

1.	Subject	MICROBIOLOGY AND PARASITOLOGY 1
2.	Code	OM 224
3.	Study Program	General Medicine
4.	Organizing Institution (Unit, Institute, Chair, Department)	UKIM-Faculty of Medicine Cathedra of Microbiology and Parasitology
5.	Educational degree (first or second cycle)	Integrated cycle

6.	Study year/semester	II year / IV semester	4	Number of ECTS credits	4
8.	Responsible teacher	Head of department/cathedra Prof. Dr. Zaklina Cekovska Teaching is conducted by following members of the Cathedra of Microbiology and Parasitology			
9.	Preconditions:	Completed course in Medical Microbiology 1			
10.	Teaching goals of the study program (competencies): Course objectives (competencies): This course program aims to enable students: <ul style="list-style-type: none"> • To gain knowledge about different types of micro-organisms; to study their morphology and physiology; • Get to know the prevalence of microorganisms in different ecosystems and their mutual associations, including the normal microflora of the host; • To study the genetics of bacteria; • To gain insights into the factors of virulence of microorganisms and to widen the understanding of the pathogenesis of infections they cause; • To be able to successfully and accurately setting microbiological diagnosis of various infectious conditions; • To explore susceptibility testing methods of the causative pathogens, which also represents a prerequisite for successful therapy (extremely important in their further medical practice). 				

11.	<p>Content of the study program:</p> <p>Theoretical course:</p> <ul style="list-style-type: none"> • Introduction to Microbiology; • Morphology and structure of microorganism; • Physiology of the microorganisms; • Genetics of microorganisms; • Effect of physical and chemical agents on microorganisms; • Distribution of microorganisms and their interactions; • Pathogenicity of microorganisms and pathogenesis of infections; • Selected host of pathogens; • Basic principles of microbiological diagnosis <p>Practical classes:</p> <ul style="list-style-type: none"> • Purpose and method of operation of microbiological laboratories; • Microscopic examination of micro-organisms; • Isolation and cultivation of microorganisms; • Examination of the biochemical activity of micro-organisms; • Sterilization and disinfection; • Application of serological reactions in laboratory diagnostics; • Techniques to investigate the antimicrobial effect; • Proper sampling, transporting and processing of samples for microbiological examination; 			
12.	<p>Methods of studying:</p> <p>Interactive teaching, practical course, seminars</p>			
13.	Total number of hours:		120 hours	
14.	Distribution of available time:			
15.	Type of educational activity	15.1	Lectures-theoretical course	30 hours teaching
		15.2	Practical (laboratory, clinical), seminars, team work	30 hours practical course/seminars
		16.1	Home study	60 hours
17.	Assessment of knowledge:			points

17.1	Tests			min. - max
		1. Continuous tests		
		✦ Selected parts from theoretical microbiology		
		points		12 - 20
		2. Continuous test from first practical part (first half) plus theoretical second part		
		points		18 - 30
	Final exam	Oral part	points	min.- max. 21 - 34
17.2	Seminar work/project (presentation: written and oral)	Seminar work	points	min. – max. 0 - 3
17.3	Active participation			min.- max.
		Theoretical course	points	1 - 3
		Practical course	points	8– 10
		Attendance at theoretical course		
		51% - 60% = 1 point		
		61% - 91% = 2 points		
		91% - 100% = 3 points		
		Practical course (24 practical course of 3 hours)		
18.	Knowledge assessment criteria: (points/grade)	to 59 points		5 (five) F
		from 60 to 68 points		6 (six) E
		from 69 to 76 points		7 (seven) D
		from 77 to 84 points		8 (eight) C
		from 85 to 92 points		9 (nine) B

		from 93 to 100 points	10 (ten) A		
19.	Criteria for obtaining a signature and taking the final exam	Conditional criteria for assessment of knowledge: Knowledge assessment criteria: <ol style="list-style-type: none"> 1. Students need 70% from a total points (from presence of theoretical and practice work) should receive approval for their attendance (sign document). 2. In order to take the final exam, the student has to win a minimum of 60% of the two continual assessment tests. 3. The minimum passing score for the final examination is 60% out of the total points. 			
20.	Language of the course	Macedonian			
21.	Method for evaluation of the quality of education	Anonymous evaluation by students on the subject, teaching staff, and associates participating in the teaching.			
22.	Literature:				
	Mandatory literature				
	No.	Author	Title	Publisher	Year
	1	Jawetz E, Melnik II, Adelberg EA.	Medical Microbiology		21 th ed., 2004
22.1		Grinvud D.	Medical Microbiology		17-rh edition, 2006
	2	Nikola Panovski and ass.	General Microbiology	University "Ss. Cyril and Methodius" Medical faculty	2011
	3	Milena Petrovska and ass.	Practical Microbiology	University "Ss. Cyril and Methodius" Medical faculty	5 th ed., 2010