University of Gdańsk

Subject card

Subject name and code	Pharmaceutical botany, PG_00147023		
Field of study	Genetics and Experimental Biology		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2025/2026
Education level	undergraduate studies	Subject group	Obligatory subject group in the field of study Optional subject group
Mode of study	full-time studies	Mode of delivery	at the university
Year of study	2	Language of instruction	Polish Polish
Semester of study	3	ECTS credits	2.0
Learning profile	academic	Assessment form	
Conducting unit	Katedra Taksonomii Roślin i Ochrony Przyrody -> Faculty of Biology		
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. Martin Kukwa	
	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

Additional information:
laboratory classes: performance of microscope slide experiments/design of experiments preceded by a multimedia presentation in each class

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	3.0	17.0	50

Subject objectives

1. Wyposażenie studenta w wiedzę z zakresu budowy i funkcji komórki roślinnej, tkanek i organów oraz budowy grzybów

2. Wykształcenie umiejętności identyfikowania i opisu tkanek, organów roślin metodami mikroskopowymi

3. Wyposażenie studenta w wiedzę o substancjach biologicznie czynnych produkowanych przez grzyby i rośliny

4. Wykształcenie umiejętności rozpoznawania gatunków roślin leczniczych i trujących na podstawie okazów świeżych i zielnikowych

5. Przegląd wybranych przedstawicieli poszczególnych grup systematycznych roślin (w tym glonów) i grzybów z uwzględnieniem gatunków farmakopealnych

Learning outcomes

Course outcome	Subject outcome	Method of verification
[GBEL3_W08] information technology applied in genetics and experimental biology.	Student has a general knowledge of science and technology (GM1_W08)	[SW4] test/exam - oral or written
[GBEL3_W04] applied knowledge in microbiology and plant biotechnology.	Student has a basic botanical knowledge of the biotechnology of microorganisms and plants and fungi (GM1_W04)	[SW4] test/exam - oral or written
[GBEL3_U03] Proficient in using research equipment and tools, while following the correct sequence of procedures, to conduct basic physical, biological, or chemical observations and measurements in laboratory work within the field of biological sciences.	Student uses basic equipment and research tools and, following the correct sequence of operations, performs simple physical, biological or chemical observations and measurements in laboratory work in the biological sciences (GM1_U03)	[SU6] demonstration of practical skills
[GBEL3_U01] Independently perform practical tasks in the field of biological sciences and related disciplines, formulate research problems, analyze their results, and draw conclusions.	Student is able to independently carry out simple practical tasks in biological and related sciences (GM1_U01)	[SU6] demonstration of practical skills
[GBEL3_K05] Responsibility for the safety of one's own work and others.	Student is responsible for the safety of his own work and that of others (GM1_K05)	[SK8] observation of student's independent or team work
[GBEL3_K07] Lifelong learning and updating knowledge in the field of molecular genetics and other disciplines.	Student understands the need for lifelong learning and updating knowledge in molecular genetics and other fields (GM1_K07)	[SK8] observation of student's independent or team work

Subject contents

1. Basics of botanical systematics (type, cluster, class, order, family, genus, species) and binominal nomenclature.
2. Biologically active substances, methods of studying their properties and their role in medicine.
3. Structure of the basic types of plant tissues: creative tissues; crumb tissues, reinforcing tissues, conductive envelope tissues.
4. Morphology of vascular plants (roots, shoots, stems, leaves, flowers, inflorescences, fruits).
5. Taxonomic overview of plants (including algae) and fungi including species of pharmacopoeial importance - includes knowledge of the most important features of the groups mentioned and recognition of selected species of medicinal plants and lichens.
6. Poisonous and medicinal plants and fungi in the Polish flora.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
colloquia: written form in the form of test questions and open questions, verifying the degree of mastery of the material	51.0%	50.0%
practical tests on identifying medicinal raw materials and plants, verifying the degree of mastery of the material covered;	51.0%	50.0%
Attendance and active participation in all classes (making preparations and experiments) is a prerequisite for successful completion of the course; 1 excused absence is allowed	100.0%	0.0%

Recommended reading

Basic literature

Szweykowska A., Szweykowski J. 2009. Botanika. Tom 1 i 2. PWN, Warszawa.

Broda B. 2002. Zarys Botaniki Farmaceutycznej. Wyd. Lekarskie PZWL, Warszawa.

Broda B., Mowszowicz J., 2000. Przewodnik do oznaczania roślin leczniczych, trujących i użytkowych, Wyd. Lekarskie PZWL, Warszawa.

	Supplementary literature	Müller E., Loeffler W. 1987. Zarys Mykologii. PWRiL, Warszawa. Bystrek J. 1997. Podstawy lichenologii. Wydaw. Uniwersytetu Marii Curie-Skłodowskiej Kubiak D., Kukwa M. 2011. Chromatografia cienkowarstwowa (TLC) w lichenologii. W: Dynowska M., Ejdys E. (red.). Mikologia laboratoryjna. Przygotowanie materiału badawczego i diagnostyka. Wydawnictwo Uniwersytetu Warmińsko-Mazurskiego w Olsztynie, s. 176190. Guzow-Krzemińska B., Kukwa M. 2013. Metody badawcze we współczesnej taksonomii porostów. Kosmos 62(1): 95103. Felczykowska A., Pastuszak-Skrzypczak A., Pawlik A., Bogucka K., Herman-Antosiewicz A., Guzow-Krzemińska B. (2017) Antibacterial and anticancer activities of acetone extracts from in vitro cultured lichen-forming fungi. BMC Complementary and Alternative Medicine 17:300. DOI: 10.1186/s12906-017-1819-8 .
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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