

COURSE INFORMATION					
Course Title	Code	Semester	COURSE INFORMATION Lecture+Practice+Laboratory Hour	Credits	ECTS
NEUROLOGY (Clinical Clerkship)	MED 505	Phase 5/9-10	20+62	4	4*

* ECTS credits are the university credits of the courses in Yeditepe University, Faculty of Medicine, Undergraduate Medical Education Program

Prerequisites	The student that joins this course, should completed Phase 1, 2, 3 and 4 courses of medical faculty.
----------------------	--

Language of Instruction	English
Course Level	Second Cycle including First Cycle Degree (One Tier Programme)
Course Type	Compulsory
Course Coordinator	Yüksel Dede
Instructors	<u>Yeditepe University Hospital</u> Berrin Aktekin, MD Prof. Rana Karabudak, MD Prof. Halide Rengin Bilgen Akdeniz, MD Assist. Prof. Yüksel Dede, MD <u>Fatih Sultan Mehmet Training And Research Hospital</u> Eren Gözke, MD Assoc. Prof. Pelin Doğan Ak, MD Burcu Bulut Okay, MD Işıl Kalyoncu Aslan, MD Leyla Ramazanoğlu, MD
Assistants	F. Bengül Gölge, Tolga Çetindamar
Goals	To convey necessary knowledge on pathology, symptomatology, clinics and pharmacology of neurological diseases, to equip with skills and attitudes required for an appropriate approach to management of neurological patients

Learning Outcomes	Programme Learning Outcomes	Teaching Methods	Assessment Methods
1. describe anatomy of the cranial nerves and symptoms of cranial nerve paresis	1.1.1-1.1.2- 1.1.3-1.1.4- 1.1.5-1.1.6- 1.1.7-1.1.8- 1.1.9-3.1.4	1,2,3	A, C
2. classify neurological motor and sensory system examination	1.1.1-1.1.2- 1.1.3-1.1.4- 1.1.5-1.1.6- 1.1.7-1.1.8- 1.1.9-3.1.2-	1,2,3	A, C

	3.1.3-3.1.4- 3.2.2-3.2.3		
3. describe physiologies and pathologies of the consciousness (coma state), explain mechanisms of coma occurrence, neurologic examination of coma patient, diagnostic methods of coma, and treatment options of unconscious patient	1.1.1-1.1.2- 1.1.3-1.1.4- 1.1.5-1.1.6- 1.1.7-1.1.8- 1.1.9-3.1.2- 3.1.3-3.1.4- 3.2.2-3.2.3	1,2,3,12	A, C
4. state signs and symptoms of spinal cord diseases including partial or complete spinal cord involvement, neurological symptoms and diagnostic options	1.1.1-1.1.2- 1.1.3-1.1.4- 1.1.5-1.1.6- 1.1.7-1.1.8- 1.1.9-2.1.1- 2.1.2-2.1.3- 2.1.4-2.2.1- 2.2.2-2.2.3- 2.2.4-2.3.1- 2.3.2-2.4.1- 2.4.2-2.4.3- 2.5.1-2.5.2- 2.5.3-3.1.2- 3.1.3-3.1.4- 3.2.2-3.2.3	1,2,3	A, C
5. explain pathophysiology, diagnostic and treatment methods and pharmacology of basal ganglia and extrapyramidal disorders	1.1.1-1.1.2- 1.1.3-1.1.4- 1.1.5-1.1.6- 1.1.7-1.1.8- 1.1.9-3.1.2- 3.1.3-3.1.4- 3.2.2-3.2.3	1,2,3,12	A, C
6. classify headaches and with respect to affected anatomical sites, signs and symptoms and describe different treatment options	1.1.1-1.1.2- 1.1.3-1.1.4- 1.1.5-1.1.6- 1.1.7-1.1.8- 1.1.9-2.1.1- 2.1.2-2.1.3- 2.1.4-2.2.1- 2.2.2-2.2.3- 2.2.4-2.3.1- 2.3.2-2.4.1- 2.4.2-2.4.3- 2.5.1-2.5.2- 2.5.3-3.1.2- 3.1.3-3.1.4- 3.2.2-3.2.3	1,2,3,12	A, C

