University of Gdańsk

Subject card

Subject name and code	Statistical methods in biology and medicine, PG_00207331		
Field of study	Biology		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2026/2027
Education level	Master's 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	credit
Conducting unit	Department of Vertebrate Ecology and Zoology -> Faculty of Biology -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. Włodzimierz Meissner	
	Teachers	prof. dr hab. Włodzimierz Meissner	

Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	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	To understand the basic concepts related to descriptive statistics and the verification of statistical hypotheses. To learn and understand methods of analysing numerical data. To acquire the ability to select methods for statistical analysis. To acquire skills in the use of computer statistical programs.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[BIOLMU2_U05] is able to use statistical methods and IT techniques and tools to describe biological phenomena and analyze specialized data	Ability to use learned data analysis techniques to describe biological phenomena, including data of a specialised nature.	[SU4] test/exam - oral or written
[BIOLMU2_W07] knows specialized bioinformatics tools, useful in solving problems in the studied speciality of biological sciences	Ability to use specialised software for statistical analysis of data.	[SW4] test/exam - oral or written
[BIOLMU2_W06] knows statistical tools appropriate to the problems of the studied speciality of biological sciences	Ability to use methods of statistical analysis of data.	[SW4] test/exam - oral or written
[BIOLMU2_W02] has a thorough knowledge and applies the principle of rigorous, empirically based interpretation of biological phenomena and processes in research and practical activities	Ability to correctly interpret the results of statistical analysis.	[SW4] test/exam - oral or written
[BIOLMU2_U06] is able to use the acquired specialist knowledge in the field of biological sciences to interpret the collected empirical data and draw conclusions	Ability to interpret the results of statistical analysis.	[SU4] test/exam - oral or written
[BIOLMU2_K06] is ready to take responsibility for assessing the risks arising from the research techniques used and creating ergonomic and safe working conditions	Ability to assess potential problems arising from faulty data analysis.	[SK4] test/exam - oral or written

Subject contents

Reinforcement of basic concepts in descriptive statistics and statistical hypothesis testing. Testing hypotheses about differences between means and relationships between variables. Analysis of covariance. Linear models. Ways of assessing the consistency of measurement methods.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
test of 30 questions	51.0%	100.0%

Recommended reading

Basic literature	Meissner W.2010. Przewodnik do ćwiczeń z przedmiotu metody statystyczne w biologii. Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk.
Supplementary literature	Stanisz A. 2006. Przystępny kurs statystyki z zastosowaniem STATISTICA PL na przykładach z medycyny. Tom 1. Statystyki podstawowe. StatSoft,, Kraków. Stanisz A. 2007.Przystępny kurs statystyki z zastosowaniem STATISTICA PL na przykładach z medycyny. Tom 2. Modele liniowe i nieliniowe. StatSoft, Kraków. Ferguson G.A., Takane Y. 2008. Analiza statystyczna w psychologii i pedagogice. Wyd. III. Wydawnictwo Naukowe PWN, Warszawa.
eResources addresses	

Example issues/ example questions/ tasks being completed

Selection of tests to compare two samples.

Selection of tests to compare more than two samples.

Correlation and regression.

Analysis of covariance.

Work placement	Not applicable

Document generated electronically. Does not require a seal or signature.