



**Karolinska  
Institutet**

Course syllabus for

## **Disease and Illness 1, 13.5 credits**

Den sjuka människan 1 - basvetenskaplig grund, 13.5 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:

Autumn2012 , [Spring2013](#) , [Spring2015](#)

Course code	2LK093
Course name	Disease and Illness 1
Credits	13.5 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Medicine
Level	G2 - First cycle 2
Grading scale	Pass, Fail
Department	Department of Oncology-Pathology
Participating institutions	<ul style="list-style-type: none"><li>• Department of Microbiology, Tumor and Cell Biology</li><li>• Department of Physiology and Pharmacology</li><li>• Department of Laboratory Medicine</li></ul>
Decided by	Programnämnd 2
Decision date	2012-04-24
Course syllabus valid from	Autumn 2012

## **Specific entry requirements**

All credits from semester 1. A student failing due to shortcoming in knowledge skills or attitudes, thus jeopardizing patient security and/or trust in medical care, could be assigned for a new clinical rotation only after having completed the individual plan.

## **Objectives**

Learning outcomes

The expected learning outcomes that are based on achieved aims from the courses of the course the "The healthy human 1, 2 and 3", be delimited to the basic scientific subjects pathology, microbiology and pharmacology.

The aims relate to the general learning outcomes of the whole Study Programme in Medicine. The knowledge is tiered according to the SOLO taxonomy: S1) simple (e.g. know, identify), S2) compound (e.g. account for, describe), S3) related (e.g. analyse, relate), and S4) extended (e.g. theorise, analyse).

The skills are structured according to Miller's pyramid: M1) know, M2) know how to carry out, M3) be able to show, and M4) be able to carry out professionally.

### Knowledge and understanding

The system of man, in balance

The student should know:

- important infectious matters (viruses and bacteria) structure, basic pathogenic mechanisms and classification systems (S2).
- how the immune system protects the individual against these pathogenic mechanisms (S2).
- the reactions of cells on harmful agent both as the cell adaptation to these (S3).
- basic principles of how drugs exert their effects (S1-S2).

The system of man, in imbalance

The student should:

- at common and/or important diseases, be able to explain both causes of disease and diseases pathophysiological processes in different levels, the relation to morphological changes and the consequences of the diseases such as also be familiar with relevant nomenclature and also have equivalent knowledge of certain less common diseases (S1-S3).
- be familiar with investigation and the cell- and tissue based diagnostics at common and/or important diseases (S1).
- be able to account for pathological changes (S3-S4).
- be familiar with investigation and the cell- and tissue based diagnostics at common and/or important diseases (S1).
- be able to describe the mechanisms of action of anti-inflammatory drugs (S3).

Human in interplay

The student should:

- be familiar with the bases in the organisation of the healthcare (S1).
- be familiar with laws that govern the handling of the dead body and know how and on what basis a clinical autopsy is carried out (S1).
- be able to account for the importance of certain environmental factors for the health (S2).

### Skills

Direct contact

The student should be able to:

- present the bases of professional patient treatment (M2).
- follow basic hygienic principles (M3).

Indirect contact

The student should be able to:

- understand basic pharmacological terminology (S1).
- account for pathophysiological terminology (S2).
- be familiar with different sampling techniques and tissue analyses within pathology/cytology (S1).
- assess risks with drug treatment (M2).
- understand the meaning of a medical pathological report (S2).

In interplay

The student should:

- be able to both acquire and interpret pharmaceutical information (M3).

### Attitude

Knowledge and attitude

The student should:

- be familiar with basic ethical principles (S1).
- both be clear about his/her own values and attitudes, and understand how these values and attitudes affect the behaviour in the meeting with patients, teachers and health care staff (S1).

Behaviour and assessment skills

The student should:

- show respect of the dead body (M3).
- be able to review scientific articles concerning diagnostics and pathogenesis (S3) critically.
- be able to administrate his/her own learning portfolio (M2).

## Content

The course is given in collaboration between the basic scientific, basic subjects pathology, microbiology and pharmacology and family medicine and the course contents is coordinated with the previous basic scientific courses and with the following course "Disease and Illness 2". The course starts with a half day 's introduction that are given in collaboration between teachers from all subject areas that include in theme "Disease and Illness".

The course is delimited to the one that founds the understanding of clinical medicine. Especially a field with joint activities for the subjects microbiology, pathology and pharmacology consists of diseases where inflammatory mechanisms are included in the pathogenesis and constitutes important targets for treatment. The teaching can involve the clinical diagnostic and the clinical investigating specialities.

The course is based on achieved expected learning outcomes concerning anatomy, histology, cell biology, physiology and biochemistry. The course starts with general cellular pathology and basic microbiology and an integrated block that deals with inflammation and immunopathology, general tumour pathology and circulation on both molecular, cellular and tissue level, inflammation caused by microorganisms and principles of treatment with anti-inflammatory drugs. Thereby, the student's understanding of the origin, process and consequences of diseases is is founded This part of the course relates particularly to specific expected learning outcomes concerning inflammation, arteriosclerosis and tumours. In the course is included also immune - and inflammation pharmacology. Later the part of the course has clinical connection and focus on organ-specific pathology. Reasons for inflammatory, neoplastic and degenerative diseases are described in different levels, including molecular mechanisms, changes on cell and tissue level and how these changes are reflected and can be diagnosed on bodies and organism level.

The course intends to increase the student's understanding of the origin of diseases processes and clinical functional importance and how diseases can be diagnosed and in certain cases be prevented/be treated. This includes ability to describe and assess the most common macroscopic and microscopical organ changes in different diseases and merge these with clinical data to a worthwhile image of a disease progression. The part relates specific to specific learning outcomes respect inflammation and neoplastic and preneoplastic conditions.

