Course syllabus for

Microbiology, 3 credits

Mikrobiologi, 3 hp
This course syllabus is valid from spring 2013.
Please note that the course syllabus is available in the following versions:
Spring2013 , Spring2022 , Spring2023

Course code	1OP057
Course name	Microbiology
Credits	3 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Not applicable
Level	GX - First cycle
Grading scale	Pass with distinction, Pass, Fail
Department	Department of Microbiology, Tumor and Cell Biology
Decided by	Programnämnd 8
Decision date	2012-11-06
Course syllabus valid from	Spring 2013

Specific entry requirements

Field-specific entry requirements 13: Biology course B, Physics course B, Chemistry course B, Mathematics course D. The Board of Education has decided that applicants with the following courses are exempted from the field-specific entry requirements 13: Biology course A, Physics course A and Chemistry course A (or General sciences course B).

Objectives

The aim of the course is for the students to acquire such knowledge of microorganisms and about human immune system that is required for a professional acting as optometrist. The students should acquire basic knowledge of human immune system and about infectious matters and their pathogenic ability and transmission with special emphasis on the infectious matters that can cause disease in the eye and the principles of how one can prevent, recognise and treat infectious diseases.

On completion of the course, the student should:

• have general knowledge of basic properties of infectious matters and
• detailed knowledge of the infectious matters that can cause disease in the eye at people
a) to be able to identify different conditions in the eye with relation to microbiology and/or immunology
b) related to microbiology and immunology understand the limitations of actions possible for an

optometrist,
c) identify measures that should or should not be taken by an optometrist as health care professions
• be familiar with the principles of disinfection and sterilisation and apply these as optometrists
• be able to account for disease processes in the eye and the visual organ that is caused by microorganisms, or due to hypersensitiveness, and how these arise
• name infections in eye and hypersensitivity reactions (above all allergic), and risks for these in relationship
with the use of optical aids and instruments that come in contact with the eye,
• understand how these conditions can be avoided or minimised
• be oriented about treatment of infectious diseases and
• knowledge about the most important drugs that are used at treatment above all of diseases in or around the eye.

Content

The general structure of infectious matters, their subdivision and pathogenic characteristics. Infection and epidemiology. Detection of microorganisms and viruses. The defense system of the body, inflammation, immune deficiencies and hypersensitivity. Methods to prevent and treat infectious diseases. The character of common infections of the eye.

Teaching methods

The teaching is done through

a) lectures for which handouts will be available under duration of the course on the course web, and in colour in a course compendium.
b) a seminar about "the red eye", for which different cases are available that should be studied before the seminar so that the students are able to discuss which different infectious matters or immunological factors that can be of significance in the individual cases during the seminar,
c) labs, during which the students are given the opportunity to observe the effect on cells or cytopathogenic effect of the bacteria of different viruses or how one cultivates and how one can characterise their appearance on Agar plates and with so-called Gram staining.

Attendance at the seminar and lab is compulsory. It is possible to change time with some one else but not alone choose other time than has been allocated regarding demo and lab. Absence due to disease should be reported. The course coordinator decides whether, and if so how, absence from compulsory course elements can be made up. Study results cannot be reported until the student has participated in compulsory course elements or compensated for any absence in accordance with instructions from the course coordinator. Absence from a compulsory course element could mean that the student can not retake the element until the next time the course is offered.

A final lecture will summarise the course in preparation for the exam.

Examination

The written examination will cover the full course content.

When a student fails an examination, there will be an opportunity for a new examination.

Transitional provisions

In case the course is closed down or go through major changes, students who have not completed the course are given the possibility to, during four semesters from the occasion the student was first

registered, be examined according to the course syllabus that applied then. After four semesters, the student is examined according to the new syllabus.

Other directives

Course evaluation will be carried out in accordance with the guidelines established by the Board of Higher Education.

Some teaching may be in English.

Literature and other teaching aids

Murray, Patrick R.; Rosenthal, Kenneth S.0 319233; Pfaller, Michael A.

Medical microbiology

6. ed. : Philadelphia : Mosby/Elsevier, cop. 2009 - x, 947 s.

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