



## Subject card

Subject name and code	MICROBE POWER AND DIVERSITY: IN HEALTH AND SOCIETY, PG_00037418						
Field of study	Biotechnology						
Date of commencement of studies	October 2020	Academic year of realisation of subject			2023/2024		
Education level	first-cycle studies	Subject group			Obligatory subject group in the field of study		
Mode of study	Full-time studies	Mode of delivery			at the university		
Year of study	4	Language of instruction			English		
Semester of study	7	ECTS credits			1.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Laboratorium Genetyki Bakterii -> Faculty of Chemistry						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr Satish Raina				
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	0.0	0.0	15
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	15		1.0		9.0	25
Subject objectives	Microbial diversity, transcriptional reprogramming, regulation of key cellular virulence factors.						
Learning outcomes	Course outcome		Subject outcome			Method of verification	
	K6_W04		After completing the course, students are able to describe and explain the diversity of microorganisms according to the state of the art in molecular biology. Students are able to evaluate and discuss key issues such as diversity in the adaptive response and recruitment of various transcription factors contributing to microbial diversity.				
	K6_K04		The student knows and understands how bacteria quickly change and reprogram their transcription machines. Students are able to demonstrate and appreciate key concepts of bacterial virulence and transcription programming.				
Subject contents	Microbial diversity reflecting different ecological niches. Molecular basis of pathogenicity and symbiosis in bacteria. Bacteria, virulence factors. Regulation and variety of adaptation of responses to various environmental conditions. Transcription reprogramming and control by various sigma factors and regulatory RNA under various conditions. Organization of transcription units and basic concepts in the regulation of transcription.						
Prerequisites and co-requisites	Basic biology, microbiology and molecular biology.						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	test		60.0%		100.0%		
Recommended reading	Basic literature		Molecular Genetics of Bacteria. Larry Snyder and Wendy Champness				
			Lewin's Genes XII. Jocelyn E. Krebs, Elliott S. Goldstein, Stephen T. Kilpatrick				

	Supplementary literature	Molecular Biology of the Cell. Bruce Alberts, Alexander Johnson, Julian Lewis, Martin Raff, Keith Roberts, Peter Walter
	eResources addresses	
Example issues/ example questions/ tasks being completed	diversity of microbial transcription processes, virulence factors and their regulation	
Work placement	Not applicable	