



Subject card

Subject name and code	OPEN DATABASES , PG_00069990						
Field of study	InfoBioChem						
Date of commencement of studies	February 2027		Academic year of realisation of subject		2026/2027		
Education level	second-cycle studies		Subject group		Obligatory subject group in the field of study Subject group related to scientific research 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	1		ECTS credits		2.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Biotechnology and Microbiology -> Faculty of Chemistry -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Anna Brillowska-Dąbrowska				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	15.0	0.0	0.0	30
	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	30		2.0		18.0	50
Subject objectives	The aim of the Open Databases InfoBioChem course is to prepare students for independent and informed use of scientific information resources in the fields of biology, biochemistry and chemistry. The course is designed to enable students to acquire skills in searching, selecting, critically evaluating and integrating data from various open databases, such as sequence, structure, omics and chemical information databases. Within the course, students develop competences that allow them to use data resources in experimental design, analysis of research results and solving research problems typical of the areas of bioinformatics and chemoinformatics.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K7_W06] knows open biological and chemical databases and the principles of their proper use - appropriate to the curriculum InfoBioChem		The student has the knowledge necessary to correctly interpret the data contained in the specified databases.		[SW1] Assessment of factual knowledge		
	[K7_U01] is able to use databases in the field of exact and natural sciences - appropriate to the educational program InfoBioChem		The student is able to search for information in databases in the field of exact and natural sciences relevant to the InfoBioChem programme and is able to deposit information in at least one of them.		[SU4] Assessment of ability to use methods and tools		
	[K7_K04] is ready to effectively organize their work time, including reliably meeting deadlines for completing specific tasks.		The student is able to prepare and submit a project report to the teacher within the specified deadline and in the required form.		[SK3] Assessment of ability to organize work		

Subject contents	Course content – lecture The course content includes an introduction to the concept of open science and the importance of open databases in research in the life sciences and chemical sciences. The basic types of biological and chemical databases are discussed, including nucleotide and protein sequence databases, macromolecular structure databases, omics data repositories, as well as resources containing information on chemical compounds and their properties. Students become familiar with simple and advanced search methods, the use of filtering tools, and strategies for combining information from different sources.		
	Course content – laboratory In the practical part, students carry out tasks involving the acquisition and integration of data for specific research problems, the analysis of sequences and structures, work with omics data and chemical information. The content also includes the use of application programming interfaces and tools supporting the automation of data retrieval. Students learn how to prepare reports on the analyses performed and how to correctly interpret the results in the context of bioinformatics and chemoinformatics.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Written test (lecture)	60.0%	50.0%
	Project task - bio (project)	60.0%	25.0%
	Project task - chem (project)	60.0%	25.0%
Recommended reading	Basic literature	Scientific articles recommended by the teacher	
	Supplementary literature	Scientific articles recommended by the teacher	
	eResources addresses		
Example issues/ example questions/ tasks being completed	1. Identification of a gene sequence in the NCBI database and preparation of a dataset for further phylogenetic analysis		
	2. Search and characterisation of a selected compound in a chemical database and preparation of data for subsequent stages of analysis.		
Practical activities within the subject	Not applicable		

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