

Vocational School of Health Services / Electroneurophysiology

2023 - 2024 Academic Year

ELECTRONEUROPHYSIOLOGY (EEG-ENMG) PRAC. I

Syllabus

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
ELECTRONEUROPHYSIOLOGY (EEG-ENMG) PRAC. I	EFZ2126870	Fall Semester	0+16	8	16
Prerequisites Courses					
Recommended Elective Courses					
Language of Instruction	Turkish				
Course Level	Short Cycle (Associate's Degree)				
Course Type	Required				
Course Coordinator	Assist.Prof. Nagihan MANTAR				
Name of Lecturer(s)	Assist.Prof. Nagihan MANTAR, Assist.Prof. Tuba AKTÜRK, Assoc.Prof. Fikret AYSAL				
Assistant(s)	Electroneurophysiology technician				
Aim	Acquiring basic competence in the application of Electroencephalography (EEG) and Electroneuromyography (ENMG), two main sub-branches of clinical neurophysiology that deal with the measurement of electrical activity in the central nervous system, peripheral nervous system, and muscle.				
Course Content	This course contains; Median nerve motor conduction studies.Electrode placement according to the international 10-20 system I.,Ulnar nerve motor conduction studies.Electrode placement according to the international 10-20 system II.,Radial nerve motor conduction studies.Electrode measurement according to the international 10-20 system III.,Peroneal nerve motor conduction studies.Electrode measurement according to the international 10-20 system IV.,Tibial nerve motor conduction studies.EEG montage and polarity.,Median/Radia/Ulnar sensory nerve conduction studies.EEG electrode application.,Sural nerve sensorial conduction studies.EEG electrode application and montage.,Superficial peroneal nerve sensorial conduction studies.Technical aspects of EEG system and EEG recording.,Medial/Ulnar/Tibial nerve F-waves.Physiological EEG artifacts.,Tibial nerve H-reflex.Physiological EEG artifacts group study.,Axillary nerve motor conduction studies.Non-physiological EEG artifacts ,Musculocutaneous nerve motor conduction studies.Non-physiological EEG artifacts group study.,Lateral and Medial antebrachial cutaneous nerve conduction study.EEG Activation Procedures.,Medial and lateral plantar nerve conduction studies.Introduction to routine EEG recording.				
Course Learning Outcomes			Teaching Methods	Assessment Methods	
Successful completion of this course, the student defines EEG and ENMG device technical components.			16, 9	A, D	
List the preparation materials and different electrodes used in recording electrical activity with EEG and ENMG techniques.			16, 9	A, D	
Apply ENMG motor and sensory conduction studies.			11, 16, 9	D, H	
Interpret ENMG motor and sensory conduction studies.			11, 16, 9	D, H	
Employ an internationally recognised 10-20 system measuring method that allows EEG electrode placement to be standardised.			11, 16, 9	A, D, H	
Manage the process of skin preparation and application of EEG electrodes to the scalp.			16, 9	D, H	
Apply different EEG montage types.			11, 16, 9	A, D, H	
Recognize physiological and non-physiological artifacts that occur other than brain-derived signals.			16, 9	A, D	
Teaching Methods	11: Demonstration Method, 16: Question - Answer Technique, 9: Lecture Method				
Assessment Methods	A: Traditional Written Exam, D: Oral Exam, H: Performance Task				
Lecture Schedule					
Sequence	Topics	Preliminary Preparation			
1	Median nerve motor conduction studies.Electrode placement according to the international 10-20 system I.				
2	Ulnar nerve motor conduction studies.Electrode placement according to the international 10-20 system II.				
3	Radial nerve motor conduction studies.Electrode measurement according to the international 10-20 system III.				
4	Peroneal nerve motor conduction studies.Electrode measurement according to the international 10-20 system IV.				
5	Tibial nerve motor conduction studies.EEG montage and polarity.				
6	Median/Radia/Ulnar sensory nerve conduction studies.EEG electrode application.				
7	Sural nerve sensorial conduction studies.EEG electrode application and montage.				
8	Superficial peroneal nerve sensorial conduction studies.Technical aspects of EEG system and EEG recording.				
9	Medial/Ulnar/Tibial nerve F-waves.Physiological EEG artifacts.				
10	Tibial nerve H-reflex.Physiological EEG artifacts group study.				
11	Axillary nerve motor conduction studies.Non-physiological EEG artifacts				
12	Musculocutaneous nerve motor conduction studies.Non-physiological EEG artifacts group study.				
13	Lateral and Medial antebrachial cutaneous nerve conduction study.EEG Activation Procedures.				
14	Medial and lateral plantar nerve conduction studies.Introduction to routine EEG recording				
Evaluation Methods		Weight(%)			
Midterm Exam		40			
General Exam		60			

Resources
Lecturer's own notesBingöl AC, Çelik M, Gürtekin Y. Klinik nörofizyoloji laboratuvarları uygulama el kitabı. Türkiye Nörofizyoloji EEG-EMG Derneği İstanbul Şubesi. 1. baskı, İstanbul 2006.