

Subject card

Subject name and code	Diversity of cryptogamic plants, PG_00207391						
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		3.0		
Learning profile	academic		Assessment form		exam		
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	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		2.0		43.0	75
Subject objectives	Learning the diversity and evolution of cryptogamic plants. Understanding the functions of cryptogamic plants in ecosystems and the human economy. To review selected representatives of the different systematic groups of cryptogamic plants.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[BIOLL3_W01] The graduate 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 elements 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
	[BIOLL3_U09] The graduate is able to learn independently and plan her/his own development in an organized and controlled manner	learns independently in a targeted manner	[SU1] oral statement/conversation/ discussion [SU4] test/exam - oral or written
	[BIOLL3_U03] The graduate is able to search for, select and critically analyze information from various sources, including scientific literature and electronic databases, as well as read and understand scientific texts in Polish and English	reads and understands simple scientific biology texts in Polish and English	[SU1] oral statement/conversation/ discussion [SU4] test/exam - oral or written [SU8] observation of student's independent or team work
	[BIOLL3_K01] The graduate is ready to critically evaluate her/his biological knowledge and continuously update and develop it, taking into account scientific advances and the needs of practice	assesses their own knowledge and understands the need for continuous learning and development	[SK8] observation of student's independent or team work
	[BIOLL3_W03] The graduate knows and understands 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 ecological requirements of the major systematic groups of algae, bryophytes, and pteridophytes; is familiar with the latest systematic classifications and theories of plant evolution that incorporate 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
Subject contents	Contemporary classification systems of cryptogamic plants. Application of palaeobotanical and molecular methods in reconstructing plant evolution. The origins of life on Earth. The theory of serial endosymbiosis. Phylogenetic relationships and evolutionary trends. Characterisation of the main systematic groups of pro- and eukaryotic aquatic and terrestrial photoautotrophs: morphological and anatomical structure, life cycles, occurrence, ecological requirements, role in the natural environment, bioindication properties. Human use of cryptogamic plants in industry, medicine and forensics.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	egzamin	51.0%	100.0%
Recommended reading	Basic literature Hoek C. van den, Mann D. G., Jahns H. M. 1995. Algae. An introduction to phycology. Cambridge Univ. Press, Cambridge. Lee R. E. 1999. Phycology. Cambridge Univ. Press, Cambridge. Podbielkowski Z., Rejment-Grochowska I., Skirgiełło A. 1979. Rośliny zarodnikowe. PWN, Warszawa. Szweykowska A., Szweykowski J. 2020. Botanika, T. 1 i 2. PWN, Warszawa. Kadłubowska J. 1976. Zarys algologii. PWN, Warszawa.		

	Supplementary literature	Brodie J., Lewis J. 2007. Unravelling the algae, the past, present and future of algal systematics. The Systematics Association Special Vol. Ser. 75, CRC Press Taylor & Francis Group, New York. Mehltreter K., Walker L. R., Sharpe J. M. 2010. Fern Ecology. Cambridge Univ. Press, Cambridge. Ruggiero M.A., Cavalier-Smith T. i in. 2015. A higher level classification of all living organisms. PlosOne 10(4): e0119248. Schofield W. B. 1981. Introduction to bryology. Mac Millan, New York. Vanderpoorten A., Goffinet B. 2010. Introduction to Bryophytes. Cambridge University Press. Willis K.J., McElwain J. C. 2002. The evolution of plants. Oxford Univ. Press. Wójciak H. 2007. Porosty, mszaki, paprotniki. Flora Polski. Multico, Warszawa.
	eResources addresses	
Example issues/ example questions/ tasks being completed	history of botanical research; basics of organism classification; organism classification systems; Cavalier-Smith system; endosymbiosis theory; reconstruction of plant evolution; structure, occurrence and use of selected groups of photoautotrophs	
Work placement	Not applicable	

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