



**Karolinska  
Institutet**

Course syllabus for

## **Microbial pathogenesis, 6 credits**

Mikrobiell patogenes, 6 hp

This course has been cancelled, for further information see Transitional provisions in the last version of the syllabus.

Please note that the course syllabus is available in the following versions:

Autumn2007 , Spring2015 , Autumn2018

Course code	2TL008
Course name	Microbial pathogenesis
Credits	6 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Not applicable
Level	GX - First cycle
Grading scale	Pass, Fail
Department	Department of Laboratory Medicine
Decided by	Styrelsen för utbildning/Programnämnden för tandläkarprogrammet
Decision date	2007-04-26
Revised by	Education committee DENTMED
Last revision	2020-03-23
Course syllabus valid from	Autumn 2018

## **Specific entry requirements**

Passed examination in the course Structure and function of the organ systems.

## **Objectives**

The student should upon completion of the course be able to:

### *Knowledge and understanding*

- explain the structure, metabolism, transmission and aetiological ability of mikroorganisms
- describe immunological reactions and infection defense, and the most common immunological diseases
- explain the most common mikroorganisms in clinical microbiology and which infections they cause
- explain how antibiotics and antiviral drugs function and how resistance to these develops
- account for the importance of mikroorganisms and the immune defence for the development of the most common dental diseases

*Skills and abilities*

- work according to basic hygiene procedures
- carry out adequate sampling in different infection situations
- decide when microbiological sampling is needed, and be able to interpret the analysis and the result

*Judgement and approach*

- reflect on the different properties of microorganisms for the development of caries and periodontitis
- reflect on the importance of different dental bio materials that are used within the dental care and their influence on the oral health and the environment.

## Content

The course begins with a CORE of three days, where all courses of year are presented. There are introductory lectures in immunology, pathology and pharmacology, linked to the student's future profession.

After this introduction, the course Microbial pathogenesis starts, and in the course basic and clinical bacteriology, immunology and virology have been integrated to support the student's understanding of the interaction between the body and infectious substances. The course comprises a broad overview of microorganisms and the immune response against these, with special orientation towards the oral microflora, the immunobiology of the mucous membranes and organisms that spread via contact and blood contamination. Within the bacteriology section, the emphasis is on bacteria of significance for mouth infections, normal flora, factors that affect bacteria ability to induce disease as well as antibacterial agents. Within the immunology parts, the emphasis is on the structure and function of the immune defence, mucous membrane immunology and diseases of the immune defence. Within the virology section, the emphasis is on the viruses of the herpes group, human papilloma virus, blood-borne viruses such as hepatitis B and C types 1 as well as modern antiviral treatment. The aim of the course is also to give basic knowledge about infections in other parts than the oral cavity.

## Teaching methods

The course comprises lectures, seminars, group assignments, laboratory sessions and preclinical practice.

Compulsory attendance at laboratory sessions, seminars and preclinical practice.

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.

## Examination

Examination is carried out through approved laboratory session and written examination.

To pass the course, the student must also attend all compulsory parts of the course.

Students who do not pass a regular examination are entitled to re-sit the examination on five more occasions. If the student has failed six examinations/tests, no additional examination is given. Each occasion the student participates in the same test counts as an examination. Submission of a blank exam paper is regarded as an examination. In case a student is registered for an examination but does not attend, this is not regarded as an examination.

## **Transitional provisions**

The course has been cancelled and was offered for the last time in the autumn semester of 2019. Examination will be provided until the autumn of 2020 for students who have not completed the course.

## **Other directives**

A course evaluation is carried out according to the guidelines established by the Board of education.

## **Literature and other teaching aids**

### **Oral microbiology and immunology**

*Lamont, Richard J; Burne, R.A.; Lantz, M.S.; LeBlanc, D.J.*

ISBN:1555812627

[Library search](#)