University of Gdańsk

Subject card

Subject name and code	Laboratory of digital macro- and microphotography, PG_00079870		
Field of study	Biology		
Date of commencement of studies	October 2023	Academic year of realisation of subject	2025/2026
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 Joanna Rojek	
	Teachers	dr Darya Harshkova dr Natalia Wiśniewska dr Joanna Rojek	

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	0.0	0.0	30

Subject objectives

-understanding of digital photography issues -skill of taking correct macro- and micro-photographs, their preparation in raster graphics program -skill to make correct scientific photographic documentation in the form of a photo board, poster-The ability to make a logo in a vector graphics program.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[BIOLL3_K03] the graduate is ready to organise the work of a small team and to work effectively as part of a team	The graduate acquires competences for honest and reliable scientific and professional work.	[SK6] demonstration of practical skills
[BIOLL3_W14] the graduate knows the theoretical basis of experimental methods and the most important techniques of the biological sciences	- the graduate has knowledge and explains the theoretical foundations of methods in the scope of basic research techniques and tools used in microscopic image analysis (BM_W14)	[SW2] presentation/project/paper/ report
[BIOLL3_U03] the graduate is able to carry out simple tasks or research expertise typical of the biological sciences under the guidance of a supervisor	Under the supervision of a supervisor, the student performs research tasks in the field of digital and analogue macro- and microphotography	[SU6] demonstration of practical skills
[BIOLL3_U01] the graduate is able to use basic apparatus and research tools and follow the correct sequence of operations in laboratory and field work	- the student uses basic equipment and research tools and maintains the correct sequence of activities in the laboratory work of the digital macro- and microphotography workshops	[SU6] demonstration of practical skills

<table>
<tr><td>Subject contents</td><td colspan="3">- The technique of taking pictures digitally (shadowless macro photography) and using a stereoscopic microscope equipped with a cameradigital,- operation of raster graphics program Gimp (graphic processing of digital photos) and vector graphics program Inkscape (preparation of logos of biological company),- preparation of photos in the form of a poster and blackboard, using the Gimp graphics program.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td colspan="3"></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>Credit on the basis of the points obtained from the tasks</td><td>51.0%</td><td>100.0%</td></tr></table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td colspan="2">Generally available popular science textbooks on macro and micro photography and graphics programs, online authoring materials providedon MS Teams</td></tr>
<tr><td>Supplementary literature</td><td colspan="2">Rojek J, Tucker MR, Pinto SC, Rychłowski M, Lichocka M, Soukupova H, Nowakowska J, Bohdanowicz J, Surmacz G, Gutkowska M. 2021. Rabdependentvesicular traffic affects female gametophyte development in Arabidopsis. Journal of Experimental Botany. 72(2): 320-340. doi:10.1093/jxb/eraa430Rojek J, Kozieradzka-Kiszkurno MG, Kapusta MG, Aksmann A, Jacewicz D, Dr E Dzon J, Tesmar A, Amoj K, Wyrzykowski D, ChmurzySki L. 2019.The effect of vanadium(IV) complexes on development of Arabidopsis thaliana subjected to H2O2-induced stress. Funct Plant Biol. 2019Sep;46(10):942-961. doi: 10.1071/FP18262Rojek J, Kapusta M, Kozieradzka-Kiszkurno M, Majcher D, Górniak M, Sliwinska E, Sharbel TF, Bohdanowicz J. 2018. Establishing the cell biology</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">Credit for exercises on the basis of the points obtained from the tasks: preparation of a multimedia presentation, poster, logo, blackboard, made during the workshop.</td></tr>
<tr><td>Work placement</td><td colspan="3">Not applicable</td></tr>
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