7. describe mechanisms of sleep disorders, signs and symptoms, methods of examination, and treatment options of sleep disorders	1.1.1-1.1.2- 1.1.3-1.1.4- 1.1.5-1.1.6- 1.1.7-2.1.1- 2.1.2-2.1.3- 2.2.1-2.2.2- 2.2.3-2.4.2- 2.4.3-2.5.3- 3.1.4-3.2.2- 3.2.3	1,2,3	A, C
8. explain pathophysiology, signs and symptoms, and different treatment methods of CNS infections	1.1.1-1.1.2- 1.1.3-1.1.4- 1.1.5-1.1.6- 1.1.7-2.1.1- 2.1.2-2.1.3- 2.2.1-2.2.2- 2.2.3-2.4.2- 2.4.3-2.5.3- 3.1.4	1,2,3	A, C
9. describe signs, symptoms and examination methods of Dementia, interpret relationship with neurological diseases and anatomical locations of lesions.	1.1.1-1.1.2- 1.1.3-1.1.4- 1.1.5-1.1.6- 1.1.7-1.1.8- 1.1.9-2.1.1- 2.1.2-2.1.3- 2.1.4-2.2.1- 2.2.2-2.2.3- 2.2.4-2.3.1- 2.3.2-2.4.1- 2.4.2-2.4.3- 2.5.1-2.5.2- 2.5.3-3.1.2- 3.1.3-3.1.4- 3.2.2-3.2.3	1,2,3	A, C
10. explain signs, symptoms and examination methods of Demyelinating diseases and classify the treatment options	1.1.1-1.1.2- 1.1.3-1.1.4- 1.1.5-1.1.6- 1.1.7-2.1.1- 2.1.2-2.1.3- 2.2.1-2.2.2- 2.2.3-2.4.2- 2.4.3-2.5.3- 3.1.4	1,2,3	A, C
11. describe signs, symptoms, examination methods recognize differential diagnosis and classify the treatment options of epilepsy	1.1.1-1.1.2- 1.1.3-1.1.4- 1.1.5-1.1.6- 1.1.7-1.1.8- 1.1.9-2.1.1- 2.1.2-2.1.3-	1,2,3,12	A, C

	2.1.4-2.2.1- 2.2.2-2.2.3- 2.2.4-2.3.1- 2.3.2-2.4.1- 2.4.2-2.4.3- 2.5.1-2.5.2- 2.5.3-3.1.2- 3.1.3-3.1.4- 3.2.2-3.2.3		
12. describe signs, symptoms, examination methods of cerebrovascular disease and emergency, recognize differential diagnosis and classify treatment options depending on the urgency	1.1.1-1.1.2- 1.1.3-1.1.4- 1.1.5-1.1.6- 1.1.7-1.1.8- 1.1.9-2.1.1- 2.1.2-2.1.3- 2.1.4-2.2.1- 2.2.2-2.2.3- 2.2.4-2.3.1- 2.3.2-2.4.1- 2.4.2-2.4.3- 2.5.1-2.5.2- 2.5.3-3.1.2- 3.1.3-3.1.4- 3.2.2-3.2.3	1,2,3,12	A, C
13. interpret cerebellar diseases	1.1.1-1.1.2- 1.1.3-1.1.4- 1.1.5-1.1.6- 1.1.7-2.1.1- 2.1.2-2.1.3- 2.2.1-2.2.2- 2.2.3-2.4.2- 2.4.3-2.5.3- 3.1.4	1,2,3	A, C
14. outline methods of examination in neuro-muscular disorder	1.1.1-1.1.2- 1.1.3-1.1.4- 1.1.5-1.1.6- 1.1.7-1.1.8- 1.1.9-3.1.2- 3.1.3-3.1.4- 3.2.2-3.2.3	1,2,3	A, C

Teaching Methods:	1: Lecture, 2: Question-Answer, 3: Discussion, 9: Simulation, 12: Case Study
Assessment Methods:	A: Testing B: Presentation C: Homework

