

**BDB105 - Basic Chemistry I**

| Course Name                                    | Code   | Term                 | Theory (hours/week) | Application (hours/week) | Laboratory (hours/week) | ECTS |
|--|--|----------------------|---------------------|--------------------------|-------------------------|------|
| Basic Chemistry I                              | BDB105   | 1. Semester/1.Autumn | 2                   | 0                        | 2                       | 4    |
| Prerequisites                                  | None   |                      |                     |                          |                         |      |
| Language of Instruction                        | Turkish  |                      |                     |                          |                         |      |
| Course Type                                    | Compulsory   |                      |                     |                          |                         |      |
| Learning and Teaching Techniques of The Course | Lecture, Question-answer, Laboratory   |                      |                     |                          |                         |      |
| Instructor(s)                                  |  |                      |                     |                          |                         |      |
| Goal   | It is to develop the ability to comprehend the basic knowledge of the problem, problem solving and correct thinking.   |                      |                     |                          |                         |      |
| Learning Outcomes                              | <ol style="list-style-type: none"> <li>Balances chemical reactions and makes calculations about chemical reactions, learns the properties and measurement of the material</li> <li>Learns atomic electronic structure and atomic theory of atoms</li> <li>Establishes relationships between elements, atomic numbers, position of the periodic table and physical / chemical properties of the elements.</li> <li>Converts different units of concentration to each other; Prepares solution at known concentration and calculates the concentration of solutes and the amount of a substance in solution</li> </ol> |                      |                     |                          |                         |      |
| References                                     | <ol style="list-style-type: none"> <li>General Chemistry: Principles and Modern Applications, Petrucci, Harwood, Herring Co., New York. Çeviri Editörleri: Tahsin Uyar, Serpil Aksoy; Palme Yayıncılık.</li> <li>Genel Kimya Temel Kavramlar, Raymond Chang (Eser Sahibi), Tahsin Uyar (Çevirmen), Serpil Aksoy (Çevirmen), Recai İnam (Çevirmen) Palme Yayıncılık, 2006.</li> </ol>   |                      |                     |                          |                         |      |

**Course Outline Weekly:**

| WEEKS    | TOPICS   |
|----------|--|
| 1. Week  | Properties and measurement of the material, Preliminary information about laboratory presentation and experimental studies |
| 2. Week  | Atoms and atomic theory, Determination of the specific heat of a metal   |
| 3. Week  | Chemical compounds, Determination of the molecular weight of a volatile liquid   |
| 4. Week  | Chemical reactions, Solution preparation,  |
| 5. Week  | Introduction to aqueous solution reactions, pH detection   |
| 6. Week  | Aqueous solution reactions, Strong acid strong base titration  |
| 7. Week  | Gases and simple gas laws, Salt in cheese  |
| 8. Week  | <b>MIDTERM EXAM</b>  |
| 9. Week  | Gases and simple gas laws, Vitamin C in fruit juice  |
| 10. Week | Thermochemistry, Determination of lactic acid in milk  |
| 11. Week | Atomic electron structure, Soap making   |
| 12. Week | Periodic table and some atomic properties  |
| 13. Week | Periodic table and some atomic properties  |
| 14. Week | Chemical bonding and bonding theories, Liquids, solids and intermolecular forces   |
| 15. Week | Chemical bonding and bonding theories, Liquids, solids and intermolecular forces   |

**Student Work Load Table**

| Activities   | Number            | Duration | Total Work Load |
|--|-------------------|----------|-----------------|
| Course Duration  | 14                | 2        | 28              |
| Laboratory   | 14                | 2        | 28              |
| Practice   |                   |          |                 |
| Field Study  |                   |          |                 |
| Study Time Of Outside Of Class (Pre-Study, Practice, Etc.)             | 14                | 2        | 28              |
| Presentations (Video shoot/Poster preparation/Oral presentation, Etc.) |                   |          |                 |
| Seminars   |                   |          |                 |
| Project  |                   |          |                 |
| Case study   |                   |          |                 |
| Role playing, Dramatization  |                   |          |                 |
| Writing articles, Critique   |                   |          |                 |
| Time To Prepare For Midterm Exam                                       | 1                 | 6        | 6               |
| Final Exam Preparation Time  | 1                 | 10       | 10              |
| <b>Total Work Load ( hour ) / 25(s)</b>                                | <b>100 / 25=4</b> |          |                 |
| <b>ECTS</b>  | <b>4</b>          |          |                 |

### Evaluation System

| Mid-Term Studies                            | Number | Contribution |
|---|--------|--------------|
| Midterm exams                               | 1      | %25          |
| Quiz  |        |              |
| Laboratory                                  | 1      | %25          |
| Practice                                    |        |              |
| Field Study                                 |        |              |
| Course Internship (If There Is)             |        |              |
| Homework's                                  |        |              |
| Presentation and Seminar                    |        |              |
| Project                                     |        |              |
| Other evaluation methods                    |        |              |
| <b>Total Time To Activities For Midterm</b> |        | <b>50</b>    |
| <b>Final works</b>                          |        |              |
| Final                                       | 1      | %50          |
| Homework                                    |        |              |
| Practice                                    |        |              |
| Laboratory                                  |        |              |
| <b>Total Time To Activities For Midterm</b> |        | <b>50</b>    |
| Contribution Of Midterm Studies On Grades   |        | %40          |
| Contribution Of Final Exam On Grades        |        | %60          |
| <b>Total</b>                                |        | <b>100</b>   |

### The relationship between learning outcomes and the program qualifications of the courses

| Program Qualifications   | Learning outcomes |        |       |       |
|--|-------------------|--------|-------|-------|
|  | L.O.1             | L.O. 2 | L.O.3 | L.O.4 |
| 1. Enables the students to use theoretical knowledge based on basic and social sciences in practice.   |                   | 4      | 4     | 4     |
| 2. Has the ability to use equipments and information Technologies required for the professional practice efficiently.  | 3                 | 3      | 3     | 3     |
| 3. Knows his rights, duties and responsibilities towards the society, colleagues, and other professions, individuals and patients, and learns how to behave in harmony with the professional ethical rules.  |                   | 3      |       |       |
| 4. When confronted with problems within any field of Nutrition and Dietetics, has the ability to observe, diagnose, assess, report and come up with solutions thanks to their up-to-date knowledge and skills.   |                   |        | 4     | 4     |
| 5. Gains efficient working skills based on the principles of effective communication, responsibility, solution-oriented working in disciplinary and interdisciplinary conditions.  | 4                 | 4      | 4     | 4     |
| 6. Has the ability to make a plan for a research individually or as part of a team, make experiments, collect and analyze the data, interpret and write a report by using theoretical / practical knowledge and skills gained in the field of Nutrition and Dietetics. | 4                 | 4      | 4     | 4     |
| 7. Develops suggestions for healthy/sick individuals and those at risk considering their lifelong diet.  | 3                 |        |       |       |
| 8. Gains knowledge to contribute to the diet plans and politics to be developed based on the needs of the individuals and the society.   |                   |        | 3     |       |
| 9. Improves themselves by following the latest advances in their profession nationally and internationally, and acquires awareness in lifelong learning.   |                   | 3      |       |       |

Contribution to the level of proficiency: 1. Lowest, 2. Low / Medium, 3. Average, 4. High, 5. Excellent