### Professional skills (PD)

Professional skills is included, in restricted extent in connection with the teaching of pathology. Specific expected learning outcomes for the student are to be able to the ethical principles regarding the management of the dead patient, and be familiar with the legislation.

### PV

Deeper consultation training, 'the patients part' (video-recorded talk with feedback) and introduction of routines at statement of death outside hospital.

### Scientific development

Scholarly development is included in the course. Specific expected learning outcomes for the student are to be able to; critically evaluate new findings with respect to the mechanisms of infections and diseases, the relevance of these mechanisms for diagnosis and treatment, and to be able to review information from the pharmaceutical industry critically.

**Inflammation, mechanisms of disease and surgical pathology, 5 hp** The part starts with an integrated theme where microbiological, immunological, pathological and pharmacological aspects on inflammation as a disease mechanism is taught. Here, teaching of certain immunological diseases concerning autoimmunity, hypersensitivity reactions, immune deficiency and rejection reactions are also included. The conditional pass of the part intends basic disease mechanisms, organ-specific pathology and practical parts as microscopy demonstrations, autopsies and case seminars. **Integration and**

**examination, 7 hp** The part intends to test the student 's ability to integration of the theoretical contents of Part 1 through case-based examination in groups or skills in recognizing pathological processes in microscopical preparations. Here, an examination is also included in the whole course content.

**Professional and scientific development, General Practition, 1.5 hp** The part contains Professional Development (2 days), Primary care (2 days) and Scientific development (1 day) with specific expected learning outcomes described above.

## Teaching methods

The course is mainly based on lectures, group tuition, integrating seminars and clinical rotations . The section inflammatory conditions be integrated over the subject areas and be given as a joint block.

The pedagogical working methods are student-activating. Lectures that are introductory and orientating and integrating seminars which illustrate the main part of the contents of the course. The student should prepare the seminars. In the case-based seminars, functional disorders are discussed based on the macro and microscopic picture. The student may also get support from synopses of the lectures, from materials of the seminars, from models of the laboratory reports, and from the personal files.

## Examination

The final examination contains two parts, both a written examination, and a learning portfolio, consisting of documentation of completed integrating seminars and a written reflection. The written part tests knowledge, understanding, skills and attitude in accordance with the expected learning outcomes. During the course, an optional test comprising the integrated inflammation/ immunology part of the course is being offered. Passed results of on the optional test means that the corresponding part of the written examination does not have to be done. entitle to bonus points on examination.

For passed course's (Part 1) apply compulsory attendance at seminars, group work, laboratory sessions and school located teaching in health care centres and approved laboratory reports. Absence may be compensated by complementary assignments and a make-up laboratory session, respectively, after discussion with the course administration.

Limitation of examination and practical training sessions

The number of examination and practical training sessions follows the local guidelines of Karolinska Institutet, implying that the number of examinations is limited to 6, while parts of the course, as a rule, may be repeated only once.

## Literature and other teaching aids

*Abbas, Abul K.; Lichtman, Andrew H.*

**Basic immunology : functions and disorders of the immune system**

2. ed., updated ed. 2006-2007 : Philadelphia, Pa. : Elsevier/Saunders, 2006 - ix, 324 s.

ISBN:1-4160-2974-5 LIBRIS-ID:10097070

[Library search](#)

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

**Medical microbiology**

5. ed. : St. Louis : Mosby, cop. 2005 - x, 963 s.

ISBN:0-323-03303-2 LIBRIS-ID:9878822

[Library search](#)

*Rang, H. P.; Dale, M. Maureen*

**Rang & Dale's pharmacology Pharmacology**

7. ed. : Edinburgh : Churchill Livingstone, 2011 - 792 p.

ISBN:978-0-7020-4504-2 LIBRIS-ID:12191889

[Library search](#)

*Kumar, Vinay; Robbins, Stanley L.*

**Robbins basic pathology**

8. ed. : Philadelphia, PA : Saunders/Elsevier, 2007 - xiv, 946 s.

ISBN:978-1--41602973-1 LIBRIS-ID:10458648

[Library search](#)

**FASS : Akademi-FASS**

Läkemedelsindustriföreningen (LIF), 2008

ISBN:978-91-85929-00-9

[Library search](#)

*Goodman, Louis Sanford; Gilman, Alfred*

**Goodman & Gilman's the pharmacological basis of therapeutics**

*Brunton, Laurence L.*

11. ed. : New York : McGraw-Hill, cop. 2006 - 2021 s.

ISBN:0-07-142280-3 LIBRIS-ID:9976126

[Library search](#)

**Lippincott's illustrated reviews: Pharmacology**

*Mycek, Mary Julia*

2. rev. ed. : Philadelphia : Lippincott Williams & Wilkins, cop. 2000 - 514 s.

ISBN:0-7817-2413-9 LIBRIS-ID:8307491

[Library search](#)

**Läkemedelsboken, n 2007**

Stockholm : Apoteket AB, 2007 - 1260 s.

ISBN:91-85574-57-0 LIBRIS-ID:10399282

[Library search](#)

**Rubin's pathology : clinicopathologic foundations of medicine**

*Rubin, Raphael; Rubin, Emanuel; Strayer, David S.*

5. ed. : Philadelphia : Wolters Kluwer Health/ Lippincott Williams & Wilkins, cop. 2008 - xii, 1341 s.

ISBN:0-7817-9516-8 LIBRIS-ID:10371728

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