COURSE CONTENT		
WEEK	SUBJECT	Study Materials
1	Lecture Semiology	Materials for the course provided by instructor
1	Lecture Headaches	Materials for the course provided by instructor
1	Lecture Medula Spinalis Disorder	Materials for the course provided by instructor
1	Lecture Coma	Materials for the course provided by instructor
1	Lecture Dementia	Materials for the course provided by instructor
1	Lecture Cerebrovascular Diseases	Materials for the course provided by instructor
1	Lecture Motor Neuron Diseases	Materials for the course provided by instructor
1	Lecture Peripheral Nerve Diseases	Materials for the course provided by instructor
2	Lecture Demyelinating Disorders	Materials for the course provided by instructor
2	Lecture Sleep Disorders	Materials for the course provided by instructor
2	Lecture Movement Disorders	Materials for the course provided by instructor
2	Lecture CNS Infections	Materials for the course provided by instructor
2	Lecture Epilepsy	Materials for the course provided by instructor
2	Lecture EEG	Materials for the course provided by instructor
2	Lecture Neuromuscular Junction Disorders	Materials for the course provided by instructor
3	Practice Neurologic Examination and Semiology	Materials for the course provided by instructor
3	Practice Neurologic Examination in virtual patient	Materials for the course provided by instructor
3	Practice Inpatient visits	Materials for the course provided by instructor
3	Practice Clinical Experience in Outpatient Clinic	Materials for the course provided by instructor
3	Laboratory EEG	Materials for the course provided by instructor
3	Laboratory ENMG	Materials for the course provided by instructor

3	Laboratory Video-EEG Monitoring	Materials for the course provided by instructor
3	Laboratory Intraoperative Neurophysiological Monitoring	Materials for the course provided by instructor
3	Laboratory Sleep Polysomnography	Materials for the course provided by instructor
3	Assessment Session	Materials for the course provided by instructor
3	Program Evaluation Session Review of the Exam Questions, Evaluation of the Program	Materials for the course provided by the instructor

NCC 2014 - Essential Medical Procedures (National Core Curriculum)	Performance Level
Mental status evaluation	3
Consciousness assessment and psychiatric examination	3
Eye, fundus examination	3
Neurological examination	4
Performing lumbar puncture	2
Minimal status examination	3

RECOMMENDED SOURCES	
Textbook	<ul style="list-style-type: none"> Bradley and Daroff's Neurology in Clinical Practice, 2-Volume Set, 8th Edition DeJong's The Neurologic Examination 8th Edition Duus' Topical Diagnosis in Neurology: Anatomy – Physiology İstanbul Üniversitesi Tıp Fakültesi Nöroloji, 4. Baskı
Additional Resources	<ul style="list-style-type: none"> Lecture notes

ASSESSMENT	
Questions Types (Pencil-Paper Tests)	Proportion (in Pencil-Paper Tests)
Multiple Choice Questions	50%
Extended Matching Questions	20%
Key Feature Questions	15%
Essay Questions	15%
Total	100 %
Other Assessment Methods and Tools	Proportion (in Pass/Fail Decision)
Oral Exam (OE)	30%

Direct Observation of Procedural Skills (DOPS)	2,5%
Evaluation of Case Presentation	2,5%
Evaluation of Preparation Skills of Patient's File Global Evaluation of Student's Performance 2,5%	2,5%
Global Evaluation of Student's Performance	2,5%
Total	40 %
Pass/Fail Decision	Proportion (in Pass/Fail Decision)
Pencil-Paper Tests	60%
Other Assessments Methods and Tools	40%

MATERIAL SHARING	
Documents	Via google classroom
Assignments	Student ppt presentations
Exams	Not shared

COURSE CATEGORY	Expertise/Field Courses
------------------------	-------------------------

COURSES CONTRIBUTION TO PROGRAM					
COMPETENCE AREA-1 / Professional Practices	Contribution				
COMPETENCE 1.1. Health Service Provider	1	2	3	4	5
Competency 1.1.1. Integrates knowledge, skills, and attitudes acquired from basic and clinical medical sciences, behavioral sciences, and social sciences to provide health services.					x
Competency 1.1.2. Demonstrates a biopsychosocial approach that considers the individual's sociodemographic and sociocultural background without discrimination based on language, religion, race, or gender in patient management.					x
Competency 1.1.3. Prioritizes the protection and improvement of individuals' and community's health in the delivery of healthcare services.					x
Competency 1.1.4. Performs the necessary actions in the direction of maintaining and improving the state of health as considering the individual, social, social and environmental factors affecting health.				x	
Competency 1.1.5. Provides health education to healthy/ill individuals and their families, as well as to other healthcare professionals, by recognizing the characteristics, needs, and expectations of the target audience.				x	

