MED 2003-Infectious Agents and Mechanisms, Immune Disorders

Course Name	Code	Semester	Type of course	Theory (hours)	Work in Group (hours)	ECTS
Infectious Agents and Mechanisms, Immune Disorders	MED 2003	III	Mandatory	25	46	5
Faculty, the educational program and education level	Faculty of Medicine, one-cycle Educational Program "Medicine"					
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Educatıonal course format	LECTURE LABORATORY APPLİCATİON WORK İN GROUP CURACY					
Educatıonal course volume	**Total:** 150 hours, that includes **Contact hours**: 75 h 1. Lecture – 25 h 2. Laboratory -10 h 3. Application -24 h 4. Group work – 12 h 5. Midterm Exam – 2 h 6. Final Exam -2 h **Independent work** – 75 h					
Prerequisites	MED 1003 - Cell, Tissue and Organs' System					
The purpose (s) of tutorial course/modules	Course aims is to explain the components and functions of the immune system, its disorders; medically important microorganisms, their properties, the disorders they cause and the prevention, diagnosis and the treatment of these infectious diseases.					
Teaching and learning strategy	**Lectures will be conducted** based on the application of verbal explanation metho demonstration-the method of visual presentation of the information. **Laboratory work** foresees doing experiments by the students themselves under the teache supervision that aims at elaboration of practical clinical skills; the students will also analyze t obtained results.					

	In order to develop the skills of making conclusions supported by the arguments the studen during the **group work,** will defend and justify their opinions, when dealing with situati analysis, and analyze critically the situation created by their course mate. The students w also carry out the analysis of the clinical cases, interpret, classify, assess the data and ma synthesis by means of connecting and confluencing of the components comprising the separa issues. **Practical work f**oresees role –playing (doctor-patient) games; Curacia considers teaching in the clinical environment. **When working on the project** the student will use the method of working on the book**.** Besid he/she has to get familiarized with publications, process the literature, search for the additio material and present the project in slideshow format.
Assessment criteria	**Maximum score- 100** **Midterm assessment -60** • Attendance on lectures - 0.2 score (0,2X25=5scores; • Activity on Laboratory – 5 scores: • Activity on Application – 10 scores: • Activity on Group work -10 scores • Project preparation and presentation -10 scores • Midterm Exam – 20 Final score for laboratory work and a work in group will be calculated as the average arithmetic. **Laboratory Work is Assessed Based on the Following Criteria (**maximum 5 point): **5 scores**: Laboratory method is planned correctly, the usage of the laboratory equipment and devices by the student is accurate. The student is able to make method recording correctly, can easily identify the mistakes made and plan the way of correction. The student is able to analyze the method exercised and interpret the results. Laboratory work is carried out accurately and completely; **4 scores:** Laboratory method is planned correctly. The student reveals the relevant knowledge when applying laboratory equipment and devices. The student is able to make method recording correctly, easily identify the mistakes made and plan the way of correction, however, has difficulties in analyzing the results. Laboratory work is performed with minor faults. **3 scores:** Laboratory method is planned correctly. The student is not able to reveal the relevant knowledge when using the laboratory equipment since he/she makes minor mistakes when applying laboratory devices; The student can make method recording correctly but is not able to detect the mistakes made and experiences difficulties in looking for the ways of correction. Laboratory work is carried out with minor faults. **2 scores:** Minor mistakes are made in planning of the laboratory method; the student is not able to reveal the relevant knowledge when using laboratory equipment and devices, is able to make method recording correctly but is not able to detect the mistakes made and relevantly has difficulties in finding the way of correction. Laboratory work is carried out with essential faults. **1 score**: Essential mistakes are made in planning laboratory method; the student is hardly familiar with the rules of usage of laboratory equipment and devices; the student is able to

	make method recording but is unable to detect the mistakes made and relevantly has difficulties in finding the ways of correction. Laboratory work is carried out with essential faults. **0 score:** Student is absolutely unaware of laboratory method and equipment and devices. The task is not fulfilled. **Application and Group Work are Assessed Based on the Following Criteria** (maximum 10 point) **10 scores**- Student has been able to present complete and thorough knowledge of the subject, a substantial amount of detailed and relevant information. Demonstrate considerable depth of understanding of the studied main and additional literature. Bring forward a balanced view of the main arguments on the issues. **9 scores** - Student has been able to bring forward a consistent number of deductions on most of the topics tackled. make very good comments on the different perspectives on most of the issues. Demonstrates knowledge of the main readers. **8 scores** - Student has been able to bring forward a consistent knowledge, Has properly developed terminology. Demonstrates knowledge of the main readers. **7 scores** - Student has been able to present some factual information sufficiently linked with the topic. Demonstrate a good understanding of the topics selected. make a good attempt to bring forward a balanced view of some arguments on the issues. Terminology is partially developed. **6 scores** - Student has been able to make some good comments on the different perspectives on some of the issues. Make poor deductions on most of the topics tackled. analyse some causes and results of human interactivity related to the issues. **5 scores** - Student has been able to demonstrate inconsistent comments on the different perspectives on some of the issues. Terminology is partially developed. Present mediocre level of knowledge. Make poor deductions. **4 scores** - Student demonstrates general overview of the topics. Terminology is not developed. Information sufficiently linked with the topic. Demonstrate irrelevant understanding of the literature. **3 scores** – Student demonstrates general/superficial and inconsistent knowledge of the subject. No sufficient knowledge of the literature. **2 scores** - Student demonstrates general comments, no knowledge of the terminology, no consistency. **1 score** – Student demonstrates insufficient answer, not terminology awareness, chronologic manner of the answer, mostly wrong, no knowledge of literature. **0 score:** Student demonstrates not even elementary knowledge of the topics. **Presentation / Case study / Project Grading – Maximum 10 scores** **2.** Content - 1; **3.** Problem outline - 1; **4.** Review of the literature on the issue -1; **5.** Research methods relevance with the research goals - 1; **6.** Logical argumentation - 1; **7.** Deductions accuracy and correlation with the main text - 1;

