quantity | Preparation | Duration | Total Workload |
| Lecture - Theory | 14 | 1 | 1 | 28 |
| Lecture - Practice | 15 | 1 | 2 | 45 |
| Midterm Examination | 1 | 10 | 2 | 12 |
| Final Examination | 1 | 13 | 2 | 15 |
| | | | Total Workload (Hours) | 100 |
| | | | [Total Workload (Hours) / 25*] = **ECTS** | 4 |
| **25 hour workload is accepted as 1 ECTS* | | | | |

| **Learning Outcomes** | |
|---|---|
| 1 | Learn about genetic differences in humans and animals and their responses to drugs |
| 2 | To obtain information on genetic structures in the metabolism of drugs |
| 3 | Learn about the harmful effects of drugs in humans and animals |
| 4 | To obtain information on pharmacogenetic testing and application areas |
| 5 | To give lectures and/or presentations and discuss with professionals in the area. |

| **Programme Outcomes** *(Veterinary Pharmacology and Toxicology Master's Without Thesis)* | |
|---|---|
| 1 | to be able to comprehend expert knowledge on field of pharmacology and toxicology in veterinary medicine |
| 2 | to be able to define expert knowledge on interdisciplinary interaction in pharmacology and toxicology |
| 3 | to be able to formulate ideas to solve complex problems using theoretical and practical information gained throughout the pharmacology and toxicology education. |
| 4 | to be able to integrate and interpret information in the area of pharmacology and toxicology with information in different fields and, if the need arises, provides scientific information and solutions to solve problems. |
| 5 | to be able to develop and use strategies in his/her field of expertise in Master’s Program of Pharmacology and Toxicology |
| 6 | to be able to comprehend methods of obtained and submitted scientific knowledge |
| 7 | to be able to analyse current information related to his/her field of expertise (scientific information, procedures etc.) and use them when necessary |
| 8 | to be able to apply technological tools in social relationships of vocational and professional environment. |
| 9 | to be able to review, evaluate and interpret any data (field observations, available scientific information etc.) towards a specific purpose. |
| 10 | to be able to comprehend 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 |
| 11 | to be able to identify expert knowledge on the function and basic toxicological features of poison, classifications and types of poisoning, toxicokinetic, general principles of treatment of poisoning. |
| 12 | to be able to define and use laboratory equipment in a pharmacology and toxicology laboratory. |

**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 | | | | |
| P3 | | | | 4 | 4 |
| P4 | | | | | 4 |
| P5 | | | | | 5 |
| P6 | | 4 | 4 | | 5 |
| P8 | | | | | 5 |
| P9 | | | | 5 | 5 |
| P10 | | 5 | 5 | | |

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| P11 | | 5 | 5 | | |
| P12 | | | | 4 | |