

COURSE DESCRIPTION (SYLLABUS)

1.	Course: Microbiology
2.	Language of instruction: English
3.	Faculty: Faculty of Biotechnology
4.	Course/module code: 29-BT-S1-E4-EnMBc
5.	Course/module type (<i>mandatory or elective</i>): mandatory
6.	Programme: Biotechnology
7.	Study cycle (<i>1st/2nd</i>): 1st cycle
8.	Year: 2nd
9.	Semester (<i>autumn or spring</i>): spring
10.	Form of tuition and number of hours: Laboratories: 30 h Learning methods: Students perform experiments, solve computational tasks, work individually and/or in groups, analyse results, solve problems.
11.	Coordinator(s): Dorota Dziadkowiec, PhD
12.	Initial requirements (<i>knowledge, skills, social competences</i>): Basic knowledge of chemistry and biochemistry and data from concomitant Microbiology lecture.
13.	Objectives: Learning the basic methods of culturing bacteria and studying their physiological characteristics.
14.	Content: Preparation and sterilisation of culture media for bacteria; learning sterile techniques for plating bacteria, learning bacterial staining and microscopy techniques, performing experiments, solving computational tasks, working individually and/or in groups,

analysing results, solving problems....		
1.	<p>Learning outcomes:</p> <p>Student:</p> <ul style="list-style-type: none"> • can make a qualitative and quantitative description of the basic microbiological phenomena and processes; • is able to link theoretical knowledge of microbiology and microbial biochemistry with practical application during laboratory work; • is familiar with the basic principles of health, safety and ergonomics procedures in the laboratory; knows procedures of work with genetically modified microorganisms; • applies basic physical and biochemical techniques necessary for the study of microbiological processes; • uses basic statistical methods and computer technology to describe microbiological phenomena and analysis of experimental data; • knows how to work as a team, works together to solve problems and performing scientific experiments • knows and follows the rules of safety and health at work. 	<p>Outcome symbols:</p> <p>K1_W01</p> <p>K1_W09</p> <p>K1_W10</p> <p>K1_U01</p> <p>K1_U06</p> <p>K1_U13</p> <p>K1_K05</p>
2.	<p>Obligatory and recommended literature:</p> <ul style="list-style-type: none"> • Madigan, Martinko, Stahl, Clark (2011) <i>Brock Biology of Microorganisms</i>. Pearson. 	
3.	<p>Methods of verification of the assumed learning outcomes:</p> <ul style="list-style-type: none"> • 2 written tests, • 2 written reports, • 1 practical test. 	
4.	<p>Conditions of earning credits:</p> <ul style="list-style-type: none"> • active participation in classes, • correct performance of experiments, • proper preparation of reports, • positive results of two written tests, • positive result of the practical test. 	
5.	Student's workload:	
	Activity	Number of hours for the activity
	<p>Hours of instruction (as stipulated in study programme)</p> <ul style="list-style-type: none"> • laboratory classes: 30 h 	30 h

	Student's own work: <ul style="list-style-type: none">• preparation for classes: 10 h• analysis of results: 3 h• writing reports: 4 h• preparation for tests: 5 h	22 h
	Total number of hours:	52 h
	Number of ECTS:	2 ECTS