DEPARTMENT OF MEDICINE, HUDDINGE

H7F5237 Human Viral Diseases: Mechanisms and Pathogenesis, 1.5 credits (hec)

Virala sjukdomar - mekanismer och patogenes, 1,5 högskolepoäng

Third-cycle level / Forskarnivå

Approval

This syllabus is approved by the The Committee for Doctoral Education on 2023-12-05, and is valid from Spring semester 2024.

Responsible department
Department of Medicine, Huddinge, Faculty of Medicine

Prerequisite courses, or equivalent

No prerequisite courses, or equivalent, demanded for this course.

Purpose & Intended learning outcomes

Purpose

The aim of the course is to enable students to acquire a good knowledge on mechanisms and pathogenesis related to viral infection in humans.

Intended learning outcomes

The course should give knowledge of molecular virology with special consideration to the role of virology within medicine. On completion of the course the student is expected to:

- Be able to account for taxonomic subdivision of viruses.
- Be able to account for the most important human pathogenetic viruses.
- Be able to account for the molecular mechanisms of the virus life cycle
- Be able to account for emerging viruses and pandemics
- Be able to account for viral pathogenesis
- Be able to account for virological methods in research
- Be able to account for viral immunology, antiviral therapy and vaccination.

Course content

Virus taxonomy, important human pathogenic viruses, virus structure, infection process at cell level and organism level, pathogenesis, epidemiology, molecular interactions between viruses and host cells, genetic stability of viruses, influence on host cell growth control, immune response against viruses, virus vaccines, antiviral drugs, virus vectors for gene therapy

Forms of teaching and learning

The course will be given over one week (full time). The teaching is mainly through lectures/seminars. The lectures include introduction to the various topics (described above).

Language of instruction
The course is given in English.

Grading scale

Pass (G) /Fail (U)

Compulsory components & forms of assessment

Compulsory components

All seminars and lectures. Absence needs to be compensated for in agreement with the course leader. More than one day of absence cannot be compensated for.

Forms of assessment

Written exam containing open questions.

Course literature

Handouts given by the lecturers. Reference book: Flint, S. J., Racaniello, V.R., Rall, G.F., Skalka, A.M. and Enquist, L.W.: Principles of Virology, Volume 1: Molecular Biology. 4th edition. ASM Press (2015)