University of Gdańsk

Subject card

Subject name and code	Diversity of cryptogamic plants, PG_00207390						
Field of study	Biology						
Date of commencement of studies	October 2026		Academic year of realisation of subject		2026/2027		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study 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	1		ECTS credits		2.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Department of Plant Ecology -> Faculty of Biology -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Joanna Święta-Musznicka				
	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		2.0		18.0	50
Subject objectives	Learning about the diversity of cryptogamic plants. Learning about the functions of cryptogamic plants in ecosystems and the human economy. To review selected representatives of the different systematic groups of cryptogamic plants. Learning to identify algae, mosses, liverworts, horsetails and ferns.						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[BIOLL3_W03] knows and understands at an advanced level the principles of life functioning at the level of populations, biocenoses and ecosystems, the determinants of biological diversity as well as the mechanisms and molecular basis of the evolution of organisms	can describe the main systematic groups; is familiar with the latest systematic classifications and theories of plant evolution, taking into account the results of molecular research; and describes the basic concepts and mechanisms of evolution	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion [SW5] implementation of a problem task
[BIOLL3_W01] knows and understands at an advanced level the structure and functioning of organisms at all levels of the organization of life - from the cell (prokaryotic and eukaryotic), through tissues, organs, to the organism - as well as the relationships between them and their adaptations to the environment	can describe the basic structural components and explain the differences in the structure and function of prokaryotic and eukaryotic cells, using photoautotrophic organisms as an example	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion [SW5] implementation of a problem task
[BIOLL3_U01] is able to use basic research techniques and tools appropriate for the biological sciences and perform physical, chemical and biological observations and measurements in the laboratory and in the field, individually and in a team, while organizing her/his work appropriately and in a maintained way	uses basic equipment and research tools to collect, prepare, and identify cryptogamic plants, and follows the correct sequence of steps in laboratory and field work	[SU2] presentation/project/paper/ report [SU3] text preparation/written work [SU6] demonstration of practical skills

Subject contents

Methods of collecting and identifying cryptogamic plants for scientific and teaching purposes. Effects of habitat conditions and interspecific competition on the occurrence of plants. Cryptogamic plants in modern aquatic, marsh and terrestrial ecosystems. Identifying habitats of occurrence, identification of algae, bryophytes and ferns, collection of herbarium material, bioindicative value of plants. Basics of classification of cryptogamic plants in evolutionary terms. Characterisation of morphological and anatomical diversity of cryptogamic plants based on selected organisms. The use of cryptogamic plants in industry and medicine. Protection of cryptogamic plants in Poland.Field classes are organised at the beginning of the semester in the form of block classes (3 field trips of 5 lesson hours each) in Gdańsk and Sopot Kamienny Potok.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
practical pass IV	51.0%	7.7%
worksheets	51.0%	7.7%
presentation	51.0%	7.7%
exercise report	51.0%	7.69%
attendance	85.0%	0.0%
colloquium V	51.0%	7.69%
practical pass II	51.0%	7.69%
practical pass III	51.0%	7.69%
colloquium I	51.0%	7.69%
colloquium II	51.0%	7.69%
colloquium III	51.0%	7.69%
colloquium IV	51.0%	7.69%
colloquium VI	51.0%	7.69%
practical pass I	51.0%	7.69%

Recommended reading	Basic literature	Szweykowska A., Szweykowski J. 2020. Botanika, Systematyka T. 2. PWN, Warszawa. Wójciak H. 2007. Porosty, mszaki, paprotniki. Flora Polski. Multico, Warszawa. Podbielkowski Z., Rejment-Grochowska I., Skirgiełło A. 1979. Rośliny zarodnikowe. PWN, Warszawa. Ruggiero M. A, Cavalier-Smith T. i in. 2015. A higher level classification of all living organisms. PlosOne 10(4): e0119248. Kadłubowska J. 1976. Zarys algologii. PWN, Warszawa. Szweykowska A., Szweykowski J. 2017. Botanika, Systematyka T. 2. PWN, Warszawa.
	Supplementary literature	Kaźmierczakowa R. (red.). 2016. Polska czerwona lista paprotników i roślin kwiatowych. Instytut Ochrony Przyrody PAN, Kraków. Kremer B.P., Muhle H. 1998. Porosty, mchy, paprotniki. Leksykon przyrodniczy. Świat Książki, Warszawa. Szafran B. 1957. Mchy. T. 1, 2. Flora Polska. Rośliny zarodnikowe Polski i ziem ościennych. PWN, Warszawa. Vanderpoorten A., Goffinet B. 2010. Introduction to Bryophytes. Cambridge University Press. Mehltreter K., Walker L. R., Sharpe J. M. 2010. Fern Ecology. Cambridge Univ. Press, Cambridge.
	eResources addresses	
Example issues/ example questions/ tasks being completed	Characteristics of the main groups of photoautotrophic organisms according to the Cavalier-Smith system. Basis of classification in evolutionary terms. Morphological forms of organisms. Overview of aquatic photoautotrophs (e.g. Cyanobacteria, Bacillariophyceae, Phaeophyceae). Review of terrestrial forms with a dominant sporophyte (e.g. Tracheophyta: Lycopodiophytina).	
Work placement	Not applicable	

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