



DEPARTMENT OF MICROBIOLOGY, TUMOR AND CELL BIOLOGY

C1F5234, Clinical and Molecular Parasitology and Mycology, 1.5 credits (hec)

Klinisk och Molekylär Parasitologi och Mykologi, 1,5 högskolepoäng

Third-cycle level / Forskarnivå

Approval

This syllabus was approved by the The Committee for Doctoral Education on 2023-12-05, and was last revised on 2025-01-27. The revised course syllabus is valid from autumn semester 2025.

Responsible department

Department of Microbiology, Tumor and Cell Biology, Faculty of Medicine

Prerequisite courses, or equivalent

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

Purpose & Intended learning outcomes

Purpose

The purpose of this course is to expose students to advanced aspects of clinical and molecular parasitology and mycology. Students will be presented to cutting-edge technologies and approaches used in research on these fascinating eukaryotic pathogens, to stimulate their curiosity and inspire them to translate and apply it to their own research.

Intended learning outcomes

After the course, the students will have acquired knowledge on the current understanding of the cellular and molecular interplay between parasites, parasitic fungi and their hosts. The students will be able to give examples of interdisciplinary studies in host-parasite interaction and should be able to relate their own research project to the forefront developments in other areas of parasitological and mycological research. Thus, after the course the students will have a more holistic picture of infection biology, and hopefully be encouraged to apply new information for the benefit of their further graduate training and research.

Course content

The course covers topics on microbial virulence, transmission and evolution, the cellular and molecular interplay between eukaryotic pathogens and their hosts and how this related to disease pathogenesis.

Forms of teaching and learning

The course consists of lectures by invited national and international experts on parasitological and mycological research. Lectures will cover basic aspects of parasite and host biology and disease pathogenesis to provide the students with a foundation in the subject. In addition, the lectures will contain a more advanced part where state-of-the-art research is presented. The students will be encouraged to actively interact in discussions with the lecturers and to think on the spot to ask questions. The students will also be presented to selected scientific and/or methodological conundrums and are expected to choose and write an essay on one of these, containing suggestions on research approaches on how to solve the scientific mystery.

Language of instruction

The course is given in English

Grading scale

Pass (G) /Fail (U)

Compulsory components & forms of assessment

Compulsory components

Attendance of the lectures is compulsory. If the students are unable to attend lectures they should write a summary based on the course literature provided for that lecture. Obligatory is also a written essay assignment where students will present and discuss a chosen scientific and/or methodological problem.

Forms of assessment

The students will be presented a number of current scientific problems related to the parasitological and mycological research topics discussed during the course. The students are expected to choose and write an essay on one of these. The essay should contain a summary of the research field, suggestions on research approaches aimed to solve the scientific conundrum and relate it to their own research. This essay assignment serves as course examination, where students will be individually assessed.

Course literature

Reading standard text books that cover parasitology and mycology, such as Murray, Rosenthal and Pfaller, Medical Microbiology 8th edition, is recommended but not required. Original research articles and review articles related to the topics presented will be handed out by the

lecturers.