COURSE DESCRIPTION (SYLLABUS)

1.	Course: **Molecular Organization of Bacterial Cell**	
2.	Language of instruction: **English**	
3.	Faculty: **Faculty of Biotechnology**	
4.	Course/module code: **29-BT-S2-E1-EngMob**	
5.	Course/module type (*mandatory* or *elective*): **mandatory**	
6.	Programme: **Medical Biotechnology**	
7.	Study cycle: **2nd cycle**	
8.	Year: **1st**	
9.	Semester (*autumn* or *spring*): **Autumn**	
10.	Form of tuition and number of hours: **Lecture, 15 h**	
11.	Name, Surname, academic title: **Dagmara Jakimowicz, Prof.**	
12.	Initial requirements (knowledge, skills, social competences) regarding the course/module and its completion **Knowledge in microbiology, biochemistry and molecular biology.**	
13.	Objectives: **Gaining the knowledge of bacterial cell biology. Learning about the molecular mechanisms and basic cell processes in bacteria. Obtaining the knowledge about bacterial subcellular structures and action of antimicrobials.**	
14.	Content: **Research methods of bacterial cell biology.** **Growth and cell cycle of bacteria.** **Chromosome organization and gene expression.** **Replication and segregation of bacterial chromosomes and plasmids.** **Cell division and sporulation.** **Cell membrane and cell wall, cytoskeletal structures, flagellum, tranporters.** **Bacterial movement, biofilm.**	
15.	Learning outcomes: Students: • **provide qualitative and quantitative descriptions**	Outcome symbols:

	of complex microbiological processes; • **consistently apply and disseminate the principle of strict interpretation of microbiological processes in research based on empirical data;** • **possess advanced knowledge of microbiology;** • **possess in-depth knowledge of microbiology essential in understanding relationships and interrelations in biological systems;** • **possess knowledge of the current issues prevailing in scientific literature;** • **have the ability to plan research in microbiology;** • **efficiently make use of scientific literature in the field of molecular microbiology, read professional literature in English;** • **collect and interpret experimental data, synthetize it and make appropriate conclusions;** • **understand the need for a systematic review of professional literature in order to broaden and deepen his or her knowledge.**	K_W01, K_W02, K_W03, K_W04, K_W05, K_W07, K_U02, K_U06, K_K05

16.	Recommended literature: • **Joan L. Slonczewski and John W. Foster „*Microbiology. An evolving sience*";** • **Michael T. Madigan, John M. Martinko, Kelly S. Bender, Daniel H. Buckley, David A. Stahl, Thomas Brock "*Brock Biology of Microorganisms*".**	
17.	Methods of verification of the assumed learning outcomes: **Lecture quizzes, written exam – multiple choice test and open questions.**	
18.	Conditions of earning credits: • **lecture quizzes** • **exam**	
19.	Student's workload:	
	Activity	Number of hours for the activity
	Hours of instruction (as stipulated in study programme): **lecture**	**15 h**
	Student's own work: **preparation for lectures and exam**	**20 h**
	Total number of hours:	**35 h**
	Number of ECTS:	**2 ECTS**