University of Gdańsk

Subject card

Subject name and code	Research methods in nature protection, PG_00146018		
Field of study	Biology		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2026/2027
Education level	undergraduate studies	Subject group	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	3	Language of instruction	Polish
Semester of study	5	ECTS credits	1.0
Learning profile	academic	Assessment form	
Conducting unit	Pracownia Geobotaniki i Ochrony Przyrody -> Katedra Taksonomii Roślin i Ochrony Przyrody -> Faculty of Biology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Renata Afranowicz-Cieślak	
	Teachers		

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. Learning the research methods used in botany and in the identification of lichenized fungi.

2. Ability to select and apply appropriate methods used in nature conservation.

3. Identification of lichenized plants and fungi at the species level.

4. Inventory and valorization of the selected area. 5. Analysis of vascular plant flora and lichen biota.

5. Analysis of vascular plant flora and lichen biota.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[BIOLL3_W15] The graduate knows and understands the rules, methods and techniques of field research in the natural environment and the possibilities of their use in nature conservation	- knows the basic rules, methods and techniques of conducting field research on plant cover and in the field of mycology and the possibilities of their use in nature conservation	[SW2] presentation/project/paper/ report
[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	- conducts observations and performs basic biological measurements in the field or laboratory	[SU2] presentation/project/paper/ report [SU6] demonstration of practical skills
[BIOLL3_K04] The graduate is ready to take responsibility for their own work and to follow the rules of teamwork and responsibility for shared tasks	- is responsible for his/her own work and complies with the principles of teamwork and responsibility for jointly performed tasks	[SK2] presentation/project/paper/ report

Subject contents

Basic legal acts regarding nature protection. Methods of collecting and storing data. Organization of field research. Selection of research methods appropriate to the research area and biology of lichenized plant and fungi species. Determining the principles of monitoring research, methods of developing and presenting monitoring data. Phytoindication and bioindication. Practical application of the latest research techniques in nature conservation and in the identification of lichenized fungi. Inventory and valorization of investment areas.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
final paper	51.0%	100.0%

Recommended reading

Basic literature

Cieśliński S., Czyżewska K., Fabiszewski J. 2006. Red list of the lichens in Poland. Red list of lichens in Poland. In: Mirek Z., Zarzycki K., Wojewoda W., Szeląg Z. (ed.) Red list of plants and fungi in Poland. Red list of plants and fungi of Poland. W. Szafer Institute of Botany, Polish Academy of Sciences, Kraków, pp. 7189.

Fałtynowicz W. 1995. The use of lichens to assess air pollution. Principles, methods, keys for determining selected species. CEEW Krosno Foundation, 141 pp.

Kaźmierczakowa R., Bloch-Orłowska J., Celka Z., Cwener A., Dajdok Z., Michalska-Hejduk D., Pawlikowski P., Szczęśniak E., Ziarnek K. 2016. Polish red list of ferns and flowering plants. Institute of Nature Conservation of the Polish Academy of Sciences, Kraków, 44 pp.

Markowski R, Buliński M. 2004. Endangered and endangered vascular plants of Gdańsk Pomerania. Acta Bot. Cassub., Monogr. 1: 175.

Regulation of the Minister of the Environment of October 9, 2014 on the protection of plant species. Journal Laws item 1409. Act of April 16, 2004 on nature protection. Journal Laws of 2004 No. 92 item 880.

Czarnota P. 1998. Lichens as indicators of environmental pollution - a review of lichen indicator methods. Przegląd Przyrodniczy IX(1-2): 55-72.

Lazarus M., Afranowicz-Cieślak R. (eds.). 2020. Red list of vascular plants of Gdańsk Pomerania. T. 1. Endangered species of coastal beaches, dunes and salt flats as well as brackish waters in the coastal zone. Univ. Publishing House Gdańsk, Gdańsk. - selected species descriptions.

Matuszkiewicz W. 2014. Guide to marking plant communities in Poland. Ed. Science. PWN, Warsaw, 537 pp.

	Supplementary literature	Dzwonko Z. 2007. Guide to phytosociological research. Institute of Botany, Jagiellonian University, Poznań-Kraków. Jóźwiak M. A, Jóźwiak M. 2013. The role of lichens as bioindicators in valorization of the environment. Natural Environment Monitoring, Vol. 14, pp. 3742. Mirek Z., Bieniek W., Sztorc A. 2007. DNA barcoding - a new tool for describing biodiversity. Botanical News 51(3/4): 41-50. Monitoring of natural habitats. Methodological guides. Environmental Monitoring Library, Warsaw. Ossowska E. 2021. Genus Parmelia in Poland. Taxonomic study. - University of Gdańsk Publishing House, Gdańsk. Act of October 3, 2008 on the provision of information on the environment and its protection, public participation in environmental protection and on environmental impact assessments. OJ 2008 No. 199 item 1227.
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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