



**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	Programme Committee 10
Last revision	2014-10-20
Course syllabus valid from	Spring 2015

## **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 students 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, problem-based IT exercises and laboratory sessions.

.Compulsory parts are attendance at CORE lectures, laboratory sessions and seminars.

## Examination

Examination is carried out through written examination.

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

If the student's examination has not passed, the student gets 2 more examination opportunities. After that, the student is recommended to retake the course and is given 3 more examination opportunities. If the student has not passed after 6 trials, he/she has no more admission to the course. (HF chapter 6, section 11 a).

## Transitional provisions

If the course is closed-down or undergoes major changes, examination under a previous reading list and learning outcomes are offered, no more than one academic year (no more than 2 examinations in addition to regular examinations) after the implementation of the revision/close-down.

## 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

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