Course: Laboratory Medicine — credits: 5

Course code	BOVH24MDLABGEN
Name	Laboratory Medicine
Study year	2026-2027
ECTS credits	5
Language	Dutch, with parts in English
Coordinator	-
Modes of delivery	Self-study Tutorial
Assessments	Klinische Chemie en Hematologie 1 - Computer, organised by STAD examinations Klinische Chemie en Hematologie 2 - Computer, organised by STAD examinations

Learning outcomes

You name and describe concrete actions and determinations in a clinical laboratory and relate these to the more general context, processes and logistics of a clinical (analytical) laboratory.

You apply aspects of quality assurance and validation (including sensitivity and specificity) to clinical chemical and hematological diagnostic tests according to the standards of good laboratory practice, you make calculations relevant to this, and you understand the importance of quality assurance and controls in the daily practice of laboratory medicine.

You understand anatomy, physiology and pathology in the areas of water, electrolyte and pH balance, hormones, glucose balance, kidney, heart and liver in the human body and know the most common diagnostic determinations.

You understand the anatomy, physiology and pathology regarding blood components, such as red blood cells, platelets, growth factors and blood clotting in the human body and know the most common diagnostic determinations.

You analyze patient cases using the knowledge gained and relate the given context and underlying mechanisms to arrive at interpretation and interpretation of clinical data from the clinical question to the diagnosis and treatment of the patient.

Content

Laboratory medicine includes the disciplines of hematology and clinical chemistry. In clinical chemistry and hematology 1, you will learn about the logistics of clinical chemistry laboratories and the importance of quality assurance in general. In addition, for some of the most commonly requested determinations, you will learn the associated knowledge of anatomy, physiology, pathology and the process and operation of diagnostic determinations.

In clinical chemistry and hematology 2, you will learn to integrate and apply the knowledge with case histories. Here you learn to interpret relevant data from the history and known laboratory results using the knowledge offered, and to combine knowledge of different (organ) systems in the body. This is a way of thinking that requires some practice.

Therefore, in this module we have chosen to do part of the knowledge transfer independently in the form of self-study with flash lectures and teaching materials at home, and in the contact moments instead to work on understanding, analyzing and interpreting issues in the context of (in-depth) assignments and case histories. With the help of self-checks you can check how much you have already understood prior to the lesson. This will be explained in the first lecture.

Simultaneously with this module you will learn how a clinical laboratory functions in practice and you will learn to perform a number of clinical chemical and hematological determinations.

Included in programme(s)

Major Medical Diagnostics

School(s)

Engineering, Life Sciences & ICT

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