



Syllabus

Term: 2026/27/1 **Subject name:** Biochemistry laboratory **Subject code:** ENBIOB3102

Unit (Unit code) (BIOLOGIA)

Lecturer responsible for the course: Dr. KUCZMOG Anett

Requirement: Term mark

Classes per week : 0/0/3

Classes per term: 0/0/39

Purpose of education:

The main objectives of this course are for students to become familiar with methods and instruments used in biochemistry laboratories. Methods to be covered include, quantitative and qualitative determination of biomolecules, enzyme catalysis and kinetics.

By the end of this course students will have experience with:

- using basic biochemical laboratory skills and apparatus (spectrophotometry, chromatography, gel analyses, protein purification) to obtain reproducible data from biochemical experiments;
- implementing experimental protocols, and adapt them to plan and carry out simple investigations;
- using the terms of the discipline;

They have transferable skills and knowledge required in molecular biology, microbiology, plant physiology and genetic laboratory work.

Contents:

1. week: Spectrophotometry: Measurement of absorption spectrum of NAD^+ and $\text{NADH} + \text{H}^+$
2. week.: Measurement of protein content with Biuret-reaction.



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- 3. week: Separation of amino acids using thin layer chromatography (TLC).
- 4. week: Gel filtration.
- 5. week: Determination of SH-group content in proteins.
- 6. week: Measurement the activity of lipase enzyme.
- 7. week: Determination the activity of some enzymes in glycolysis.
- 8. week: Preparation of cyt. and determination its concentration.
- 9-10. week: Preparation and measurement of RNA and DNA content.
- 11. week: Examination of competitive inhibitions of succinate dehydrogenase.
- 12. week: Measurement of transaminase activity.
- 13. week: Determination of K_M and V_{max} of LDH enzyme.
- 14. week: Protein separation by SDS PAGE.

System of examing and valuation:

The laboratory work of students will be evaluated according to their own manual-book. Additionally, five short test papers should be written during this course at the pre-agreed dates.



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System of examining and valuation:

Consideration of evaluation:

100-85%: excellent

84-75%: good

74-65%: average

64-55%: acceptable

54%-: fail

Bibliography:

Ildikó Kerepesi: Biochemical laboratory manual.

Bibliography: