University of Gdańsk

Subject card

Subject name and code	Diversity of cryptogamic plants, PG_00154382		
Field of study	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 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 Polish
Semester of study	1	ECTS credits	2.0
Learning profile	academic	Assessment form	
Conducting unit	Katedra Ekologii Roślin -> Faculty of Biology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Joanna Święta-Musznicka	
	Teachers	dr Eugeniusz Pronin dr Olga Antczak-Orlewska mgr Rafał Ronowski	

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

Additional information:

making and observing preparations, observing herbarium materials, discussion, work in groups, preparation of reports and presentation

field classes: 9 hours - presentation of methods for collection of cryptogamic plants, recognition of selected species, collection of plant material, work in groups

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	6.0	14.0	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_U02] The graduate will be able to make observations individually and in teams, and carry out basic physical, biological and chemical measurements in the field or laboratory	makes observations of microscopic and macroscopic material and performs basic descriptions and measurements of organisms in the laboratory	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report [SU3] text preparation/written work [SU6] demonstration of practical skills
[BIOLL3_U01] The graduate will be able to use basic apparatus and research tools and follow the correct sequence of operations in laboratory and field work	uses basic equipment and research tools for the collection, preparation and identification of cryptogamic plants and follows the correct sequence of operations in laboratory and field work	[SU2] presentation/project/paper/ report [SU3] text preparation/written work [SU5] implementation of a problem task
[BIOLL3_W06] The graduate will know the characteristics, systematics and understand the evolution of selected groups of organisms including molecular basis and basic concepts and mechanisms of evolution	is able to characterise the main systematic groups of algae, bryophytes and ferns; is familiar with the latest systematic approaches and theories of evolution of cryptogamic plants, taking into account the results of molecular studies, and describes the basic concepts and mechanisms of evolution	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report [SW5] implementation of a problem task
[BIOLL3_W01] The graduate identify the constituent elements and explain the differences in the structure and function of prokaryotic and eukaryotic cells	can describe the basic structural elements and explain the differences in structure and function of a prokaryotic and eukaryotic cell using the example of photoautotrophic organisms	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report
[BIOLL3_K06] The graduate is prepared to take responsibility for the equipment/materials entrusted to them and for their own work and that of others	is responsible for the equipment/ materials provided and for his/her own work, and respects the work of others	[SK8] observation of student's independent or team work

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 I	51.0%	7.69%
practical pass II	51.0%	7.69%
practical pass III	51.0%	7.69%
practical pass IV	51.0%	7.7%
worksheets	51.0%	7.7%
presentation	51.0%	7.7%
exercise report	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%
colloquium V	51.0%	7.69%
attendance	85.0%	0.0%

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	Adresy na platformie eNauczanie:
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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