# AYDIN ADNAN MENDERES UNIVERSITY
# COURSE INFORMATION FORM

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|---|---|---|---|---|---|---|---|---|---|
| Course Title | Forensic Toxicology and Analytical Methods | | | | | | | | |
| Course Code | VFT550 | | Couse Level | Second Cycle (Master's Degree) | | | | | |
| ECTS Credit | 4 | Workload | 94 *(Hours)* | Theory | 1 | Practice | 2 | Laboratory | 0 |
| Objectives of the Course | To be informed about legal aspects of forensic toxicology and poisoning, chemical substance dose-effect relationship, the negative effects of chemicals in living things, forensic toxicology, postmortem toxicology, drug analysis. | | | | | | | | |
| Course Content | Legal aspects of forensic toxicology and poisoning, chemical substance dose-effect relationship, the negative effects of chemicals in living things, forensic toxicology, postmortem toxicology, drug analysis 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 | 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 | Modern Toxicology, Ernest HODGSON, Patricia E. LEVI; Elsevier, London, 1987. |

| Week | Weekly Detailed Course Contents | |
|---|---|---|
| 1 | Theoretical | The importance of forensic toxicology |
| | Practice | Review and preparation of report |
| 2 | Theoretical | Criminal law, the legal responsibilities of the physician |
| | Practice | The purchase of material and sample preparation laboratory practices |
| 3 | Theoretical | Conservation and storage of samples |
| | Practice | The sample, the physical examination |
| 4 | Theoretical | Forensic toxicology and methods of analysis |
| | Practice | Sample of biological material separation techniques |
| 5 | Theoretical | Forensic toxicology and methods of analysis |
| | Practice | Advanced analysis techniques, and use of the devices used |
| 6 | Theoretical | Forensic toxicology and methods of analysis |
| | Practice | Advanced analysis techniques, and use of the devices used |
| 7 | Theoretical | Article discussion |
| | Practice | Paper presentation |
| 8 | Intermediate Exam | - |
| 9 | Theoretical | Forensic toxicology, therapeutic and addictive properties of drugs |
| | Practice | Poisons and decomposition of volatile and nonvolatile |
| 10 | Theoretical | Forensic toxicology and properties of essential drugs |
| | Practice | The separation of pesticides |
| 11 | Theoretical | Forensic toxicology and properties of pesticides |
| | Practice | Significant decomposition of metallic poisons |
| 12 | Theoretical | Forensic toxicology and properties of metals |
| | Practice | Analysis of the specimen at ITK |
| 13 | Theoretical | Forensic toxicology and properties of toxic anions |

| | | |
|---|---|---|
| 13 | Practice | Analysis of the specimen at HPLC |
| 14 | Theoretical | Forensic toxicology, poisons, and features |
| | Practice | Analysis of the specimen at GC |
| 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 | 2 | 1 | 42 |
| Lecture - Practice | 14 | 1 | 2 | 42 |
| Quiz | 1 | 5 | 1 | 6 |
| Midterm Examination | 1 | 3 | 1 | 4 |
| | | | Total Workload (Hours) | 94 |
| | | | [Total Workload (Hours) / 25*] = **ECTS** | 4 |

**25 hour workload is accepted as 1 ECTS*

**Learning Outcomes**

| | |
|---|---|
| 1 | Learn about forensic toxicology and the study area. |
| 2 | Learn about forensic toxicological analysis. |
| 3 | Learn about applying the methods of analysis and results evaluation. |
| 4 | Learn about the use of the devices in the analysis. |
| 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 Toxicolog |
| 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 |
|---|---|---|---|---|---|
| P3 | 5 | | 4 | | 4 |
| P4 | 5 | | 4 | | 4 |
| P5 | 4 | | | | 5 |
| P6 | | 5 | | | 5 |
| P8 | | 4 | | 4 | 5 |
| P9 | | | 4 | | 5 |
| P12 | | | | 4 | |