

Module: Infectious Diseases and Diagnostics

Module coordinators: Abel Viejo-Borbolla, Guntram Graßl

Module 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 these topics. 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 on diagnostic methods and pathogenesis
Infection of organs including those within the gastrointestinal tract, respiratory and nervous systems
Monitoring infectious diseases following 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 and antibiotics.

Key tools:

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.

Learning: 7 ECTS

Lectures: 38h

Seminars: 28h

Practical work: 40h

Independent work: 104h

Assessment:

100% Written exam

Ungraded course work: Oral presentation (scientific paper)

Practical work (including written report)

Short lab project (including oral presentation)