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		dr inż. Karolina Jagiełło				
	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_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	Upon completion of the course, each student: knows what the basic mechanisms of action of chemotherapeutics are knows what the design of new drugs is knows the basic computer-based methods used in drug design will list the main challenges facing (Q)SAR methods;	[SK1] oral statement/conversation/ discussion [SK2] presentation/project/paper/ report
[BIOINL3_U02] Graduate is able to apply knowledge of natural sciences and science to formulate, analyze and solve problems related to bioinformatics	Upon completion of the course, each student: recognises the benefits of using computer methods in the context of social (improving the quality of life of society), ethical (reducing the number of animal testing) and economics (reduced costs of research); understands the need for further learning; demonstrates creativity in group work; shows responsibility for his/her work.	[SU1] oral statement/conversation/ discussion [SU2] 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	Upon completion of the course, each student: can independently build a simple (Q)SAR model, correctly perform its validation, and make a prediction of the dependent variable based on the values of the structure descriptors; critically verifies the modelling results obtained and is able to relate them to the current legislation.	[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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