

M. Sc. Infectious Diseases and One Health

Module I of VI

Infectious Diseases and Diagnostics

Organization:

Hannover Medical School

Teaching unit coordinator:

Abel VIEJO-Borbolla, Guntram GRASSL

Position:

Professor, Institute of Virology / Institute of Med. Microbiology

Teaching unit outline

This module will focus on pathogenesis, toxin biology, clinical aspects and diagnostic methods of bacteria and viruses. A series of lectures combined with practical work and tutorials will provide both theoretical and practical knowledge on relevant aspects of this topic. The students will also improve other skills including teamwork, preparation of written reports, presentation and discussion of scientific reports.

Topics

Medical microbiology, medical virology with a focus diagnostic methods and pathogenesis. Infection of organs including the gastrointestinal tract, respiratory and nervous systems. Monitoring infectious diseases after antiviral or anti-bacterial therapy. Bacterial protein toxins.

Lectures

Medical virology, bacteriology and immunology, bacterial protein toxins, human pathogenic viruses and bacteria, disease manifestations, diagnostic methods, therapy, antivirals, antibiotics and antiparasitic chemotherapy

Independent work: POL (problem-oriented learning) Cases: Clinical case presentation and discussion with tutor

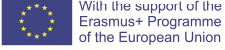
Journal Club: Medical virology, bacteriology and toxicology papers

Practical work: ELISA for anti-HBs antibodies, immunofluorescence, neutralisation, virus titration, culture of bacteria, identification of bacterial species, antibiotic susceptibility testing, toxin detection, diagnostic PCR, etc. Short laboratory project.

ECTS	Lectures	Seminars	Practical work	Personal work
7	33 hours	12 hours	70 hours	173 hours



INFECTIOUS DISEASES
ONE HEALTH



With the support of the
Erasmus+ Programme
of the European Union

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Assessment method:

- 100 % Written exam

Ungraded course work:

- oral presentation (scientific paper)
- practical work (including written report)
- short lab project (including oral presentation)