

<i>Name of the course</i>	<b>Neurology</b>			<b>Code</b>	
<i>Type of study program Cycle</i>	Integrated University Study, Medicine			<b>Year of study</b>	IV
<i>Credits (ECTS) :</i>	<b>7</b>	<i>Semester</i>	VII	Number of hours per semester (1+e+s)	100 (27+25+48)
<i>Status of the course:</i>	mandatory	<i>Preconditions:</i>	Passed all exams of the 3 <sup>rd</sup> year	<i>Comparative conditions:</i>	
<i>Access to course:</i>	Students of the Fourth year of Study of Medicine			<i>Hours of instructions:</i>	According to schedule
<i>Course teacher:</i>	Prof. Helena Škobić, MD, PhD (Head) Prof. Anđelko Vrca, MD, PhD (Head deputy) Ass Prof. Inge Klupka Sarić, MD, PhD				
<i>Consultations:</i>	according to appointment				
<i>E-mail address and phone number:</i>	<a href="mailto:helena.skobic@tel.net.ba">helena.skobic@tel.net.ba</a> +387 (0)63 319 917				
<i>Associate teachers</i>	Sandra Lakičević, MD, MSc Nataša Pejanović Škobić, MD, MSc Anita Ivanković, MD, MSc Davor Batinić, MD, MSc				
<i>Consultations:</i>	-				
<i>E-mail address and phone number:</i>	-				
<b><i>The aims of the course:</i></b>	<p>To enable students to identify, early detect, treat and prevent different diseases of the central and nervous system</p> <p>To give the examples of specific signs and symptoms of neurological conditions and the basic neurological techniques and methods for analysis of the function of the nervous system</p>				

***Learning outcomes  
(general and specific  
competences):***

**KNOWLEDGE:**

1. Applying the classification, definition, description and distinction of neurological diseases.
2. Remembering the main symptoms and signs of disease of the nervous system and connect them to specific clinical features and syndromes. Remembering the localization of specific process and understanding the basic pathophysiological mechanisms in the development of the neurological disorders.
3. Understanding the neurological disorders in the diseases of other systems.
4. Evaluation of differential - diagnostic capabilities based on clinical signs and symptoms in neurological patients.
5. Applying the correct diagnostic procedures in certain states, syndromes and diseases of the nervous system and critical evaluation of the results of diagnostic tests.
6. Applying the knowledge of clinical and diagnostic procedures and evaluation of the correct diagnosis in different neurological conditions.
7. Understanding the basic principles of treatment, and applying the optimal therapeutic methods for neurological patient.
8. Evaluation of adequate prognosis of neurological conditions and outcomes of treatment and evaluate the ethical and psychosocial questions during care of neurological patients.
9. Remembering the methods of diagnosis and treatment of neurological diseases in accordance to the principles of “evidence-based medicine”.

**SKILLS:**

1. Applying the skill of the independent taking of neurological history and applying a neurological examination. Evaluation of a differential diagnosis.
2. Understanding the main symptoms of the nervous system disorders. Remembering the localization of disease processes.
3. Remembering the life threatening neurological symptoms in patients that are in need for urgent consultations of specialist.
4. Remembering the basic symptoms of neurological disorders - including disturbance of consciousness, disorders of cognitive function, speech, vision, hearing, balance, motor function, sensation and autonomic functions.
5. Applying the skills in discussing the clinical interpretation of the differential diagnosis in neurological conditions and the results of the findings of the diagnostic procedures.
6. Applying the clinical skills and appropriate number of different neurological diagnostic and therapeutic procedures under the supervision, in accordance with the Booklet of Clinical skills.

