

Faculty of Medicine / MEDICINE / INTERNAL MEDICINE

<b>Course:</b>	INTERNAL MEDICINE			
<b>Course ID</b>	<b>Course status</b>	<b>Semester</b>	<b>ECTS credits</b>	<b>Lessons</b> (Lessons+Exercises+Laboratory)
13976	Mandatory	12	4	0+6+0
<b>Programs</b>	MEDICINE			
<b>Prerequisites</b>	The requirement for performing clinical practice is passing the exam in Internal Medicine.			
<b>Aims</b>	The goal of the course is to enable future medical doctors to systematically apply the knowledge acquired during their studies for the purpose of timely diagnosis of diseases, conditions, clinical syndromes, correct therapeutic approach and professional attitude towards the patient, the patients companion, colleagues and associates. The student gains clinical experience under the expert supervision of a teacher/associate. Using concrete examples, he gets acquainted with the possibilities of applying the methodology of scientific research work.			
<b>Learning outcomes</b>	Upon completion of Clinical Practice, the student will be able to: • properly take an anamnesis and perform a clinical examination of patients suffering from internal medicine diseases, conditions and syndromes. • to indicate diagnostic procedures in order to establish a definitive diagnosis. • to correctly interpret laboratory and other additional analyzes obtained during the examination of the patient. • to suggest appropriate therapeutic procedures. • to provide assistance to a patient with an urgent internal medicine condition. • to independently perform health activities as a doctor in primary health care in the prevention, diagnosis and therapy of internal diseases. • to participate in the team process of diagnosing and treating patients. • to respect the principle of professional secrecy and the code of healthcare workers.			
<b>Lecturer / Teaching assistant</b>	Prof. Dr. Aneta Bošković, prof. Dr. Ljilja Music, prof. Dr. Snežana Vujošević, prof. Dr. Brigita Smolović, Assoc.prof. Sanja Medenica and colleagues from the Department of Internal Medicine.			
<b>Methodology</b>	Practical teaching during the clinical internship is carried out by the student independently under the supervision of a teacher or associate at the clinic, which includes: • practical work with patients • independent performance of clinical skills • demonstration of clinical skills • consultations			
<b>Plan and program of work</b>				
Preparing week	Preparation and registration of the semester			
I week lectures				
I week exercises	Inspection, palpation and auscultation of the heart. Palpation and analysis of the peripheral pulse. Measurement and interpretation of measured blood pressure values. Creation and interpretation of electrocardiograms.			
II week lectures				
II week exercises	Administration of parenteral injections Intravenous access. Blood sampling for biochemical analyzes related to acute cardiac conditions (CK, CKMB, troponin, D-Dimer, BNP,...) and analysis of the obtained results. Interpretation of X-ray findings of the heart. Observation of pericardial puncture			
III week lectures				
III week exercises	Resuscitation of a patient with cardiac arrest (cardiopulmonary resuscitation-CPR: • provision - opening of the airway: airway placement, attempt to perform endotracheal intubation. • precordial shock, heart massage, defibrillation. • prescription of drug therapy.			
IV week lectures				
IV week exercises	Recognition and treatment of heart rhythm disorders. Electroconversion. Carotid sinus massage, Valsava maneuver. Observation of percutaneous electrostimulation.			
V week lectures				
V week exercises	Observation and interpretation of echocardiographic findings. Observation of MSCT imaging of the blood vessels of the heart and interpretation of findings. Observation of nuclear magnetic resonance of the heart. Observation of coronary angiography.			
VI week lectures				
VI week exercises	Inspection of the chest. Palpation and assessment of chest mobility. Percussion of the lungs and determination of the limits of the lung base. Auscultation of the lungs with recognition of pathological murmurs. Taking arterial blood for gas analysis. Observes the performance of thoracentesis. Interpretation of the pleural effusion result and determination (transudate/exudate).			
VII week lectures				
VII week exercises	Fiberbronchoscopy observation, education about sending the taken bronchomaterial. Observation and			

