Hanze

Course: Immunology — credits: 10

Course code	BOVH24RIMMUNO
Name	Immunology
Study year	2025-2026
ECTS credits	10
Language	Dutch, with parts in English
Coordinator	P.M. Dammers

Modes of delivery	Lecture Practical / Training Project-based learning Tutorial
Assessments	Immunologie Theorie - Computer, organised by STAD examinations Internationalisering - Other assessment Practicum & Project Immunologie - Other assessment

Learning outcomes

This module has the following learning outcomes:

- Within immunology, you can identify important components of the innate and acquired immune system and explain them in a scientific context in relation to an immune response against a (pathogenic) micro-organism or vaccine according to the teaching material provided and the textbook used;
- You conduct experiments in a biological or medical laboratory with immunological techniques and cell culture in the context of a Chronic Obstructive Pulmonary Disease (COPD) project, where you explain the methods used and interpret and process the results in a digital laboratory journal according to the guidelines;
- You will function in an international research environment reflecting on a number of different aspects of international communication and working with international students in a research project and in a number of social and cultural activities, communicating in English.

Content

This module provides an introduction to immunology. The immune system is involved in the defense against pathogens, including certain bacteria, viruses, fungi, yeasts and parasites. Under certain circumstances, the immune system can also target its own body, resulting in autoimmune diseases. In this module you will gain knowledge of the immune system, including the development of T and B cells, the humoral and cellular immune response, the structure and function of lymphoid organs, the Major Histocompatibility Complex (MHC), pattern recognition and anti-microbial proteins. A number of immunological techniques that are frequently used in the laboratory will also be discussed.

During the practical course we will conduct research in the field of Chronic Obstructive Pulmonary Disease (COPD). COPD is characterized by chronic inflammation of the airways, leading to airway obstruction, tissue destruction and pulmonary emphysema. Tobacco smoking accounts by far the leading cause of COPD in high-income countries. During the practical course you will investigate the effect of cigarette smoke on human cells and the consequences for the immune system. Various immunological techniques are used for this.

An international project week also takes place in this module. During this week, students from a number of different countries are exchanged and attention is paid to intercultural communication, collaborating on a project in the laboratory and the English language. This week ends with a reflection paper and active participation is expected.

Included in programme(s)

Major Biology and Medical Research

School(s)

Institute for Life Science & Technology

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