University of Gdańsk

Subject card

Subject name and code	Identification of cryptogamic plants - laboratory exercises, PG_00140887		
Field of study	Natural Resources Conservation		
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 Polish
Semester of study	1	ECTS credits	4.0
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 hab. Joanna Święta-Musznicka dr Olga Antczak-Orlewska dr Rafał Chmara mgr Rafał Ronowski dr Anna Pędziszewska	

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	0.0	60.0	0.0	0.0	60

E-learning hours included: 0.0

Additional information:
Teaching methods: discussion, work in groups, solving tasks, introduction to the class with multimedia presentation, making and observing preparations, observing herbarium materials, making drawings according to instructions, presentation of methods of cryptogamic plant collection, exercises in recognising selected species, collection of plant material and its processing.

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	60	5.0	35.0	100

Subject objectives

Learning about the diversity of cryptogamic plants. To become familiar with selected representatives of the different systematic groups of cryptogamic plants. Learning to identify algae, liverworts, mosses, horsetails and ferns. Learning about cryptogamic plants protected in Poland.

Learning outcomes			
	Course outcome	Subject outcome	Method of verification
	[OZPL3_U06] The graduate is able to make observations and perform basic physical, biological and chemical measurements in the field or laboratory	makes observations of cryptogamic plants and perform in the field or laboratory basic descriptions and measurements of organisms	[SU5] implementation of a problem task [SU6] demonstration of practical skills [SU8] observation of student's independent or team work
	[OZPL3_U01] The graduate is able to use basic apparatus and research tools and maintains the correct sequence of operations in laboratory and field work	uses basic research equipment and tools to identify and collect cryptogamic plants for the preparation and identification of plants, maintains the correct sequence of operations in field and laboratory work	[SU3] text preparation/written work [SU5] implementation of a problem task [SU6] demonstration of practical skills [SU8] observation of student's independent or team work
	[OZPL3_W04] The graduate possesses advanced knowledge and understanding of the characteristics, systematics, and evolution of selected groups of organisms, as well as the basic concepts and mechanisms of evolution	presents the characteristics of the main systematic groups of aquatic and terrestrial photoautotrophs and the evolution of cryptogamic plants	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion
	[OZPL3_K06] The graduate is prepared to demonstrate responsibility for their own and others' safe working conditions in the laboratory and in the field, and is able to recognise hazardous situations and take appropriate action	demonstrates responsibility for his/her own and others' safe working conditions in the field and laboratory and is able to recognise risk situations and take appropriate action	[SK5] implementation of a problem task [SK6] demonstration of practical skills [SK8] observation of student's independent or team work
	[OZPL3_K02] The graduate is ready to work effectively in a team, taking on different roles within it	can work effectively in a team in a variety of roles	[SK8] observation of student's independent or team work
	[OZPL3_U04] The graduate is able to plan and carry out simple research tasks in the biological sciences under the guidance of a supervisor	under the guidance of a mentor, plans and carry out simple research tasks in the field of observation and recognition of cryptogamic plants	[SU5] implementation of a problem task [SU6] demonstration of practical skills [SU8] 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, identifying algae, bryophytes and ferns. Bioindicative value of cryptogamic plants. Identification of protected species in Poland (classes in block form in the first part of the semester, 6 lesson hours each. Classes held in the Tricity Landscape Park, in Sopot, on the Sobieszewska Island and in Bieszkowice).Basics of the classification of cryptogamic plants from an evolutionary point of view. Characterisation of the morphological and anatomical diversity of plants based on selected organisms. Comparison of cryptogamic plant diversity and abundance in samples from aquatic, marsh and terrestrial ecosystems. Applications of cryptogamic plants in industry and medicine (class blocked after field classes).

Prerequisites and co-requisites	

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	practical pass VI	51.0%	7.14%
	colloquium I	51.0%	7.14%
	colloquium II	51.0%	7.14%
	colloquium III	51.0%	7.14%
	colloquium IV	51.0%	7.14%
	practical pass V	51.0%	7.16%
	practical pass IV	51.0%	7.14%
	practical pass III	51.0%	7.14%
	practical pass I	51.0%	7.14%
	practical pass II	51.0%	7.14%
	presentation	51.0%	7.14%
	exercise report	51.0%	7.14%
	worksheets	51.0%	7.16%
	colloquium V	51.0%	7.14%
	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	

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