University of Gdańsk

Subject card

Subject name and code	Plant originated substances in diagnostics, PG_00203462		
Field of study	Medical Biology		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2028/2029
Education level	Bachelor's studies	Subject group	Obligatory subject group in the field of study 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	2.0
Learning profile	academic	Assessment form	credit
Conducting unit	Department of Experimental Biology and Plant Biotechnology -> Faculty of Biology -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Wojciech Pokora	
	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

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	6.0	14.0	50

Subject objectives

To familiarise students with the practical aspects of the use of plant-derived substances in basic laboratory research and in biochemical and genetic diagnostics.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[BIOLMEDL3_W17] explains the relationship between the achievements of biology and related disciplines and the possibilities of their use in neuroscience and diagnostics, which can have an impact on socio-economic life	The graduate explains the relationship between plant-derived substances and the potential for their use in neuroscience and diagnostics.	[SW2] presentation/project/paper/ report
[BIOLMEDL3_K07] Is responsible for the equipment/materials entrusted to him and his own work and respects the work of others	Graduates are responsible for the equipment/materials entrusted to them and their own work, and respect the work of others	[SK8] observation of student's independent or team work
[BIOLMEDL3_U01] uses basic apparatus and research tools and, maintaining the correct sequence of operations, performs simple physical, biological or chemical observations and measurements in laboratory work in the biological or medical sciences	The graduate uses basic apparatus and, following the correct sequence of operations, performs simple biological or chemical observations and measurements in laboratory work.	[SU6] demonstration of practical skills

Subject contents

Methodology for working with plant material: techniques for collecting and storing test material, tissue homogenisation, isolation of substances for analysis. In vitro micropropagation as a method of obtaining plant material for the production of selected substances of diagnostic interest. Identification, isolation and testing of the activity of selected plant chemicals of potential diagnostic and therapeutic interest. Methods for creating stable and unstable (transient) plant expression systems. Selected techniques for the isolation, identification and activity testing of proteins of diagnostic significance, including recombinant proteins derived from plant tissues

<table>
<tr><td>Prerequisites and co-requisites</td><td colspan="3">lack</td></tr>
<tr><td>Assessment methods and criteria</td><td colspan="3"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>written projcect</td><td>51.0%</td><td>50.0%</td></tr>
<tr><td>completion of practical work for credit</td><td>51.0%</td><td>50.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td colspan="2">Malepszy S. (2018). Biotechnologia roślin. Wydawnictwo Naukowe PWN, Warszawa. (wybrane zagadnienia)</td></tr>
<tr><td>Supplementary literature</td><td colspan="2">Alvarez MA. (2014). Plant Biotechnology for Health. Springer International Publishing Switzerland (wybrane zagadnienia) Kopcewicz J., Lewak S. (red.). 2012. Fizjologia roślin. Wyd. PWN, Warszawa (wybrane zagadnienia) Szmidt-Jaworska, Kopcewicz J.(red.). 2020. Fizjologia roślin. Wyd. PWN, Warszawa Taiz L., Zeiger E. (red.). 2015. Plant physiology. The Benjamin/Cummings Publ. Comp. Inc. (wybrane zagadnienia) Tukaj Z. (red.). 2012. Przewodnik do ćwiczeń z fizjologii roślin. Wyd. Uniwersytetu Gdańskiego (wybrane zagadnienia)</td></tr>
<tr><td>eResources addresses</td><td colspan="2"></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="3"></td></tr>
<tr><td>Work placement</td><td colspan="3">Not applicable</td></tr>
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