<b>Course content (Syllabus):</b>	Neurology syllabus - consists of lectures, seminars and exercises. Each student must perform different skills during exercises under the supervision of a mentor. Note: lessons from each unit begins with a lecture, followed by seminars and exercises. Knowledge is checked during the seminars and exercises			
<b>Format of instruction (mark in bold)</b>	<b>Lectures</b>	<b>Exercises</b>	<b>Seminars</b>	<b>Independent assignments</b>
	<b>Consultations</b>	<b>Work with mentor</b>	Field work	Other
	Remarks:			
<b>Student responsibilities</b>	To attend and participate in all lectures, seminars, exercises; To prepare for individual and group seminar essays To practice different skills under supervision of mentor			
<b>Screening student work (mark in bold)</b>	<b>Class attendance</b>	<b>Class participations</b>	<b>Seminar essay</b>	<b>Practical training</b>
	<b>Oral exam</b>	<b>Colloquium or Written exam</b>	<b>Continuous assessment</b>	<b>Essay</b>
<b>Detailed evaluation</b> within a <i>European system of points</i>				
<b>STUDENTS RESPONSIBILITIES</b>	<b>HOURS</b>	<b>PROPORTIONS OF ECTS CREDITS</b>	<b>PROPORTION S OF MARK</b>	
Class attendance and participations	30	1		
Seminar essay	50	1	30%	
Colloquium or Written exam	60	2	30%	
Oral exam	90	3	40%	

<p>Further clarification:</p> <p>According to the regulations of the study, final grade is obtained:  A = 91-100% 5  B = 79 to 90% 4  C = 67 to 78% 3  D = 55 to 66% 2  F = 0 to 54% 1</p>	
<b>Required literature:</b>	<p>Brinar V. i suradnici : Neurologija. Medicinska naklada Zagreb,2009.  Brinar V. Brzović Z. i N. Zurak . Neurološka propedeutika, Zrinski d.d. Čakovec 1999.  Demarin V, Bašić Kess V. i suradnici. Glavobolja i druga bolna stanja Medicinska naklada,Zagreb ,2011.  Vrca A.: Pregled neurološkog bolesnika</p>
<b>Optional literature:</b>	<p>Sinanović O. i suradnici: Neurologija. Tuzla.Ingograf: Udruženje neurologa 2012.  Poeck K. Neurologija.Školska knjiga Zagreb,2000.  Sinanović O.Trkanjec Z. i suradnici.Nemotorni simptomi nakon moždanog udara</p>
<b>Additional information about the course</b>	<p>Monitoring methods of teaching quality:</p> <ul style="list-style-type: none"> <li>- student questionnaire</li> <li>- quality analysis by students and teachers</li> <li>- exam results analysis</li> <li>- report of the office for teaching quality</li> <li>- external evaluation (visit of team for quality control)</li> </ul>

Annexes: calendar classes

<b>The number of teaching units</b>	<b>TOPICS AND LITERATURE</b>
<b>I.</b>	Title: Organization of nervous system. Sensory system.
	Short description: Definition, examination, sensory deficit analysis
	Literature: obligatory and additional

<b>II.</b>	Title: Disturbances in the development of nervous system
	Short description: Definition and clinical picture of the commonest neurological disorders and their treatment
	Literature: obligatory and additional
<b>III.</b>	Title: Cognitive functions, memory, learning, remembering, speech. Consciousness and loss of consciousness.
	Short description: Definition, examination, deficit analysis
	Literature: obligatory and additional
<b>IV.</b>	Title: Pain physiology
	Short description: Definition, pathophysiology, examination, recognition of dysfunction and treatment
	Literature: obligatory and additional
<b>V.</b>	Title: Basic mechanisms and organization of central and peripheral nervous system
	Short description: development , function and possible major dysfunctions throughout some most important clinical pictures
	Literature: obligatory and additional
<b>VI.</b>	Title: Movement disorders
	Short description: Definition, pathogenesis, diagnosis, treatment
	Literature: obligatory and additional
<b>VII.</b>	Title: Signs and symptoms of disorders of central and peripheral nervous system
	Short description: Definition, examination, diagnosis and treatment
	Literature: obligatory and additional
<b>VIII.</b>	Title: Symptoms of dysfunction of cerebral lobes (frontal, temporal, parietal, occipital), decortication, decerebration, brain death
	Short description: Definition, clinical picture, examination, diagnosis

