

# NEUROPHYSIOLOGY

|    |                                                         |                                                                                                                                                                           |
|----|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Course Title:                                           | NEUROPHYSIOLOGY                                                                                                                                                           |
| 2  | Course Code:                                            | TFZ 6003                                                                                                                                                                  |
| 3  | Type of Course:                                         | Compulsory                                                                                                                                                                |
| 4  | Level of Course:                                        | Third Cycle                                                                                                                                                               |
| 5  | Year of Study:                                          | 1                                                                                                                                                                         |
| 6  | Semester:                                               | 1                                                                                                                                                                         |
| 7  | ECTS Credits Allocated:                                 | 6.00                                                                                                                                                                      |
| 8  | Theoretical (hour/week):                                | 2.00                                                                                                                                                                      |
| 9  | Practice (hour/week):                                   | 0.00                                                                                                                                                                      |
| 10 | Laboratory (hour/week):                                 | 0                                                                                                                                                                         |
| 11 | Prerequisites:                                          | -                                                                                                                                                                         |
| 12 | Language:                                               | Turkish                                                                                                                                                                   |
| 13 | Mode of Delivery:                                       | Face to face                                                                                                                                                              |
| 14 | Course Coordinator:                                     | Prof. Dr. TÜLİN ALKAN                                                                                                                                                     |
| 15 | Course Lecturers:                                       | Prof. Dr. N. İŞBİL BÜYÜKCOŞKUN, Doç. Dr. Bülent GÖREN                                                                                                                     |
| 16 | Contact information of the Course Coordinator:          | talkan@uludag.edu.tr<br>2954016<br>Uludağ Üniversitesi Tıp Fakültesi Fizyoloji Anabilim Dalı 16059                                                                        |
| 17 | Website:                                                |                                                                                                                                                                           |
| 18 | Objective of the Course:                                | The objective of the course is to teach the students how the mechanism of the nervous system works and the relations between various body functions and these mechanisms. |
| 19 | Contribution of the Course to Professional Development: |                                                                                                                                                                           |
| 20 | Learning Outcomes:                                      |                                                                                                                                                                           |
|    | 1                                                       | To explain the basic electrophysiology of central nervous system                                                                                                          |
|    | 2                                                       | To summarise the major sensory and motor pathways                                                                                                                         |
|    | 3                                                       | To describe the physiology of pain with respect to the mediators, pathways and reflexes                                                                                   |
|    | 4                                                       | To elaborate sensory and motor cortex and extrapyramidal tractus and functions                                                                                            |
|    | 5                                                       | To describe general principles of cognitive functions                                                                                                                     |
|    | 6                                                       | To describe integration of central nervous system activity via the other systems                                                                                          |
|    | 7                                                       | To understand basic principles of special senses                                                                                                                          |
|    | 8                                                       |                                                                                                                                                                           |
|    | 9                                                       |                                                                                                                                                                           |
|    | 10                                                      |                                                                                                                                                                           |
| 21 | Course Content:                                         |                                                                                                                                                                           |

