University of Gdańsk

Subject card

Subject name and code	Populations and plant communities structure, PG_00207354		
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 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	1	Language of instruction	Polish
Semester of study	2	ECTS credits	1.0
Learning profile	academic	Assessment form	credit
Conducting unit	Laboratory of Freshwater Ecology -> Department of Plant Ecology -> Faculty of Biology -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Rafał Chmara	
	Teachers	dr Rafał Chmara	

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	15.0	0.0	0.0	0.0	15

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	15	2.0	8.0	25

Subject objectives

1. Knowledge of selected methods used in population ecology and ability to apply them.

2. Ability to describe the phytocenosis in light of the concept of population structure of vegetation.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[BIOLMU2_U07] is able to critically compare biological information from various sources and draw justified conclusions on this basis	The student analyses and correctly interprets fundamental issues relating to plant communities and populations, drawing on the knowledge they have acquired	[SU3] text preparation/written work
[BIOLMU2_W04] has in-depth knowledge of the chosen specialization in the biological sciences	Identifies and understands the conceptual apparatus used in plant ecology	[SW3] text preparation/written work
[BIOLMU2_W01] has a deep knowledge and understanding of natural phenomena and processes at various levels of complexity	Defines and understands the basic concepts of plant ecology	[SW3] text preparation/written work
[BIOLMU2_K01] shows initiative and is ready to act independently and feels the need for lifelong learning	He is able to learn independently	[SK8] observation of student's independent or team work
[BIOLMU2_K02] is ready to work effectively as a team member and to comply with the rules of teamwork and take responsibility for the tasks carried out	The student works as part of a small team whilst collecting data in the field, analysing results and drawing conclusions. They are responsible for their own work and adhere to the principles of teamwork. They discuss and ask questions about contemporary issues in plant ecology at various organisational levels and understand the need to keep this knowledge up to date	[SK8] observation of student's independent or team work
[BIOLMU2_U03] is able to critically analyze and select biological information, especially from electronic sources	Knows how to classify and verify the usefulness of plant ecology data/information	[SU3] text preparation/written work

Subject contents

Methods of studying the structure of populations and phytocenoses in natural natural systems. Structural and functional diversity of plant communities. Plant functional traits.
Methods of biometric and cartographic analysis, techniques for establishing plots. Statistical, numerical and cartographic tools for developing results. Concepts, approaches and methodological solutions applicable in solving practical problems of valorization and diagnosis of natural systems.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
report	51.0%	75.0%
written colloquium	51.0%	25.0%

Recommended reading

Basic literature

Falińska K. 2021. Ekologia roślin. Wyd. Nauk. PWN, Warszawa, 512 pp.

Falińska K. 2002. Przewodnik do badań biologii populacji roślin. [W:] J. B. Faliński (red.) Vademecum Geobotanicum 4. PWN, Warszawa.

Pugnaire F., Valladares F. 2007. Functional plant ecology. CRC Press, Taylor & Francis, 746 pp.

	Supplementary literature	Chmara R., Banaś K., Szmeja J. 2015. Changes in the structural and functional diversity of macrophyte communities along an acidity gradient in softwater lakes. Flora 216: 57-64. Chmara R., Szmeja J., Robionek A. 2019. Leaf traits of macrophytes in lakes: Interspecific, plant group and community patterns. Limnologica 77. Wysocki Cz., Sikorski P. 2014. Fitosocjologia stosowana w ochronie i kształtowaniu krajobrazu. Wyd. SGGW, Warszawa. Roo-Zielińska E. 2014. Wskaźniki ekologiczne zespołów roślinnych Polski. PAN, Instytut Geografii i Przestrzennego Zagospodarowania, Warszawa. Szmeja J. 2006. Przewodnik do badań roślinności wodnej. Wyd. Uniwersytetu Gdańskiego, Gdańsk. Maarel E. van der ., Franklin J. 2013. Vegetation Ecology. Blackwell Publ., Oxford.
	eResources addresses	
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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