

**BDB201 - Nutritonal Biochemistry I**

| Course Name                                       | Code  | Term                | Theory<br>(hours/week) | Application<br>(hours/week) | Laboratory<br>(hours/week) | ECTS |
|---|---|---------------------|------------------------|-----------------------------|----------------------------|------|
| NUTRITIONAL<br>BIOCHEMISTRY I                     | BDB201  | 3. Semester/ Autumn | 3                      | 0                           | 0                          | 4    |
| Prerequisites                                     | None  |                     |                        |                             |                            |      |
| Language of Instruction                           | Turkish   |                     |                        |                             |                            |      |
| Course Type                                       | Compulsory  |                     |                        |                             |                            |      |
| Learning and Teaching<br>Techniques of The Course | Lecture<br>Question & Answer<br>Discussion  |                     |                        |                             |                            |      |
| Instructor(s)                                     |   |                     |                        |                             |                            |      |
| Goal  | The aim of this course is to explain the effects of macro nutrients on nutrition and metabolism and their relationships.  |                     |                        |                             |                            |      |
| Learning Outcomes                                 | 1. The chemical structures of living organisms and chemical events that occur throughout their lives, and learn macronutrients and hormones.<br>2. Understands homeostatic mechanisms in biological systems.<br>3. Understands carbohydrate, lipid and protein metabolism, their use by cells, the ways of conversion to energy,<br>4. Understands the integration steps of macro nutrients.<br>5. Understands the effect of macronutrients related to metabolic disorders.   |                     |                        |                             |                            |      |
| References  | 1. Aksoy, M. Beslenme Biyokimyası, Hatiboğlu Yayın Evi, 2010. Ankara.<br>2. Gözükara EM. Biyokimya, Nobel Kitapevi 5. Baskı, 2010, Ankara.<br>3. Pamela C.Champe, Richard A. Harvey , Denise R. Ferrier.Lippincott Biochemistry Ulukaya E. (çeviri editörü).3.Baskı.<br>4. Champe P.C. Lippincott's illustrated reviews:Biochemistry / Pamela C. Champe, Richard A. Harvey; technical consultant F. Vella;computer graphics: Michael Cooper. 6th edition. Philadelphia: J.B. Lippincott Company, 2014.<br>5. Harper H.A. Harper's biochemistry. 21st edition.California : Appleton & Lange, 2006. |                     |                        |                             |                            |      |

**Course Outline Weekly:**

| WEEKS    | TOPICS  |
|----------|---|
| 1. Week  | Introduction to nutritional biochemistry and metabolism |
| 2. Week  | Carbohydrate metabolism                                 |
| 3. Week  | Carbohydrate metabolism                                 |
| 4. Week  | Carbohydrate metabolism                                 |
| 5. Week  | Carbohydrate metabolism                                 |
| 6. Week  | Protein metabolism                                      |
| 7. Week  | Protein metabolism                                      |
| 8. Week  | <b>MIDTERM EXAM I</b>                                   |
| 9. Week  | Protein metabolism                                      |
| 10. Week | Lipid metabolism  |
| 11. Week | Lipid metabolism  |
| 12. Week | Lipid metabolism  |
| 13. Week | Metabolic Integration                                   |
| 14. Week | <b>MIDTERM EXAM II</b>                                  |
| 15. Week | Nutrients in toughness and starvation metabolism        |

**Student Work Load Table**

| Activities   | Number       | Duration | Total Work Load |
|--|--------------|----------|-----------------|
| Course Duration  | 13           | 3        | 39              |
| Laboratory   |              |          |                 |
| Practice   |              |          |                 |
| Field Study  |              |          |                 |
| Study Time of Outside of Class (Pre-Study, Practice, Etc.)             | 13           | 2        | 26              |
| Presentations (Video shoot/Poster preparation/Oral presentation, Etc.) |              |          |                 |
| Seminars   |              |          |                 |
| Project  |              |          |                 |
| Case study   |              |          |                 |
| Role playing, Dramatization  |              |          |                 |
| Writing articles, Critique   |              |          |                 |
| Time to Prepare for Midterm Exam                                       | 2            | 10       | 20              |
| Final Exam Preparation Time  | 1            | 8        | 16              |
| <b>Total Work Load (hour) / 25(s)</b>                                  | 101/ 25=4.04 |          |                 |
| <b>ECTS</b>  | 4            |          |                 |

**Evaluation System**

| <b>Mid-Term Studies</b>                     | <b>Number</b> | <b>Contribution</b> |
|---|---------------|---------------------|
| Midterm exams                               | 2             | 100%                |
| Quiz  |               |                     |
| Laboratory                                  |               |                     |
| 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>100</b>          |
| <b>Final works</b>                          |               |                     |
| Final                                       | 1             | 100%                |
| Homework                                    |               |                     |
| Practice                                    |               |                     |
| Laboratory                                  |               |                     |
| <b>Total Time to Activities for Midterm</b> |               | <b>100</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 | L.O.5 |
| 1. Enables the students to use theoretical knowledge based on basic and social sciences in practice.   | 5                 | 4      | 4     | 4     | 4     |
| 2. Has the ability to use equipment and information Technologies required for the professional practice efficiently.   | 1                 | 1      | 1     | 1     | 1     |
| 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.  | 2                 | 2      | 2     | 2     | 4     |
| 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                 | 3      | 4     | 5     | 5     |
| 5. Gains efficient working skills based on the principles of effective communication, responsibility, solution-oriented working in disciplinary and interdisciplinary conditions.  | 4                 | 5      | 5     | 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. | 5                 | 5      | 5     | 5     | 5     |
| 7. Develops suggestions for health/sick individuals and those at risk considering their lifelong diet.   | 5                 | 5      | 5     | 5     | 5     |
| 8. Gains knowledge to contribute to the diet plans and politics to be developed based on the needs of the individuals and the society.   | 5                 | 5      | 5     | 5     | 5     |
| 9. Improves themselves by following the latest advances in their profession nationally and internationally, and acquires awareness in lifelong learning.   | 5                 | 5      | 5     | 5     | 5     |

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