# AYDIN ADNAN MENDERES UNIVERSITY
# COURSE INFORMATION FORM

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Course Title | Water Analysis | | | | | | | | |
| Course Code | GKA211 | | Couse Level | Short Cycle (Associate's Degree) | | | | | |
| ECTS Credit | 3 | Workload | 75 *(Hours)* | Theory | 2 | Practice | 1 | Laboratory | 0 |
| Objectives of the Course | To make carbonate and bicarbonate in the water. To make chlorine in the water. To make sulphate in the water. To make an organic substance in the water. To make microbiological determination in the water. | | | | | | | | |
| Course Content | Determination of Carbonate and Bicarbonate in the Sludge, Determination of Chloride in Sludard, Determination of Sulphate in Sludge and Microbiological Determinations in Sulard. | | | | | | | | |
| Work Placement | N/A | | | | | | | | |
| Planned Learning Activities and Teaching Methods | Explanation (Presentation), Experiment | | | | | | | | |
| Name of Lecturer(s) | Assoc. Prof. Vadullah EREN | | | | | | | | |

| **Assessment Methods and Criteria** | | |
|---|---|---|
| Method | Quantity | Percentage (%) |
| Midterm Examination | 1 | 40 |
| Final Examination | 1 | 70 |

| **Recommended or Required Reading** | |
|---|---|
| 1 | Boysan Şengörür, The Importance of Water Hardness for Human Health, SAÜ Journal of Science, Volume 13, Issue 1, p. 7-10, 2009. |
| 2 | Peker Ibrahim, Environmental Engineering, Chemistry, Birsen Publishing, Kayseri, 2007 |

| Week | Weekly Detailed Course Contents | |
|---|---|---|
| 1 | Theoretical | What is alkalinity |
| 2 | Theoretical | Purpose and Importance of Determination of Carbonate and Bicarbonate in Water |
| 3 | Theoretical | PH in water analyzes |
| 4 | Theoretical | Chloride ion harms human health |
| 5 | Theoretical | Chloride ion sources and chloride analyzes |
| 6 | Theoretical | The Purpose and Importance of Chloride Determination in Water and Analyzes |
| 7 | Theoretical | Argometric method, Mercury nitrate method, Potentiometric method, Ferricanide method |
| 8 | Intermediate Exam | Midterm |
| 9 | Theoretical | Effects of sulphate ion on human health |
| 10 | Theoretical | The formation of acid rain |
| 11 | Theoretical | The Purpose and Importance of Sulphate Determination in Water and analyzes |
| 12 | Theoretical | Principle of Volumetric Sulphate Determination Method and analyzes |
| 13 | Theoretical | The Purpose and Importance of the Determination of Organic Substances in Water |
| 14 | Theoretical | Organic Substance in Water and Analyzes |
| 15 | Theoretical | Contamination and contamination of organic materials |
| 16 | Final Exam | Final exam |

| **Workload Calculation** | | | | |
|---|---|---|---|---|
| Activity | Quantity | Preparation | Duration | Total Workload |
| Lecture - Theory | 2 | 0 | 14 | 28 |
| Lecture - Practice | 4 | 0 | 7 | 28 |
| Midterm Examination | 1 | 5 | 1 | 6 |
| Final Examination | 1 | 10 | 3 | 13 |
| | | | Total Workload (Hours) | 75 |
| | | | [Total Workload (Hours) / 25*] = **ECTS** | 3 |
| **25 hour workload is accepted as 1 ECTS* | | | | |

| Learning Outcomes | |
|---|---|
| 1 | Understanding how pollution occurs in the water |
| 2 | Determination of sources for drinking water |
| 3 | Cleaning methods of contaminated waters |
| 4 | Removal of biological and chemical pollutants |
| 5 | Understand and evaluate the main water analysis |

| **Programme Outcomes** *(Food Quality Control and Analysis)* | |
|---|---|
| 1 | Having basic knowledge about food products |
| 2 | Having knowledge for Production and hygiene in food products, preservation, microbiology, quality control and analysis |
| 3 | Having skills and discipline for working in the laboratory and using laboratory materials, |
| 4 | Developing positive attitudes about learning and knowledge and lifelong learning in the field. |
| 5 | Using the information and communication technologies at the level required by the work areas |
| 6 | Act in accordance with scientific, cultural and ethical values |
| 7 | Having sufficient consciousness about environmental protection, occupational health and safety issues. |

**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 | 3 | 4 |
| P2 | 3 | 4 | 3 | 4 | 4 |
| P3 | 4 | 3 | 4 | 3 | 4 |
| P4 | 3 | 4 | 4 | 3 | 4 |
| P5 | 4 | 5 | 3 | 4 | 4 |
| P6 | 3 | 4 | 3 | 5 | 3 |
| P7 | 4 | 3 | 3 | 3 | 4 |