Faculty of Medicine / APPLIED PHYSIOTHERAPY /

Course:				
Course ID	**Course status**	**Semester**	**ECTS credits**	**Lessons** (Lessons+Exercises+Laboratory)
14012	Mandatory	1	7	3+3+0
Programs	APPLIED PHYSIOTHERAPY			
Prerequisites	There are no requirements for registering and listening to the subject.			
Aims	improvement of previously acquired basic theoretical knowledge of students in the field of cerebrovascular, neurodegenerative, neuromuscular and paroxysmal diseases and improvement of practical skills in the field of neurological rehabilitation.			
Learning outcomes	Upon successful completion of this study program, the student will be able to: - Recognizes the causes of certain neurological diseases; - Understands the pathophysiology of cerebrovascular, degenerative and neuromuscular diseases; - Master the skill of approach and functional testing of a neurological patient; - Acquire knowledge about neurological diseases that do not necessarily require rehabilitation treatment, but which will be encountered; - Acquire knowledge about the methods and methods of treatment of neurological diseases. - After completing the studies, it is expected that the participants of the course will be able to use the acquired knowledge and skills in the purpose of the highest quality medical rehabilitation.			
Lecturer / Teaching assistant	dr. sc. Merdin Š. Markišić; Dr. sc. Anka Vukićević; SpApp Savo Milošević – Senior Associate, Mr. sc Tatjana Terzić - Associate			
Methodology	Lectures and seminars. Preparation of seminar papers. Work in the library. Work at the computer. Studying for colloquiums and the final exam.			
Plan and program of work				
Preparing week	Preparation and registration of the semester			
I week lectures	Diagnostics of neurological conditions. Abnormalities of muscle tone and mobility in neurological conditions.			
I week exercises	Diagnostics of neurological conditions. Abnormalities of muscle tone and mobility in neurological conditions. Muscular imbalance in neurological conditions. Principles of physiotherapeutic assessment and measurement			
II week lectures	Theoretical foundations of neurological physiotherapy. Neuroplasticity. Rehabilitation process.			
II week exercises	PNF technique in the treatment of patients with hemiplegia.			
III week lectures	Special techniques in neurological physiotherapy.			
III week exercises	Stimulating turning of a patient with hemiplegic syndrome.			
IV week lectures	Cerebral infarction. Brain hemorrhages.			
IV week exercises	Stimulation of weight bearing on the sick arm and leg in patients with hemiplegic syndrome.			
V week lectures	Medulopathy.			
V week exercises	Gait analysis and practical gait training in a hemiplegic patient.			
VI week lectures	CNS demyelinating disease			
VI week exercises	Cerebral palsy, spasticity inhibition techniques.			
VII week lectures	Multiplex sclerosis.			
VII week exercises	Principles of the Bobath concept.			
VIII week lectures	Neurodegenerative diseases of the CNS. Movement disorders.			
VIII week exercises	Normal motor development - demonstrations of typical positions and movements according to the usual sequence.			
IX week lectures	Parkinsons disease.			
IX week exercises	Guide for assessment and treatment planning - demonstrations of facilitation of position and movement, handling - handling with the child.			
X week lectures	Developmental neurology. Cerebral paralysis.			
X week exercises	Vojta method - reflex crawling and reflex turning.			
XI week lectures	Motor neuron diseases. Amyotrophic lateral sclerosis. Spinal muscular atrophy.			

XI week exercises	Rehabilitation of patients with spinal syndrome.
XII week lectures	Neuropathies, diseases of peripheral nerves, Hereditary, inflammatory, metabolic and other neuropathies.
XII week exercises	Kinesitherapy in peripheral motor neuron damage.
XIII week lectures	Muscular dystrophies.
XIII week exercises	Brachial plexus kinesitherapy in pediatrics.
XIV week lectures	Examination and recognition of disorders of the function of the neuromuscular system. Myopathies.
XIV week exercises	Kinesitherapy in Parkinsons disease.
XV week lectures	Causes, symptoms and treatment options for nerve function disorders of the upper and lower extremities.
XV week exercises	Multiple sclerosis - exercises.
Student workload	In the semester Teaching and final exam: (9.33 hours) x 16 = 149.33 hours Necessary preparation before the beginning of the semester (administration, enrollment, certification): 2 x (9.33 hours) = 18.66 hours Total workload for the course: 7 x 30 = 210 hours Additional work for exam preparation in the make-up exam period, including taking the make-up exam from 0 - 30 hours. Load structure: 149.33 hours (teaching) + 18.66 hours (preparation) + 42 hours (additional work)

Per week	**Per semester**
7 credits x 40/30=9 hours and 20 minuts 3 sat(a) theoretical classes 0 sat(a) practical classes 3 excercises **3 hour(s) i 20 minuts** of independent work, including consultations	Classes and final exam: **9 hour(s) i 20 minuts x 16 =149 hour(s) i 20 minuts** Necessary preparation before the beginning of the semester (administration, registration, certification): **9 hour(s) i 20 minuts x 2 =18 hour(s) i 40 minuts** Total workload for the subject: **7 x 30=210 hour(s)** Additional work for exam preparation in the preparing exam period, including taking the remedial exam from 0 to 30 hours (remaining time from the first two items to the total load for the item) **42 hour(s) i 0 minuts** Workload structure: **149 hour(s) i 20 minuts (cources), 18 hour(s) i 40 minuts (preparation), 42 hour(s) i 0 minuts (additional work)**
Student obligations	Students are required to attend classes and seminars, to prepare for seminars, to work on and submit seminar papers, and to actively participate in seminar classes.
Consultations	Daily consultations via e-mail and in direct communication.
Literature	1. Edwards S. Neurological Physiotherapy: A Problem - Solving Approach. Churchil Livingstone, 2002. 2. Stokes M (ed): Physical Management in Neurological Rehabilitation. Elsevier Mosby, 2004. 3. Gillen G, Burkhardt A: Stroke Rehabilitation: A Function-Based Approach. Mosby, 2004. 4. Brimer MA, Moran ML: Clinical Cases in Physical Therapy. Butterworth-Heinemann, 2004. 5. Jović S: Neurorehabilitacija. Beograd: Klinika za rehabilitaciju „Dr Miroslav Zotović”, 2004.
Examination methods	attendance and monitoring of lectures and exercises are mandatory, Students activity in class will be evaluated on the basis of the attached mandatory written report and oral presentation of a medical rehabilitation case involving 3 patients. Total 25 points - the seminar paper is evaluated with a total of 5 points - 1 colloquium is evaluated with 20 points - the final exam is evaluated with 50 points; At the final exam, students can achieve a maximum of 50 points, and the passing threshold is 50% of the successfully completed exam, i.e. achieved at least 25 points.
Special remarks	
Comment	

Grade:	F	E	D	C	B	A
Number of points	less than 50 points	greater than or equal to 50 points and less than 60 points	greater than or equal to 60 points and less than 70 points	greater than or equal to 70 points and less than 80 points	greater than or equal to 80 points and less than 90 points	greater than or equal to 90 points