## Course Syllabus

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|---|---|
| **Code - Course Title** | **DKT423 - Electrophysio. and Electrothe. Tech. in Speech a. Lan. The.** |
| **Course Type** | VII. SEMESTER |
| **Laboratory + Practice** | 2+0 |
| **ECTS** | **3.0** |
| **Language of Instruction** | Türkçe |
| **Course Type** | Area Elective Courses |
| **Course Instructor(s)** | DOÇ. DR. MERVE İKİZ BOZSOY |

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| **Mode of Delivery** | Face to face |
| **Place of Delivery** | On Campus |
| **Used Educational Platforms** | Face-to-face |
| **Prerequisites** | Have knowledge about anatomy and physiology. |
| **Courses Recomended** | ANA 129ANA 131 |
| **Recommended Resources** | [1] Herman IP. Physics of the Human Body. Springer; 2006. [2] Pehlivan F. Biyofizik. 2. baskı. Hacettepe-TAŞ: 2004. [3] Çelebi G. Biyomedikal Fizik. 4. Baskı. İzmir; Barış Yayınları: 2008. [4] Guyton AC, Hall JE. Textbook of Medical Physiology. 11th ed. Elsevier; 2007. [5] Barrett KE, Barman SM, Boitano S, Brooks HL. Ganong\'s Review of Medical Physiology. 23rd ed. USA: McGraw-Hill Companies; 2010. [6] Kandel ER, Schwartz JH, Jessell TM. Principles of Neuronal Science. 4th ed. McGraw-Hill Company; 2000. [7] Easy EMG : A Guide to Performing Nerve Conduction Studies and Electromyography 2nd edition Elseiver 2015. [8] Elektroterapide Temel Prensipler ve Klinik Uygulamalar Hipokrat Yayınları 2016. |
| **Work Placement** | Not applicable. |
| **Aims of the Course** | The student will acquire knowledge of electrophysiology and electrotherapy techniques to assist in their therapeutic practices. |

## Course Syllabus

| Weeks | Learning Outcomes | Topics | Teaching Methods |
|---|---|---|---|
| **Week - 1** | | Rest and action potential | |
| **Week - 2** | | Peripheral nervous system physiology | |
| **Week - 3** | | Skeletal muscle physiology | |
| **Week - 4** | | Nerve muscle junction and muscle motor unit features | |
| **Week - 5** | | Somatic senses | |
| **Week - 6** | | Electroencephagraphy (EEG) | |
| **Week - 7** | | Elektroensefaografi (EEG) studies on language and speech therapy | |
| **Week - 8** | | Electromyography (EMG) | |

## Course Syllabus

| Weeks | Learning Outcomes | Topics | Teaching Methods |
|---|---|---|---|
| **Week - 9** | | Electromyography (EMG) studies for language and speech therapy | |
| **Week - 10** | | Low frequency electrotherapy currents and their properties | |
| **Week - 11** | | Möromuscular electrical stimulation - Vitalstim | |
| **Week - 12** | | Neuromuscular electrical stimulation studies for language and speech therapy | |
| **Week - 13** | | Student presentations | |
| **Week - 14** | | Vitalstim practical application | |

## Learning Outcomes

| # | Learning Outcome |
|---|---|
| **1** | To be able to predict how the change in cell membrane potential will be |
| **2** | To understand the action potential, signal / information transfer at the cell level, to know the concept of Motor Unit and motor unit action potential |
| **3** | Knowing the recording methods of bioelectric potentials and comparing recording techniques |
| **4** | To explain what are the electrotherapy agents used in speech and language therapy and their physiological effects |
| **5** | To be able to explain how electrotherapy agents used in clinic are applied. |

## Sustainable Development Goals

*No content has been provided.*

## Course Theme

*No content has been provided.*

## AKTS Workload

| Activity | Duration (Hour) | Count | Workload |
|---|---|---|---|
| Teorik Derse Katılım | 2.00 | 15 | 30 |
| Sınıf Dışı Çalışma (Ön Hazırlık & Pekiştirme Amaçlı) | 2.00 | 6 | 12 |
| Ödevler | 2.00 | 6 | 12 |
| Proje - Rapor - Sunum Hazırlama | 0.00 | 0 | 0 |
| Ara Sınav Hazırlığı (sınav süresi dahil) | 2.00 | 6 | 12 |
| Final Sınavı Hazırlığı (sınav süresi dahil) | 2.00 | 6 | 12 |
| Uygulama (Laboratuvar, Müzik/Enstrüman Uygulaması, Atölye/Saha Çalışması vb.) | 0.00 | 0 | 0 |
| Staj Uygulaması | 0.00 | 0 | 0 |
| | | **Calculated ECTS** | **3.0** |

## Assessment Method and Passing Requirements

✓ Multiple Choice Test ✓ True-False Test ✓ Homework