Competency 1.1.6. Demonstrates a safe, rational, and effective approach in the processes of protection, diagnosis, treatment, follow-up, and rehabilitation in health service delivery.					x
Competency 1.1.7. Performs interventional and/or non-interventional procedures safely and effectively for the patient in the processes of diagnosis, treatment, follow-up, and rehabilitation.					x
Competency 1.1.8. Provides healthcare services considering patient and employee health and safety.				x	
Competency 1.1.9. Considers changes related to the physical and socio-economic environment at both regional and global scales that affect health, as well as changes in the individual characteristics and behaviors of those who seek healthcare services.			x		
COMPETENCE AREA-2 / Professional Values and Approaches	Contribution				
COMPETENCE 2.1. Adopting Professional Ethics and Principles	1	2	3	4	5
Competency 2.1.1. Considers good medical practices while performing the profession.					x
Competency 2.1.2. Fulfills duties and obligations within the framework of ethical principles, rights, and legal responsibilities required by the profession.					x
Competency 2.1.3. Demonstrates determined behavior in providing high-quality healthcare while considering the patient's integrity.					x
Competency 2.1.4. Evaluates own performance in professional practices by considering own emotions and cognitive characteristics.				x	
COMPETENCE 2.2. Health Advocate					
Competency 2.2.1. Advocates for the improvement of healthcare service delivery by considering the concepts of social accountability and social responsibility in the protection and enhancement of community health.					x
Competency 2.2.2. Plans and implements service delivery, education, and counseling processes related to individual and community health, in collaboration with all stakeholders, for the protection and improvement of health.					x
Competency 2.2.3. Evaluates the impact of health policies and practices on individual and community health indicators and advocates for the improvement of healthcare quality.				x	
Competency 2.2.4. Gives importance to protecting and improving own physical, mental, and social health and takes necessary actions for it.			x		
COMPETENCE 2.3. Leader-Manager					
Competency 2.3.1. Demonstrates exemplary behavior and leadership within the healthcare team during service delivery.			x		
Competency 2.3.2. Utilizes resources in a cost-effective, socially beneficial, and compliant manner with regulations in the planning, implementation, and evaluation processes of healthcare services as the manager in the healthcare institution.			x		
COMPETENCE 2.4. Team Member					
Competency 2.4.1. Communicates effectively within the healthcare team and takes on different team roles as necessary.			x		
Competency 2.4.2. Displays appropriate behaviors while being aware of the duties and responsibilities of healthcare workers within the healthcare team.				x	
Competency 2.4.3. Works collaboratively and effectively with colleagues and other professional groups in professional practice.				x	

COMPETENCE 2.5. Communicator					
Competency 2.5.1. Communicates effectively with patients, their families, healthcare professionals, and other occupational groups, institutions and organizations.			x		
Competency 2.5.2. Communicates effectively with individuals and groups who require a special approach and have different sociocultural characteristics.				x	
Competency 2.5.3. Demonstrates a patient-centered approach that involves the patient in decision-making mechanisms during the diagnosis, treatment, follow-up, and rehabilitation processes.					x
COMPETENCE AREA-3 / Professional and Personal Development	Contribution				
COMPETENCE 3.1. Scientific and Analytical Approach	1	2	3	4	5
Competency 3.1.1. Plans and implements scientific research, as necessary, for the population it serves, and utilizes the results obtained, as well as those from other research, for the benefit of the community.					
Competency 3.1.2. Accesses and critically evaluates current literature related to their profession.			x		
Competency 3.1.3. Applies evidence-based medicine principles in the clinical decision-making process.			x		
Competency 3.1.4. Uses information technologies to enhance the effectiveness of healthcare, research, and education activities.					x
COMPETENCE 3.2. Lifelong Learner					
Competency 3.2.1. Manages effectively individual study processes and career development.					
Competency 3.2.2. Demonstrates skills in acquiring, evaluating, integrating new information with existing knowledge, applying to professional situations, and adapting to changing conditions throughout professional career.				x	
Competency 3.2.3. Selects the right learning resources to improve the quality of health care and organizes the learning process.				x	

ECTS ALLOCATED BASED ON STUDENT WORKLOAD BY THE COURSE DESCRIPTION			
Activities	Quantity or day	Duration (Hour)	Total Workload (Hour)
Course Duration (3 weeks)	15	5.5	82.5
Hours for off-the-classroom study (Pre-study, practice, review/week)	15	2	30
Homework	1	2	2
Exam	2	1	2
Total Work Load			116.5
Total Work Load / 30 (h)			3.88
ECTS Credit of the Course			4