	interpretation spirometric findings. Observation of the BDT test. Education on the use of broncho inhalers (pumps, turbohalers and inhalations...). Observation and interpretation of normal lung X-ray findings. Examination of the abdomen - position of the abdominal wall (inspection); palpation (sensitive points); percussion: differentiating flatulence and ascites; auscultation: peristalsis, abdominal aorta, renal arteries, iliac arteries. Upper GI tract endoscopy observation. Familiarity with and observation of manometry and pH measurement of the esophagus.
VIII week lectures	
VIII week exercises	Examination of the liver (percussion and palpation). Observation of percutaneous liver biopsy. Acquaintance, observation and interpretation of fibroscan findings. Abdominal puncture and interpretation of the obtained finding of abdominal punctate. Differential diagnosis of liver diseases, diseases of the bile ducts and pancreas based on laboratory analyses, immunological, virological analyzes and additional diagnostic methods: Echo of the abdomen, MSCT, MR abdomen, MRCP, ERCP. Getting to know the basics of liver transplantation.
IX week lectures	
IX week exercises	Anamnesis, diagnosis and treatment of the most common gastrointestinal disease: dyspepsia, diagnosis and treatment of Helicobacter pylori infection, performing a digital-rectal examination/rectal douche, prevention of colorectal cancer and the importance of screening-familiarity. Examination of the width of the field of vision. Performance of Chvosteks and Trousseau's sign in hypocalcemia. Thyroid palpation and interpretation of findings. Interpretation of thyroid ultrasound findings.
X week lectures	
X week exercises	Graves ophthalmopathy trial. Examining the degree of impotence and signs of hypogonadism in men. Determination of BMI, hip/waist ratio and interpretation of findings. Participation in writing a diet for patients with obesity, malnutrition, DM. Monitoring the glycemic profile and mastering the technique of dosing and administering insulin. Introduction to insulin pumps.
XI week lectures	
XI week exercises	Examination of the upper and lower extremities in diabetic neuropathy. Planning of urgent and delayed diagnostics in hematology. Interpretation of blood count findings. Examination of peripheral lymph glands. Collection and examination of peripheral blood smear. Assisting with bone marrow puncture.
XII week lectures	
XII week exercises	Assisting with bone biopsy. Observation of biopsy/extirpation of peripheral lymph glands. Determination of bleeding and coagulation time. Planning and checking before the administration of blood and blood derivatives. Indications and monitoring of patients on chronic anticoagulant therapy - review of OAK, NOAK. Determining the need for bridging therapy with low molecular weight heparin.
XIII week lectures	
XIII week exercises	Bimanual palpation of the kidneys. Percussion of the lumbar area-renal succussion. Auscultation of the renal artery. Interpretation of seven urine findings. Interpretation of biochemical analyzes related to kidney disease. Urinary catheter monitoring. Familiarization with placement and care of central venous/dialysis catheters for hemodialysis (v. femoralis, v. jugularis, v. subclavia).
XIV week lectures	
XIV week exercises	Getting to know arteriovenous fistulas for hemodialysis. Familiarity with peritoneal dialysis and peritoneal catheter care. The importance of vaccination in hemodialysis patients. Indications for kidney transplantation. Keeping the medical history of rheumatological patients. Overview of the locomotor apparatus. Examination of the spinal column. Peripheral joint mobility review. Getting to know the importance of additional methods in the diagnosis of rheumatological diseases: laboratory, immunology, x-ray diagnostics, ultrasound diagnostics, NMR, ...
XV week lectures	
XV week exercises	Interpretation of laboratory findings of importance for rheumatological diseases. Interpretation of immunological analyzes of importance in rheumatological diseases. X-ray examination of joints - interpretation of findings. Echocardiographic examination - observation and interpretation of findings. Observation of osteodensitometry, interpretation of findings. Observation of capillaroscopy. Introduction to local therapy, disease modifying therapy and immunosuppressive therapy in rheumatology.
<b>Student workload</b>	In the semester: Teaching - clinical practice: 5.33 hours x 16 = 85.28 hours Necessary preparations before the beginning of the semester (administration, registration, certification): 5.33 hours x 2 = 10.66 hours Total workload for the course: 4 x 30 = 120 hours Additional work: 24.06 hours Load structure: 85.28 hours (practical teaching) + 10.66 hours (preparation) + 24.06 hours (additional work) = 120 hours
<b>Per week</b>	<b>Per semester</b>
<b>4 credits x 40/30=5 hours and 20 minuts</b>	Classes and final exam:

0 sat(a) theoretical classes 0 sat(a) practical classes 6 exercises <b>-1 hour(s) i 20 minuts</b> of independent work, including consultations		<b>5 hour(s) i 20 minuts x 16 =85 hour(s) i 20 minuts</b> Necessary preparation before the beginning of the semester (administration, registration, certification): <b>5 hour(s) i 20 minuts x 2 =10 hour(s) i 40 minuts</b> Total workload for the subject: <b>4 x 30=120 hour(s)</b> 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) <b>24 hour(s) i 0 minuts</b> Workload structure: <b>85 hour(s) i 20 minuts (courses), 10 hour(s) i 40 minuts (preparation), 24 hour(s) i 0 minuts (additional work)</b>				
<b>Student obligations</b>		Regular attendance of classes.				
<b>Consultations</b>						
<b>Literature</b>		Literature recommended for the subject Internal Medicine.				
<b>Examination methods</b>		The teacher responsible for the professional practice/clinical internship keeps records of the students regular attendance and activities. After completing the clinical internship, the student does not receive a grade, but is obliged to complete the clinical internship in order to achieve the expected number of ECTS credits.				
<b>Special remarks</b>						
<b>Comment</b>						
<b>Grade:</b>	F	E	D	C	B	A
<b>Number of points</b>	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