	Literature: obligatory and additional
<b><i>IX.</i></b>	Title: Intracranial pressure elevation. Hydrocephalus.
	Short description: Definition, pathophysiology, diagnosis, treatment
	Literature: obligatory and additional
<b><i>X.</i></b>	Title: Cerebellar syndrome. Syndrome of lesion in capsule interna, diencephalon, medulla oblongata.
	Short description: Definition, examination, diagnosis
	Literature: obligatory and additional
<b><i>XI.</i></b>	Title: Polyneuropathies. Peripheral paresis of facial nerve. Paraneoplastic syndrome.
	Short description : Definition. Pathophysiology, examination, diagnosis
	Literature: obligatory and additional
<b><i>XII.</i></b>	Title: Syndrome of spinal radices, plexus and peripheral nerves
	Short description: Definition, pathophysiology, examination, diagnosis
	Literature: obligatory and additional
<b><i>XIII.</i></b>	Title: Epilepsy, focal, generalised. Status epilepticus. Pharmacoresistant epilepsy. Surgical treatment of epilepsy. Preoperativ evaluation of patients with epilepsy. Vagus nerve stimulation.
	Short description: Definition, classification, pathophysiology, diagnosis, treatment
	Literature: obligatory and additional
<b><i>XIV.</i></b>	Title: Electroencephalography (EEG). Video EEG. Scalp electrodes. Intracranial recording with subdural and depth EEG electrodes.
	Short description: Preparation and performing an EEG recording
	Literature: obligatory and additional
<b><i>XV.</i></b>	Title: Diseases of neuromuscular junction. Myasthenia gravis.

	Short description: Definition, pathophysiology, diagnosis, treatment
	Literature: obligatory and additional
<b>XVI.</b>	Title: Neurodegenerative diseases. Cognitive impairment. Dementia.
	Short description: Definition, pathogenesis, diagnosis, treatment
	Literature: obligatory and additional
<b>XVII.</b>	Title: Myelosis funicularis, Motor neuron diseases. ALS.
	Short description: Definition, pathogenesis, diagnosis, treatment
	Literature: obligatory and additional
<b>XVIII.</b>	Title: Parkinson disease.
	Short description: Definition, pathogenesis, diagnosis, treatment
	Literature: obligatory and additional
<b>XIX.</b>	Title: Hepatolenticular degeneration (Morbus Wilson). Neuralgia and pain syndrome. Neuropathic pain.
	Short description: Definition, pathogenesis, diagnosis, treatment
	Literature: obligatory and additional
<b>XX.</b>	Title: Cerebrovascular diseases. Anatomy of cerebrovascular system. TIA. Brain infarct. Intracerebral hemorrhage. SAH. Malformations of cerebrovascular system.
	Short description: Definition, pathogenesis, diagnosis, treatment
	Literature: obligatory and additional
<b>XXI.</b>	Title: Headache
	Short description: Definition, pathogenesis, diagnosis, treatment
	Literature: obligatory and additional
<b>XXII.</b>	Title: Infections of central nervous system. AIDS, neurobrucellosis, toxoplasmosis, serosal and bacterial brain infections, brain echinococosis, Jakobs Creutzfeldt disease. Tetanus infection. Cerebral lues.
	Short description: Definition, pathogenesis, diagnosis, treatment
	Literature: obligatory and additional

<b>XXIII.</b>	<p>Title: Brain and spinal tumors. Neurogenic urinary bladder.</p> <p>Short description: Definition, pathogenesis, diagnosis, treatment</p> <p>Literature: obligatory and additional</p>
<b>XXIV.</b>	<p>Title: Traumatic injuries of central and peripheral nervous system. Craniocerebral trauma.</p> <p>Short description: Definition, pathogenesis, diagnosis, treatment</p> <p>Literature: obligatory and additional</p>
<b>XXV.</b>	<p>Title: Miopathies. Neuropathies. EMG-EMNG.</p> <p>Short description: Definition, pathogenesis, diagnosis, treatment</p> <p>Literature: obligatory and additional</p>
<b>XXVI.</b>	<p>Title: Loss of consciousness. Syncope. Non-epileptic seizures (psychogenic).</p> <p>Short description: Definition, pathogenesis, diagnosis, treatment</p> <p>Literature: obligatory and additional</p>
<b>XXVII.</b>	<p>Title: Diagnostics of cerebrospinal fluid in neurological conditions.</p> <p>Short description: Lumbar puncture, definition of normal and pathological findings.</p> <p>Literature: obligatory and additional</p>