University of Gdańsk

Subject card

Subject name and code	Introduction to the methodology of experimental research, PG_00146881		
Field of study	Genetics and Experimental Biology		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2024/2025
Education level	undergraduate 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	1	ECTS credits	2.0
Learning profile	academic	Assessment form	
Conducting unit	Faculty of Biology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Monika Glinkowska	
	Teachers	dr hab. Monika Glinkowska	

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	4.0	16.0	50

Subject objectives	Understaning the basis of planning and conducting experiments with emphasis on control of the experimental system

Learning outcomes

Course outcome	Subject outcome	Method of verification
[GBEL3_W05] the principles of research planning based on achievements in biological sciences and related fields, the potential application of their results in practice, the principles of operation of equipment and apparatus used in molecular genetics research, and the principle of interpreting biological phenomena and processes based on empirical data in research and practical activities, with consideration for sustainable use of biological diversity.	Student knows the principles of planning research based on achievements in biological sciences and related fields, and the possibility of using their results in practice, as well as the principles of functioning of equipment and apparatus used in molecular genetics research	[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report [SW5] implementation of a problem task
[GBEL3_W09] principles of safety and hygiene, as well as ergonomics in the workplace.	Student determines basic principles of safety, hygiene, and ergonomics at work	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion
[GBEL3_U01] Independently perform practical tasks in the field of biological sciences and related disciplines, formulate research problems, analyze their results, and draw conclusions.	Student independently performs practical tasks in the field of biological and related sciences, formulates research problems, analyzes their results, and draws conclusions.	[SU6] demonstration of practical skills [SU8] observation of student's independent or team work
[GBEL3_U03] Proficient in using research equipment and tools, while following the correct sequence of procedures, to conduct basic physical, biological, or chemical observations and measurements in laboratory work within the field of biological sciences.	Student uses basic research equipment and tools and, while maintaining the correct sequence of actions, performs simple physical, biological or chemical observations and measurements in laboratory work in the field of biological sciences	[SU6] demonstration of practical skills [SU7] entries and opinions in the internship diary
[GBEL3_K08] Responsibility for entrusted equipment/materials and respect for the work of others.	Student Is responsible for the entrusted equipment/materials, his/her own work and respects the work of others	[SK8] observation of student's independent or team work

Subject contents

- laboratory safety
- basic laboratory tasks: preparing buffers, using an automatic pipette, operating a pH meter, sterile work
- planning experiments: controlling the experimental setup, pilot experiments, positive and negative controls, difference between hypothesis and research model
- conducting simple experiments illustrating the program content and writing a report

Prerequisites and co-requisites

none

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
	50.0%	50.0%
	50.0%	50.0%

Recommended reading

Basic literature	Kathy Barker, At the bench: a laboratory navigator, Cold Spring Harbor Laboratory Press, 2004
Supplementary literature	Kathy Barker, At the bench: a laboratory navigator, Cold Spring Harbor Laboratory Press, 2004
eResources addresses	Adresy na platformie eNauczanie:

Example issues/ example questions/ tasks being completed

Work placement

Not applicable

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