|                                                                  | Course Content:                                                      |                                                                              |                 |
|------------------------------------------------------------------|----------------------------------------------------------------------|------------------------------------------------------------------------------|-----------------|
| Week                                                             | Theoretical                                                          | Practice                                                                     |                 |
| 1                                                                | General principles of the nervous system                             |                                                                              |                 |
| 2                                                                | Somatic sensations: tactile and position senses                      |                                                                              |                 |
| 3                                                                | Somatic sensations: pain and thermal sensations                      |                                                                              |                 |
| 4                                                                | Functions of the spinal cord                                         |                                                                              |                 |
| 5                                                                | Vestibular senses and maintenance of equilibrium                     |                                                                              |                 |
| 6                                                                | Cerebellum and its motor functions<br>Functions of the basal ganglia |                                                                              |                 |
| 7                                                                | Cortical and brain stem control of motor function                    |                                                                              |                 |
| 8                                                                | Brain waves, sleep and epilepsy                                      |                                                                              |                 |
| Activities                                                       |                                                                      | Number                                                                       | Duration (hour) |
| 11                                                               | Cerebral blood flow, cerebrospinal fluid and brain metabolism        | 14                                                                           | 2.00            |
| Practicals/Labs                                                  |                                                                      | 0                                                                            | 0.00            |
| 12                                                               | The autonomic nervous system                                         | 2                                                                            | 20.00           |
| Homeworks                                                        |                                                                      | 1                                                                            | 30.00           |
| 13                                                               | Optic of vision and optic of the eye                                 | 0                                                                            | 0.00            |
| 14                                                               | Neural structure and function of the retina                          | 0                                                                            | 0.00            |
| Field Studies                                                    |                                                                      | 0                                                                            | 0.00            |
| 14                                                               | The chemical senses, taste and smell                                 | 1                                                                            | 30.00           |
| Midterm Exams                                                    |                                                                      | 1                                                                            | 30.00           |
| Others                                                           |                                                                      | 0                                                                            | 0.00            |
| 22                                                               | Textbooks, References and/or Other Materials:                        | 1- Guyton & Hall "Textbook of Physiology" (ISBN 978-975-420-558-9)           | 50.00           |
| Total Work Load                                                  |                                                                      |                                                                              | 178.00          |
| Total work load/ 30 hr                                           |                                                                      | (ISBN 978-975-420-826-9)<br>3- Eric R. Kandel "Principles Of Neural Science" | 5.93            |
| ECTS Credit of the Course                                        |                                                                      |                                                                              | 6.00            |
| 23                                                               | Assesment                                                            |                                                                              |                 |
| TERM LEARNING ACTIVITIES                                         |                                                                      | NUMBER                                                                       | WEIGHT          |
| Midterm Exam                                                     |                                                                      | 1                                                                            | 25.00           |
| Quiz                                                             |                                                                      | 0                                                                            | 0.00            |
| Home work-project                                                |                                                                      | 1                                                                            | 25.00           |
| Final Exam                                                       |                                                                      | 1                                                                            | 50.00           |
| Total                                                            |                                                                      | 3                                                                            | 100.00          |
| Contribution of Term (Year) Learning Activities to Success Grade |                                                                      | 50.00                                                                        |                 |
| Contribution of Final Exam to Success Grade                      |                                                                      | 50.00                                                                        |                 |

|                                                          |                                                               |     |     |       |     |     |          |     |        |        |      |      |             |      |      |      |  |
|----------------------------------------------------------|---------------------------------------------------------------|-----|-----|-------|-----|-----|----------|-----|--------|--------|------|------|-------------|------|------|------|--|
| Total                                                    |                                                               |     |     |       |     |     |          |     | 100.00 |        |      |      |             |      |      |      |  |
| Measurement and Evaluation Techniques Used in the Course |                                                               |     |     |       |     |     |          |     |        |        |      |      |             |      |      |      |  |
| 24                                                       | ECTS / WORK LOAD TABLE                                        |     |     |       |     |     |          |     |        |        |      |      |             |      |      |      |  |
| 25                                                       | CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS |     |     |       |     |     |          |     |        |        |      |      |             |      |      |      |  |
|                                                          | PQ1                                                           | PQ2 | PQ3 | PQ4   | PQ5 | PQ6 | PQ7      | PQ8 | PQ9    | PQ10   | PQ11 | PQ12 | PQ13        | PQ14 | PQ15 | PQ16 |  |
| ÖK1                                                      | 5                                                             | 5   | 0   | 4     | 0   | 0   | 0        | 0   | 5      | 5      | 5    | 0    | 0           | 0    | 0    | 0    |  |
| ÖK2                                                      | 5                                                             | 5   | 0   | 4     | 0   | 0   | 0        | 0   | 5      | 5      | 5    | 0    | 0           | 0    | 0    | 0    |  |
| ÖK3                                                      | 5                                                             | 5   | 0   | 5     | 0   | 0   | 0        | 0   | 5      | 5      | 5    | 0    | 0           | 0    | 0    | 0    |  |
| ÖK4                                                      | 5                                                             | 5   | 0   | 5     | 0   | 0   | 0        | 0   | 5      | 5      | 5    | 0    | 0           | 0    | 0    | 0    |  |
| ÖK5                                                      | 5                                                             | 5   | 0   | 4     | 0   | 0   | 0        | 0   | 5      | 5      | 5    | 0    | 0           | 0    | 0    | 0    |  |
| ÖK6                                                      | 5                                                             | 5   | 0   | 5     | 0   | 0   | 0        | 0   | 5      | 5      | 5    | 0    | 0           | 0    | 0    | 0    |  |
| ÖK7                                                      | 5                                                             | 5   | 0   | 5     | 0   | 0   | 0        | 0   | 5      | 5      | 5    | 0    | 0           | 0    | 0    | 0    |  |
| LO: Learning Objectives    PQ: Program Qualifications    |                                                               |     |     |       |     |     |          |     |        |        |      |      |             |      |      |      |  |
| Contribution Level:                                      | 1 very low                                                    |     |     | 2 low |     |     | 3 Medium |     |        | 4 High |      |      | 5 Very High |      |      |      |  |