



## Syllabus

**Term:** 2026/27/1      **Subject name:** Instrumental Analysis      **Subject code:** ENBIOB0902

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**Unit (Unit code)** (BIOLOGIA)

**Lecturer responsible for the course:** Dr. BOROS Borbála

**Requirement:** Term mark

**Classes per week :** 0/0/3

**Classes per term:** 0/0/39

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### Purpose of education:

Teaching of the principles of analytical chemistry, the classical methods and the basic instrumental analytical methods.

### Contents:

Classical analytical methods.

Introduction to Instrumental Analysis

Electroanalytical Chemistry:

Potentiometric Methods (measuring the electrode potential difference: Measurement of pH, ...)

Conductometric Methods (measuring the current flow through the cell as a function of time: Titration of weak bases with strong acid: determination of the temporary hardness of the drinking water, ...)

Introduction to Spectroscopy:

Ultraviolet(UV) – Visible(VIS) Spectrophotometry (Determination of the concentration by standard addition method, ...)

Separation Technique / Chromatographic Theory.

Gas Chromatography (GC) (Determination of Kováts retention index, ...)

Liquid Chromatography / High - Performance Liquid Chromatography (HPLC) (Quantitative analysis of active substance of Saridon analgetic, ...)



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### System of examining and valuation:

Each week the lesson begins with a short written test. Every week the measured data need to be processed at home. Calculations, graphs, theory of the measurements need to be written in the laboratory notebook.

### Bibliography:

1. Harris: Quantitative Chemical Analysis
2. Skoog – West - Holler- Crouch: Fundamentals of analytical chemistry
3. Holler- Skoog - Crouch: Principles of Instrumental Analysis

### Bibliography: