



Syllabus

Term: 2026/27/1

Subject name: Plant Physiology - laboratory

Subject code: ENBIOB2402

Unit (Unit code)

(BIOLOGIA)

Lecturer responsible for the course: Dr. CSEPREGI Kristóf

Requirement: Term mark

Classes per week : 0/0/3

Classes per term: 0/0/39

Purpose of education:

The main objectives of the course are to perform a series of laboratory exercises intended to familiarize students with core concepts and techniques in plant physiology. The processes will be examined at biochemical, cellular and organismal level in order to provide a more complete understanding of the process.

Contents:

1. General laboratory safety rules
2. Leaf chlorophyll content measurements: lecture, group discussion
3. Leaf chlorophyll content measurements: practice; Comparison of a non-invasive optical method and laboratory test based on extraction practice
4. Field measurements: lecture, group discussion
5. Field measurements: practice; Measurement of leaf water potential (LWP) by pressure chamber Measurement of chlorophyll-a fluorescence as a stress indicator by fluorometer
6. Determination of a total antioxidant activity: lecture, group discussion
7. Determination of a total antioxidant activity: practice; Trolox equivalent antioxidant capacity (TEAC) measurement with spectrophotometer
8. Water potential determination by different methods: lecture, group discussion
9. Water potential determination by different methods: practice; Water potential determination based on osmotic properties of plant tissues
10. UV-B radiation as a developmental factor lecture: group discussion
11. UV-B radiation as a developmental factor: practice; Comparison of UV-B treated and untreated plants using measurement techniques learnt in previous practicals
12. Expletive: Missed practicals
13. Test (e-Learning)

System of examining and valuation:

Compulsory attendance. One (and only one) missed practical (absence with medical notice) can be performed at the end of semester (expletive day). Reports are to be submitted one week after the practical. Members of the same laboratory group are to share results, but reports are to be written individually.



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System of examining and valuation:

Practical course marks on 1-5 scale (1, failed; 2, passed; 3, average; 4, good; 5, excellent) at the end of the semester. Grading is based on reports, activity/performance during group discussions and test results. These three factors contribute to the practical course mark equally.

Bibliography:

There is no compulsory literature.

Required background knowledge: BSc Plant Physiology lectures

Taiz, L., E. Zeiger, I.M. Moller, and A. Murphy (2015): Plant Physiology and Development, 6th Edition. Sinauer Associates, Sunderland, MA

Hopkins W.G., Hüner N.P.A. (2008): Introduction to Plant Physiology, Wiley-Sons Inc., USA

Bibliography: