

Vocational School of Health Services / Electroneurophysiology

2023 - 2024 Academic Year

ELECTRONEUROPHYSIOLOGY (EEG-ENMG-PSG) PRAC. II

Syllabus

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
ELECTRONEUROPHYSIOLOGY (EEG-ENMG-PSG) PRAC. II	EFZ2226890	Spring 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	Assoc.Prof. Özge ARICI DÜZ				
Name of Lecturer(s)	Assoc.Prof. Fikret AYSAL, Assist.Prof. Merve DİKMEN				
Assistant(s)	Electroneurophysiology technician				
Aim	Acquiring competence in the application of Electroencephalography (EEG), Electroneuromyography (ENMG), and Polysomnography (PSG), which are 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 first dorsal interosseous muscle motor conduction study. EEG montage types, noise removal, and trace repetition for the fall semester, Motor conduction study for the ulnar nerve second lumbrical palmar interosseous muscle. Explanation of sleep staging and tracings with examples, Dorsal ulnar nerve sensory conduction study. Applied sleep EEG study, Radial nerve antidromic sensory conduction study. Sleep EEG recording I, working of the students in groups, Femoral nerve motor conduction study. Sleep EEG recording II, students preparing homework by working in groups., Motor conduction study for the peroneal nerve tibialis anterior muscle. Presentation of students' group sleep EEG assignments., Motor conduction study for the tibial nerve abductor digiti quinti muscle. General revision on sleep EEG topics, Saphenous nerve sensory conduction study. Applied routine EEG recording, Lateral femoral cutaneous nerve sensory conduction study. Routine EEG recording I, working of the students in groups., Application of somatosensory evoked potential in the upper extremity. Routine EEG recording II, students preparing homework by working in groups., Application of somatosensory evoked potential in the lower extremity. Presentation of students' group routine EEG assignments., Visual evoked potential tests application. Explanation of the subject with multiple examples through epileptic activities and traces, Brainstem Auditory Evoked Potentials application. Explanation of the nonepileptic activities, Application of sequential nerve stimulation tests. A general review on EEG topics. Polysomnography explanation and application.				
Course Learning Outcomes			Teaching Methods	Assessment Methods	
Implements sleep EEG recording, the polysomnography technique, and routine EEG recording			16, 6, 9	A, D	
Defines epileptic and nonepileptic activities and traces			16, 9	A, D, E	
Applies EMG upper and lower extremity motor and sensory conduction studies			16, 6, 9	D, H	
Interprets EMG upper and lower extremity motor and sensory conduction studies			16, 6, 9	D, E	
Performs somatosensory evoked potentials test on the upper and lower extremities			16, 6, 9	D, E	
Interprets somatosensory evoked potentials test on the upper and lower extremities			16, 6, 9	D, E	
Applies the visual evoked potential tests, the brainstem auditory evoked potentials test, and sequential nerve stimulation tests.			16, 6, 9	D, E	
Interprets the visual evoked potential tests, the brainstem auditory evoked potentials test, and sequential nerve stimulation tests.			16, 6, 9	D, E	
Defines sleep EEG recording, the polysomnography technique, and routine EEG recording			16, 6, 9	A, D, E	
Teaching Methods	16: Question - Answer Technique, 6: Experiential Learning, 9: Lecture Method				
Assessment Methods	A: Traditional Written Exam, D: Oral Exam, E: Homework, H: Performance Task				
Lecture Schedule					
Sequence	Topics	Preliminary Preparation			
1	Median nerve first dorsal interosseous muscle motor conduction study. EEG montage types, noise removal, and trace repetition for the fall semester	Reading lecture notes			
2	Motor conduction study for the ulnar nerve second lumbrical palmar interosseous muscle. Explanation of sleep staging and tracings with examples	Reading lecture notes			
3	Dorsal ulnar nerve sensory conduction study. Applied sleep EEG study	Reading lecture notes			
4	Radial nerve antidromic sensory conduction study. Sleep EEG recording I, working of the students in groups	Reading lecture notes			
5	Femoral nerve motor conduction study. Sleep EEG recording II, students preparing homework by working in groups.	Reading lecture notes			
6	Motor conduction study for the peroneal nerve tibialis anterior muscle. Presentation of students' group sleep EEG assignments.	Reading lecture notes			
7	Motor conduction study for the tibial nerve abductor digiti quinti muscle. General revision on sleep EEG topics	Reading lecture notes			
8	Saphenous nerve sensory conduction study. Applied routine EEG recording	Reading lecture notes			
9	Lateral femoral cutaneous nerve sensory conduction study. Routine EEG recording I, working of the students in groups.	Reading lecture notes			
10	Application of somatosensory evoked potential in the upper extremity. Routine EEG recording II, students preparing homework by working in groups.	Reading lecture notes			
11	Application of somatosensory evoked potential in the lower extremity. Presentation of students' group routine EEG assignments.	Reading lecture notes			
12	Visual evoked potential tests application. Explanation of the subject with multiple examples through epileptic activities and traces	Reading lecture notes			
13	Brainstem Auditory Evoked Potentials application. Explanation of the nonepileptic activities	Reading lecture notes			
14	Application of sequential nerve stimulation tests. A general review on EEG topics. Polysomnography explanation and application	Reading lecture notes			
Evaluation Methods		Weight(%)			
Midterm Exam		40			

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General Exam

60

Resources

- Lecturer's own notes1) Ertekin C. Santral ve Periferik EMG Anatomi-Fizyoloji-Klinik.İzmir 2006.
2) Bingöl AC, Çelik M, Gürtekin Y.Klinik nörofizyoloji laboratuvarları uygulama el kitabı. Türkiye Nörofizyoloji EEG-EMG Derneği İstanbul Şubesi. 1. baskı, İstanbul 2006.
3) Daube JR, Rubin DI. Clinical Neurophysiology, third edition. Oxford University press 2009.