	8. Visual and technical parts of the material - 1; 9. Reliability of the sources - 1; 10. Accuracy of the cited literature - 1; 11. Language and style accuracy- 1. **Midterm Exam – 20** Is held in the written test form (test consists of 40 multiple-choice questions, each question is rated as 0.5 score). Minimal score of midterm assessment (for final exam admission) – is 11; to take in account that student will receive the maximum score at the final exam. **Final Exam – 40 score max.** Is held in the written test form (test consists of 60 multiple-choice close questions, each question is rated as 0.5 score and 10 open questions each question is rated as 1 score). Students have to score equal or more than 70% from final exam maximum score (40X70/100=28 maximum 28 scores from the overall 40) to pass the final examination. Credit will be given to the student if he has collected at minimum 51 scores out of 100. The students' assessment has to be done in the following way: **Positive rate:** (A) Excellent- 91 or more scores; (B) Very Good- 81-90 scores; (C) Good- 71-80 scores; (D) Satisfactory- 61-70 scores; (E) Enough- 51-60 scores; **Negative rate**: (FX) Failure - 41-50 scores, which means that a student needs to work more and independent and considerable further work is required to pass the exam once again to re-awarded; (F) Fail - 40 scores or less, which means that the student's diligence is not sufficient a student has to learn the subject all over again. Student can pass the additional exam during the same semester. The time interval between the final and the additional exams should be not less th 10 days
The basic literature	1. Peter J. Delves, Seamus J. Martin, Dennis R. Burton, Ivan M. Roitt. **Roitt's Essential Immunology.** 12th Edition. Wiley –Blackwell. 2011. 2. Connie R. Mahon; Diane Tice. C**linical Laboratory Immunology**. Pearson prentice hall. New Jersey. 2006 3. Patrik R. Murray, Ken S. Rosenthal, Michael A Pfaller. **Medical Microbiology.** 7th edition. Elsevier. 2013. 4. Gordon MackPherson and Jon Austin. **Exploring Immunology. Concepts and Evidence.** Wiley –Blackwell. 2012.
The auxiliary literature	1. David Greenwood, Richard Slack, John Peutherer, Mike Barer. **Medical Microbioology**. A Guide to Microbial Infections: Pathogenesis, Immunity, Laboratory Diagnosis and Control. Seventh edition. Elsevier. 2007.

The tutorial/learning course content (week by week)

Week	Topics	Lecture (hour)	Work in group Appl. (hour)	Lab
	Introduction to Infectious Agents and Mechanisms, Immunologic Disorders Committee; Basics of immunology [1: 3-113 p; 2: 11-27p; 56-64 p]; Laboratory techniques [2: 202-214 p].	5	1	
	Morphologic, biochemical and epidemiologic features of bacteria, their pathogenicity, the infection they cause, their diagnosis and treatment; Immune response [3: 109-147 p].	5	1	
	Self Tolerance and autoimmunity [1: 475-510p; 2:135-147 p]; immune deficiency [1: 369-393 p; 2:155-164 p]; medically important fungi; the diagnosis and treatment of fungi related disorders.	5	1	
	Antibiotics; Infection in the organ systems; Transplantation Immunology [1:423-445p; 2:170-183 p]; Tumor Immunology [1: 445-475p; 2: 188-198 p];	5	1	
	Epidemiology and Prevention of Infection; Viruses, the diseases they are associated with, the prevention, diagnosis and treatment of these infections [4: 49-96 p; 2:102-130 p].	5	1	
	Midterm Exam		2	
	Laboratory Safety. Main Immunological Methods [1: 141-188 p; 2:202-214 p].		2	4
	Diagnostic of Bacterial Infectious Diseases. Case points.		4	2
	Diagnostic of Virus Infectious Diseases. Case points.		4	2
	Diagnostic of Fungal Infectious Diseases. Case points.		4	2
	Clinical Case points		6	
	Project (ppt Presentation)		6	
	Clinical case points		5	
	Final Exam		2	

Learning Outcomes

Criteria	Competences

Knowledge and understanding	At the end of this course students will be able to: • describe components, function and the disorders of immune system • describe morphologic, biochemical and epidemiologic features of bacteria, their pathogenicity, the infection they cause, their diagnosis and treatment • explain classification of viruses, the diseases they are associated with, the prevention, diagnosis and treatment of these infections • classify medically important fungi and explain their morphology, the diseases they cause, the diagnosis and treatment of these diseases • describe structure, life cycle, and epidemiology of parasites and the clinical manifestations, laboratory diagnosis and the treatment of the diseases they cause • list the mode of infectious disease transmission and laboratory test to diagnose the microorganisms • explain the importance of sterilization and disinfection in human health • perform basic staining techniques in microbiology • explain and perform how to culture microorganisms interpret a laboratory report and realize the importance of clinics and laboratory communication
Ability of knowledge application	Will be able to choose laboratory methods independently. Will be able to have ability and skills which is necessary for Infection disease prevention
Analysis and Synthesis (ability to do the appropriate conclusions)	Will be able: • to clearly identify and formulate the problems, analyse the expected / potential outcomes and make final decision; • to make conclusion, right interpretation of the test results, detection of the errors.
Ability of Communication	Is able to discuss conclusions, arguments and research results with academic and professional community. To present information by effective use communication technologies