University of Gdańsk

Subject card

Subject name and code	Small Molecule Drug Design, PG_00191214		
Field of study	Bioinformatics		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2028/2029
Education level	Bachelor's studies	Subject group	Optional subject group 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	3	Language of instruction	Polish
Semester of study	6	ECTS credits	3.0
Learning profile	academic	Assessment form	credit
Conducting unit	Faculty of Mathematics, Physics and Informatics -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	mgr inż. Kamila Jarzyńska	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	0.0	30.0	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	0.0	45.0	75

Subject objectives

To familiarise students with issues related to the mechanisms of action of chemotherapeutics To familiarise students with the current state of knowledge on strategies and methods for designing new chemotherapeutics

Learning outcomes

Course outcome	Subject outcome	Method of verification
[BIOINL3_U02] Graduate is able to apply knowledge of natural sciences and science to formulate, analyze and solve problems related to bioinformatics	Student is able to apply basic computer-aided drug design methods to analyse relationships between the properties of small molecules and their biological activity, as well as to develop and evaluate a simple predictive model.	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report
[BIOINL3_K03] Has an awareness and understanding of the risks and dilemmas, including ethical dilemmas, involved in conducting scientific research and introducing advanced technologies; understands and appreciates the importance of intellectual property; acts ethically	Student is ready to critically evaluate the results obtained using computer-aided drug design methods and is aware of the limitations and responsibilities associated with their use in the search for new biologically active compounds.	[SK1] oral statement/conversation/ discussion [SK2] presentation/project/paper/ report
[BIOINL3_U05] Graduate has the ability to use scientific literature, including English-language sources on bioinformatics; has the ability to use appropriate databases	Student is able to search for and use information on small molecules and their biological activity, and to select data required for computer-aided drug design.	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report

Subject contents	Quantitative ways of expressing biological activityModelling structure-activity relationshipsBasic techniques in QSAR modellingReview of off-the-shelf models design of new commercially available drugs.
Prerequisites and co-requisites	

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
reports and prezentations	51.0%	100.0%

Recommended reading

Basic literature	Scientific publications
Supplementary literature	Scientific publications
eResources addresses	

Example issues/ example questions/ tasks being completed	
Work placement	Not applicable

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