



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

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|--|---|--|----------------------|---|---|---------------------------------|---|------------|---|
| Course Title | | Basic Chemistry | | | | | | | |
| Course Code | | KMY164 | | Course Level | | First Cycle (Bachelor's Degree) | | | |
| ECTS Credit | 6 | Workload | 146 (<i>Hours</i>) | Theory | 4 | Practice | 0 | Laboratory | 0 |
| Objectives of the Course | | to develop students' ability to think about matter properties and measurement, atoms and atomic theory, the atomic electron structure of the periodic table and some atomic properties, compounds, stoichiometry and chemical reactions, gases, provide theoretical knowledge in a systematic and comprehensive information on chemical bonds and the basic concepts of chemistry | | | | | | | |
| Course Content | | Basic terms and unit systems in chemistry, classification and properties of matter, atomic structure and the periodic table and periodic properties, electronic structure of atoms, atomic mass and mole concept, chemical formulas, naming of compounds, reactions and stoichiometric calculations, chemical bonds, and inter-particle forces, Molecules and properties, gases and solids, liquids, solutions and numerical properties of the solution, the solution calculations, acids and bases, thermochemistry, chemical kinetics, chemical equilibrium and balance of species, solubility equilibria, acid-base equilibria, buffer solutions, thermochemistry, electrochemistry, organic chemistry, organic compounds, Biochemistry, carbohydrates, proteins, lipids. | | | | | | | |
| Work Placement | | N/A | | | | | | | |
| Planned Learning Activities and Teaching Methods | | | | Explanation (Presentation), Discussion, Problem Solving | | | | | |
| Name of Lecturer(s) | | Assoc. Prof. Semiha KUNDAKCI, Prof. İlknur BABAHAN BİRCAN | | | | | | | |

Assessment Methods and Criteria

| Method | Quantity | Percentage (%) |
|---------------------|----------|----------------|
| Midterm Examination | 1 | 40 |
| Final Examination | 1 | 70 |

Recommended or Required Reading

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| 1 | Genel Kimya. Sabri Alpaydın - Abdullah Şimşek Nobel Yayın Dağıtım, 2009 |
| 2 | Öğretim üyesi ders notları |

| Week | Weekly Detailed Course Contents | |
|------|---------------------------------|---|
| 1 | Theoretical | The basic unit and unit systems Chemistry |
| 2 | Theoretical | The classification and properties of the substance |
| 3 | Theoretical | Periodic table and periodic properties |
| 4 | Theoretical | electronic structure of atoms, atomic mass and mole concept |
| 5 | Theoretical | Chemical formulas |
| 6 | Theoretical | Nomenclature of Compound |
| 7 | Theoretical | Reactions and stoichiometric calculations |
| 8 | Theoretical | Chemical bonds |
| 9 | Theoretical | Molecules and their properties |
| 10 | Theoretical | Midterm |
| 11 | Theoretical | Gases and solids |
| 12 | Theoretical | Liquids and Solutions |
| 13 | Theoretical | Solution calculations |
| 14 | Theoretical | Acids and bases |
| 15 | Theoretical | Final exam |



Workload Calculation

| Activity | Quantity | Preparation | Duration | Total Workload |
|--|----------|-------------|----------|----------------|
| Lecture - Theory | 14 | 0 | 4 | 56 |
| Midterm Examination | 1 | 44 | 1 | 45 |
| Final Examination | 1 | 44 | 1 | 45 |
| Total Workload (Hours) | | | | 146 |
| [Total Workload (Hours) / 25*] = ECTS | | | | 6 |
| *25 hour workload is accepted as 1 ECTS | | | | |

Learning Outcomes

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|---|---|
| 1 | To understand the aim of chemistry, material properties and the classification |
| 2 | To understand the first discoveries in chemistry, atomic theory and the structure of atoms |
| 3 | To understand the periodic table, and the number of moles Avogadro |
| 4 | To distinguish the periodic properties of elements, understand the types of chemical compounds, to make formulas and naming |
| 5 | being able to make stoichiometric calculations using chemical reactions and to distinguish chemical reactions equality |
| 6 | be able to understand the covalent bonding, molecular geometry and hybridization of atomic orbitals |

