Course: Respiration — credits: 5

Course code	BOVP23MDADEM
Name	Respiration
Study year	2025-2026
ECTS credits	5
Language	Dutch, with parts in English
Coordinator	-

Modes of delivery	Assignment Practical / Training Tutorial
Assessments	Chemisch Rekenen 2 - Written, organised by STAD examinations Gaswisseling, pH en Buffers - Other assessment

Learning outcomes

You name and describe the anatomy and physiology of respiration and gas exchange, and examine and experience this during a cycling experiment, applying the theory of redox reactions to gas exchange and oxidative phosphorylation in cells.

You recognize and name the role of weak acids and bases in buffer systems, and you apply the chemical principles of acids, bases and buffers in physiological and in laboratory situations.

You apply chemical calculations with logarithms and logarithmic equations in the Henderson-Hasselbalch equation to correctly create buffers in the laboratory.

You will devise and conduct your own research project with a group of fellow students on a topic of your own choosing, formulating an appropriate research question, preparing a work plan, and executing this work plan to produce reliable and relevant results.

DAS competencies

Competency	Level (I-IV)
Research	I
Experimentation	I
Development	
Management	
Advise	
Instruction	
Leadership	
Sel-management	I

Content

This module focuses on breathing. You will learn about the anatomy of airways and the importance of oxygen in energy metabolism. Gas exchange is necessary because oxygen is required in energy metabolism, which produces CO2. During a cycling test, you will measure for yourself what happens to respiration and gas exchange during exercise.

Respiration also involves blood pH regulation. You learn about the functions of buffers in the body. You calculate and investigate the function of buffers, focusing on the logarithmic pH scale. You learn what buffers are and make the buffers you will need in module 1.3.2.

You also make a start with an individual report and your own project. During modules 1.3.1, 1.3.2 and 1.3.3, you set up your own project, carry it out and present it with a poster.

Included in programme(s)

Major Medical Diagnostics

School(s)

Institute for Life Science & Technology

share your talent. move the world.

Although every effort has been taken to ensure the accuracy of the information in the ECTS Course Catalogue, we cannot guarantee that the content and the information contained in it is always up-to-date, complete or true. Accordingly, no rights can be derived from the contents of the catalogue.