University of Gdańsk

Subject card

Subject name and code	Pharmaceutical botanic for chemists, PG_00157062						
Field of study	Chemistry						
Date of commencement of studies	October 2026		Academic year of realisation of subject	2028/2029			
Education level	Bachelor's studies		Subject group	Optional subject group			
Mode of study	full-time studies		Mode of delivery	at the university			
Year of study	3		Language of instruction	Polish			
Semester of study	6		ECTS credits	2.0			
Learning profile	academic		Assessment form	credit			
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Hanna Margońska				
	Teachers						

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	6.0	24.0	0.0	0.0	30

E-learning hours included: 0.0

Additional information:

24 hours of laboratory exercises + 6 hours of fieldwork

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	8.0	12.0	50

Subject objectives

1. basic knowledge of biologically active substances, methods of their extraction and preservation, methods and sources of their acquisition, forms of drugs and other useful substances2. knowledge of: standardization and nomenclature of pharmaceutical works, types and methods of preparation and preservation of pharmacopoeial materials, useful mixtures, safety principles, ecological and ethical responsibility3. identification of pharmacopoeial materials, their use in medicine and other useful forms, medicinal, poisonous and useful species based on fresh and herbarium specimens

Learning outcomes

Course outcome	Subject outcome	Method of verification
[CHEML3_U10] Prepares papers on various fields of chemistry in Polish and English, using acquired knowledge and skills as well as various sources of scientific information.	lifelong learning and updating knowledge in the field of biological fields. Subject outcomes. Has general knowledge in the field of science and technology.	[SU1] oral statement/conversation/ discussion [SU5] implementation of a problem task [SU6] demonstration of practical skills
[CHEML3_W03] Explains the relationship between the structure of matter and its observed properties.	Is able to independently perform theoretical and practical tasks in the field of biological and related sciences	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion [SW3] text preparation/written work [SW5] implementation of a problem task
[CHEML3_W01] Enumerates basic laws and theories in chemistry, physics, mathematics and biology.	Understands the need for lifelong learning and updating knowledge in the subject and other areas	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion [SW5] implementation of a problem task
[CHEML3_W05] Has basic knowledge of the chemical specialisation studied.	He is responsible for the safety of his own work and that of others.	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion [SW5] implementation of a problem task
[CHEML3_K02] Works individually demonstrating initiative and independence of activity and cooperates in a team fulfilling various roles in it.	Is able to independently perform simple practical tasks in the field of biological and related sciences	[SK1] oral statement/conversation/ discussion [SK3] text preparation/written work [SK4] test/exam - oral or written [SK5] implementation of a problem task
[CHEML3_U09] Is able to learn independently.	Has basic botanical knowledge used in the biotechnology of microorganisms, plants and fungi.	[SU1] oral statement/conversation/ discussion [SU4] test/exam - oral or written [SU8] observation of student's independent or team work
[CHEML3_K06] Raises her/his professional and personal competences by using information provided in various sources.	Uses basic research equipment and tools/materials and, following the correct sequence of activities, makes simple physical, biological or chemical observations and measurements in laboratory work in the field of life sciences	[SK5] implementation of a problem task [SK6] demonstration of practical skills [SK8] observation of student's independent or team work

Subject contents

1. Basics of botanical systematics (type, phylum, class, order, family, genus, species) and binomial nomenclature.2. Plant cell structure. Biologically active substances of plants (e.g. alkaloids, glycosides, flavonoids, mineral compounds, antibiotics and lichen acids, plant cytostatics).3. Structure of basic types of plant tissues: creative tissues; parenchymal, strengthening, covering and conducting tissues.4. Morphology of vascular plants (roots, shoots, stems, leaves, flowers, inflorescences, fruits).5. Taxonomic review of plants and fungi, including species of pharmacopoeial importance - includes knowledge of the most important features of the above groups and recognition of selected species of medicinal plants from the following systematic groups: kingdom Fungi with particular emphasis on lichens; Kingdom Plantae: gymnosperms (Pinophyta), angiosperms (Magnoliophyta Magnoliopsida: Ranunculales, Rosales, Lamiales, Apiales, Asterales; Liliopsida: Poales Liliale)s.6. Poisonous and medicinal plants and fungi in Polish flora.

Prerequisites and co-requisites

basic botanical and chemical knowledge, systematic

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
tests: written form in the form of test questions and open questions, verifying the degree of mastery of the material covered	51.0%	50.0%
practical tests on the recognition of medicinal raw materials and plants, verifying the degree of mastery of the completed batch of material	51.0%	50.0%
the condition for passing is attendance at all classes and active participation in them; 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. A.2 studied independently by the student: Szweykowska A., Szweykowski J. 2009. Botanika. Tom 1 i 2. PWN, Warszawa.
	Supplementary literature	Müller E., Loeffler W. 1987. Zarys Mykologii. PWRiL, Warszawa. Bystrek J. 1997. Podstawy lichenologii. Wydaw. Uniwersytetu Marii Curie-Skołodowskiej
	eResources addresses	
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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