



Subject card

Subject name and code	Basic biotechnology, PG_00038535						
Field of study	Chemical Technology						
Date of commencement of studies	February 2024		Academic year of realisation of subject		2024/2025		
Education level	second-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	1		Language of instruction		Polish		
Semester of study	2		ECTS credits		3.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Pharmaceutical Technology and Biochemistry -> Faculty of Chemistry						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Piotr Szweda				
	Teachers		dr hab. inż. Piotr Szweda dr inż. Karolina Matejczuk				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	15.0	0.0	0.0	45
	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	45		5.0		25.0	75
Subject objectives	Presenting students the possibilities of application and achievements of biotechnology in medicine, environment protection and agriculture.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	K7_U08		The student has systematic knowledge of the possibilities of using biotechnology in various branches of industry, medicine and environmental protection. The student is able to assess the positive and negative consequences of using achievements in the field of biotechnology and related sciences.		[SU2] Assessment of ability to analyse information		
	K7_W07		The student knows the basic biotechnological processes used in industry to obtain specific food products, medicinal products or biochemicals.		[SW1] Assessment of factual knowledge		
Subject contents	Historical view Subject and scope of biotechnology Basic knowledge in the field of cell biology and the genetics of microorganisms The use of biotechnology in environmental protection Receiving biofuels GM crops Biometallurgy and bioremediation Obtaining selected bioproducts: organic acids, enzymes, biopolymers, biopesticides, medicines						
Prerequisites and co-requisites	Basic knowledge in the field of microbiology, biochemistry and organic chemistry.						

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	labs	60.0%	20.0%
	lecture	60.0%	80.0%
Recommended reading	Basic literature	Podstawy biotechnologii przemysłowej, (BednarskiW., Fiedurko J., red.) WNT Warszawa 2007.Chmiel A., Biotechnologia, PWN Warszawa, 1991.	
	Supplementary literature	Biotechnologia żywności, (Bednarski W., Reps A. red.) WNT Warszawa, 2001; Podstawy biologii komórki, PWN Warszawa, 2005	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	Differences in cell structure of eukaryotes and prokaryotes Explain the concept of BZT5 Benefits and risks of growing GMOs Preparation, construction and advantages and disadvantages of biopolymers / biopesticides		
Work placement	Not applicable		

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