



Module syllabus: *Plant Micropropagation*

1. Overall information

Module coordinator	prof. Małgorzata Gaj
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ECTS	2
Method for the verification of learning outcomes	The final grade includes an evaluation of the: - experimental skills of a student in the biotechnology lab (30%); - student's report on the laboratory tasks (20%); - final test (50%).

2. Description of student activity and work

Laboratory	
Responsible instructor	Dr. Barbara Wójcikowska
Content	Experiments will illustrate different modes of plant regeneration in a tissue culture, including: - Micropropagation via a shoot meristem culture (apical and axillary shoot culture) - Plant regeneration via somatic embryogenesis - Plant regeneration via shoot organogenesis (adventitious shoot regeneration). The results of the experiments will be analysed and discussed.
Methods and forms of teaching	Lab experiments under the supervision of the instructor will follow the protocols.
Number of didactic hours (contact hours)	25 hours per semester (classes in two-hour periods as per the current schedule).
Literature	Following the instructions for the experiments.

Consultations	
Responsible instructor	Dr. Barbara Wójcikowska
Content	Discussing the results and formulating the conclusions.
Methods and forms of teaching	Individual discussions with students.
Number of didactic hours (contact hours)	5

3. Forms of verification





Continuous assessment of practical skills	
Essential requirements	Student is obligated to be familiar with a protocol of the experiment to be practiced during the lab classes. Protocols are available on the website of the Department of Genetics.
Form of assessment:	Evaluation of a student's work at lab. The evaluation shall include: <ul style="list-style-type: none">- familiarity of the method used during the classes- compliance with the rules of safety work in a tissue culture laboratory- technical skills to carry out the experiment and analysis of the results- student's capacity for the work in a team At the end of each class a student is evaluated on a base of a short test results (assessment scale 0-3 points per question).
The verification process	A final assessment of the practical skills contributes to the final module assessment with a weight of 30%.
Additional information	Negative assessment of the student work results in a lack of a module credit.

Report of laboratory tasks	
Essential requirements	Students will submit a report on the selected experiment. The report is prepared in a two-person team and includes the purpose of the experiment, a description of the methods, presentation of the results in the form of tables and figures and the conclusions.
Form of assessment:	The grading scale for the report is 2 to 5. Reports will be prepared by two students – each student describes their contribution to the report.
The verification process	The report is to be submitted in writing within a week from the end of the exercise.
Additional information	A negative assessment of the report will result in no credit for the module.

Final exam	
Essential requirements	Knowledge about the specific methods used in the lab and general knowledge of plant micropropagation.
Form of assessment:	Each question is worth 0-3 points (in increments of 0.5), where 0 is for no/wrong answer and 3 is for a very good answer. Grading scale: 5.0: 91–100% of the total score 4.5: 86–90% 4.0: 76–85% 3.5: 61–75% 3.0: 51–60% 2.0: 0–50%
The verification process	Test
Additional information	A positive evaluation of all of the student's activities (report, lab work, final test) is required to earn a credit for the module.

