Course: Biochemistry 2 credits: 5

Course code	CHVH24BIOCHEMIE2
Name	Biochemistry 2
Study year	2025-2026
ECTS credits	5
Language	Dutch, with parts in English
Coordinator	L. Bosgraaf

Modes of delivery	Practical / Training Teaching method 1 Tutorial
Assessments	Biochemie 2 Practicum incl. Chemport - Other assessment Biochemie 2 Theorie - Computer, organised by STAD examinations

Learning outcomes

You draw the structure of carbohydrates and can identify and describe it.

You determine by calculation of the oxidation number whether a given reaction is an oxidation or reduction reaction and describe its implications.

You determine the Michaelis-Menten constants of an enzyme by incorporating enzyme kinetics data into a Lineweaver-Burk plot.

You describe, recognize and apply the concept of enzyme coupling in biochemical reactions.

You reproduce the net reactions of glycolysis, citric acid cycle, oxidative phosphorylation and beta-oxidation explain them.

You separate and identify proteins using SDS-page in a biochemistry laboratory.

You reflect through a portfolio on the study choices, you make, regarding your professional identity.

Content

Module biochemistry 2 focuses on metabolism in the human cell. We will proverbially open the “hood of the cell” and discover how the cell is able to convert fuel molecules into usable energy. This will cover the various metabolic pathways such as glycolysis and citric acid cycle. The emphasis here is on understanding these pathways and less on memorizing reactions. Theory also covers the structure of carbohydrates and basic enzyme kinetics. The theory (3 EC) is tested using a written digital exam. The module also includes a practical of 2 days in which a mixture of proteins is separated using SDS-page.

During the academic year you work on your professional identity using a portfolio. Within Professional identity, preparation for upcoming study choices and career choices is central, through attending lectures, information sessions and the interns' poster presentations, among other things. This is reflected upon using related assignments in the portfolio.

Included in programme(s)

Chemistry

School(s)

Institute for Life Science & Technology

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