

Name of the course	Infectology with Clinical Microbiology			Code	MSE406
Type of study program:	Integrated university study program, Medicine			Year of study:	4
Credits (ECTS):	8.0	Semester:	VIII	Number of hours per semester (l+s+e):	120 (20+35+65)
Status of the course:	obligatory	Preconditions:	Passed 3 rd year exams	Comparative conditions:	
Access to course:	Fourth year students			Hours of instructions:	According to schedule
Course teacher:	Associate Professor Jadranka Nikolić, MD, PhD				
Consultations:	As agreed				
E-mail address and phone number:	jadranka.d.nikolic@gmail.com +387 63 790 033				
Associate teachers	Assistant Professor Svjetlana Grgić, MD, PhD Siniša Skočibušić, MD, MSc Assistant Željana Sulaver, MD Assistant Linda Soldo, MD Assistant Professor Božo Šušak, MD, PhD Assistant Professor Sanja Jakovac, MD, PhD				
Consultations:	Per agreement				
E-mail address and phone number:	jadranka.d.nikolic@gmail.com 00387 63 790 033				
The aims of the course:	The principal aims of this course: to inform and teach the students about the importance and the extension, as well as the epidemiological, diagnostic and clinical features of the most important infectious diseases. The focus is on acquiring the knowledge and skills needed to recognize clinical symptoms, differential diagnosis, critical evaluation of laboratory findings and rational treatment. The focus will also be on preventive measures, as well as the protection of medical personnel from infections.				
Learning outcomes (general and specific competences):	<p>After attending and passing this course, students will know / be able to:</p> <p>General competences: Explain the pathogenesis, recognize clinical symptoms, diagnose the infection and determine the appropriate treatment, respectively in differential diagnostic conclusion connect the acquired knowledge and skills.</p> <p>Specific competences: The student acquires the knowledge and skills associated with previously acquired clinical knowledge in detecting and interpreting clinical symptoms and signs of infectious diseases, critically evaluating laboratory methods of rational diagnosis of disease pathogens. By applying acquired knowledge, students will be able to select samples and methods for microbiological evaluation, interpret the antibiogram and determine the appropriate treatment. Students will be able to apply their knowledge and skills in diagnosing and treating infections of all organic systems in adults and children and in immunocompromised patients.</p>				
Course content (Syllabus):	<p>This course involves the study of Infectious Diseases with the attached subsection of Clinical Microbiology. The course is performed in several separate thematic units including lectures, seminars and exercises in small groups. In exercises, students with help from the assistants, will thoroughly examine the patients. Workshops (3) will be organized, respectively patient presentations with interactive participation of students and teachers and a round table at the end of the tuition.</p> <p>Students will be evaluated by a written examination from General infectology and a colloquium from Clinical microbiology.</p>				
Format of instruction: (mark in bold)	Lectures	Exercises	Seminars	Independent assignments	
	Consultations	Work with mentor	Field work	Other*	
*Remarks: patient presentation (interactive lessons)					

Student responsibilities:	<ul style="list-style-type: none"> - Attendance and active participation in all forms of class - lectures, seminars, practicals, workshops, round table - In practicals: history and clinical overview of patients with planning of laboratory evaluation and therapy - Submission of written colloquium from General infectology and Clinical microbiology - Final exam consisting of a practical and oral part 			
Screening student work: (mark in bold)	Class attendance	Class participations	Seminar essay	Practical training
	Oral exam	Written exam	Continuous assessment	Essay
Detailed evaluation within a <i>European system of points</i>				
STUDENTS RESPONSIBILITIES	HOURS	PROPORTIONS OF ECTS CREDITS	PROPORTIONS OF MARK	
Class attendance and participations	120	4	0%	
Colloquiums (Written exam)	30	1	10%	
Practical and Oral exam	90	3	90%	
Total	240	8	100%	
<p>Further clarifications:</p> <p>Written colloquium from General Infectology and Clinical Microbiology are mandatory and they are condition for applying for an exam. Colloquium from Clinical microbiology is qualifying and is not expressed in numerical grades. The written colloquium from General infectology has 30 questions. For the excellent evaluation (5) 90%, very good (4) 80% , good (3) 70% and for satisfactory (2) 60% questions should be solved correctly.</p> <p>Grade from General Infectology is only generally accepted by the examiner on the final exam and does not contribute to students grade in the later portions (practical and oral) of the exam.</p> <p>The exam, after attending the classes and the passed colloquium, consists of a practical (examination of the patients with interpretation) and the oral part. At the oral part of exam, students need to answer five questions (one from each area): 1. General infectology, 2. Bacterial diseases, 3. Zoonosis, 4. Viral diseases, 5. Other chapters. Students choose questions by selecting cards. Evaluation is based on the interpretation of the patient's examination and the answers given to the oral questions.</p>				
Required literature:	<ol style="list-style-type: none"> 1. Southwick F. Infectious diseases: a clinical short course. 4th edition (McGraw-Hill 2020). 			
Optional literature:	<ol style="list-style-type: none"> 1. Wright W. Essentials of clinical infectious diseases. 2nd edition (demosMEDICAL 2018). 2. Mertz D, Smaill F, Daneman N. Evidence-based infectious diseases. 3rd edition (Wiley Blackwell 2018). 3. Cho J. Infectious diseases. Case study approach (McGraw-Hill 2020). 			
Additional information about the course:	<p>Quality assurance method:</p> <p>Student survey Analysis of the quality of teaching by students and teachers Passage analysis at exams Report of the Office for quality of teaching Out-of-institutional evaluation (Visit quality control teams)</p>			

Annexes: calendar classes

<i>The number of teaching units</i>	TOPICS AND LITERATURE
I.	Title: Introduction and General infectology
	Short description: Definition and positioning of infectology; basic concepts of infection, route of transmission, symptoms of disease, diagnosis, treatment and prevention
	Literature: Obligatory and supplementary
II.	Title: Principles of antimicrobial therapy
	Short description: Overview of antibiotic groups, clinical guidelines for use
	Literature: Obligatory and supplementary
III.	Title: Symptomatic therapy
	Short description: Basics of symptomatic treatment - antipyretics, liquid and electrolyte compensation, other symptomatic measures and procedures
	Literature: Obligatory and supplementary
IV.	Title: Skin and soft tissues infections
	Short description: Most common streptococcal and staphylococcal diseases- clinical presentation, diagnostic, treatment.
	Literature: Obligatory and supplementary
V.	Title: Acute respiratory infections
	Short description: Size of the problem, clinical syndromes, clinical and laboratory diagnosis, treatment
	Literature: Obligatory and supplementary
VI.	Title: Gastrointestinal infections
	Short Description: Epidemiology, causes, clinical presentation of disease, diagnosis, treatment and prevention
	Literature: Obligatory and supplementary
VII.	Title: Central nervous system infections
	Short Description: Serous and purulent meningitis, causes, epidemiology, clinical presentation, treatment
	Literature: Obligatory and supplementary
VIII.	Title: Tonsillopharyngitis
	Short Description: Angina syndrome, causes, clinical manifestations, differential diagnosis, treatment
	Literature: Obligatory and supplementary
IX.	Title: Exanthematous diseases
	Short Description: Child rash diseases, differential diagnostic of rash accompanied with fever
	Literature: Obligatory and supplementary
X.	Title: Enteroviral infections
	Short description: Causes, epidemiology, most common clinical manifestations
	Literature: Obligatory and supplementary
XI.	Title: Herpesvirus infections
	Short description: Characteristic pathogenesis and clinic manifestations of disease caused by certain herpesviruses, diagnosis and treatment
	Literature: Obligatory and supplementary
XI.	Title: Diseases caused by bacterial toxins (tetanus, botulism)
	Short Description: Pathogenesis, most important diseases - tetanus, botulism, diagnosis, treatment
	Literature: Obligatory and supplementary
XII.	Title: Parasitic diseases
	Short Description: Most important diseases with clinical presentation and treatment
	Literature: Obligatory and supplementary

XIII.	Title: Pneumoniae
	Short Description: Definition and clinical classification, causes, pathogenesis, clinical presentation, treatment
	Literature: Obligatory and supplementary
XIV.	Title: HIV / AIDS
	Short Description: HIV - Pathogenesis, immunology, clinical stage of HIV, opportunistic infections, diagnosis, treatment and prevention
	Literature: Obligatory and supplementary
XV.	Title: Viral hepatitis
	Short Description: Causes, epidemiology, clinical presentation, laboratory diagnostics - hepatitis markers, treatment and prevention
	Literature: Obligatory and supplementary
XVI.	Title: Sepsis
	Short Description: Pathogenesis, causes, clinical presentation, complications, treatment
	Literature: Obligatory and supplementary
XVII.	Title: Zoonosis
	Short description: The most important zoonosis - leptospirosis, brucellosis, HVBS; epidemiology, diagnosis, treatment, prevention
	Literature: Obligatory and supplementary
XVIII.	Title: Hospital - acquired infections
	Short description: Importance once and now, types of hospital infections - urogenital, hospital pneumonia, sepsis, surgical wound infections; cause, diagnostics, prevention
	Literature: Obligatory and supplementary
XIX.	Title: Snake and black widow spider bite
	Short description: Snake bite - pathogenesis, clinical manifestation, prevention and treatment. Lactrodectisam- pathogenesis, clinical manifestation, prevention and treatment
	Literature: Obligatory and supplementary
XX.	Title: COVID-19
	Short Description: Epidemiology, causes, clinical presentation of disease, diagnosis, treatment and prevention
	Literature: Obligatory and supplementary
XXI.	Title: Immunisation /Vaccination
	Short description: Vaccination calendar and the importance of vaccination, side effects and negative anti-vaccination trends in society
	Literature: Obligatory and supplementary
XXII.	Title: Microbiological diagnosis of bacterial diseases
	Short Description: Most important bacterial causes, morphological characteristics, clinical manifestation, laboratory diagnostics with practicum
	Literature: Obligatory and supplementary
XXIII.	Title: Microbiological diagnosis of viral diseases
	Short description: Most important viral agents, morphological characteristics, clinical presentation, laboratory diagnostic methods with practicum
	Literature: Obligatory and supplementary
XXIV.	Title: The most important cause of parasitic diseases
	Short Description: Most important causes, morphological characteristics, clinical manifestation, laboratory diagnostic methods with practicum
	Literature: Obligatory and supplementary