



**Karolinska  
Institutet**

Course syllabus for

## **Clinical Medicine - Surgery, 27 credits**

Klinisk medicin - inriktning kirurgi, 27 hp

This course syllabus is valid from autumn 2017.

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

Autumn2016 , Autumn2017

|                            |   |
|----------------------------|---|
| Course code                | 2EE108  |
| Course name                | Clinical Medicine - Surgery   |
| Credits                    | 27 credits  |
| Form of Education          | Higher Education, study regulation 2007   |
| Main field of study        | Medicine  |
| Level                      | AV - Second cycle   |
| Grading scale              | Fail (F), fail (Fx), sufficient (E), satisfactory (D), good (C), very good (B) or excellent (A) |
| Department                 | Department of Clinical Science, Intervention and Technology                                     |
| Participating institutions | <ul style="list-style-type: none"><li>• Department of Oncology-Pathology</li></ul>              |
| Decided by                 | Programme Committee 2   |
| Decision date              | 2016-05-18  |
| Revised by                 | Programme committee for study programme in medicine   |
| Last revision              | 2017-05-04  |
| Course syllabus valid from | Autumn 2017   |

## **Specific entry requirements**

Three years of study at a study programme in Medicine.

The examiner may, with immediate effect, interrupt a student's clinical placement (or equivalent) if the student demonstrates such serious deficiencies in knowledge, skills or attitude that patient safety or patient confidence in healthcare is at risk. If a clinical placement is interrupted in this way the student is deemed to have failed that element and to have used up one clinical placement opportunity.

In such cases, an individual action plan should be set up stating which activities and tests are required before the student is qualified for a new clinical placement on the course.

## **Objectives**

**Learning Outcomes** The aim of the course is that the student with the whole health care chain as a basis, in the specialities surgery, urology, orthopaedics, oncology, anesthesiology and intensive care,

imaging, primary care as well as forensic medicine, should achieve the clinical skills that are required to start to work as a physician. The intended learning outcomes are delimited to what is common and important in clinical activities in the included specialties.

**Intended learning outcomes** The knowledge is set according to the SOLO taxonomy (S1-S4) and the skills according to Miller's pyramid (M1-M4)\*

**Knowledge and understanding** The student should

- on scientific and evidence-based basis be able to account for, analyse and explain common, acute and critical conditions in surgery, orthopaedics, urology and oncology and be able to explain how these conditions are treated (S3)
- be able to account for, analyse and explain the choice of anaesthesia method and imaging studies (S3)
- be able to account for and compare both work distribution between different health care levels different professional categories, and the importance of interprofessional and multi-disciplinary cooperation (S3). (PD, PV)\*\*

**Skills** The student should

- be able to take medical history, carry out status (M3), make a preliminary assessment as well as give information about and plan treatment (M3)
- on different health care levels independently be able to identify, process and treat common conditions in surgery, orthopaedics, urology and oncology on a scientific and evidence-based basis (M3). (PV) (VetU)\*\*
- in interprofessional and multi-disciplinary cooperation be able to process common, acute as well as critical and intensive care-demanding conditions (M3). (PU)\*\*

**Attitude** The student should

- demonstrate an ethical and professional attitude vis-à-vis patients and their families as well as co-workers. (PU, PV)\*\*

## Content

**Introduction week, 1.5 hp** The course starts with an introduction week. Focus for the introduction week is knowledge and skills necessary for the placement in the following modules of the course. It includes basic concepts, case-based teaching, seminars and proficiency exercises. The introduction week is completed with an oral examination.

**Surgery, 7.5 hp** The core of the module consists of clinical skills in surgery and has its starting point in practical care. It includes injuries and diseases in the organs, vessels, breast glands, skin and endocrine glands in the neck and in abdominal cavity on patients in all ages that can be in need of treatment with surgical methods. The emphasis is on diagnostics and treatment of wounds, acute abdominal diseases and cancer in the digestive organs, but also on diagnosis and treatment of hernias and proctological diseases, vascular surgery as well as tumours in skin, breast and the thyroid gland.

**Urology, 2.5 hp** The core of the module consists of clinical skills in urology and has its starting point in practical care. It includes the common urological conditions including voiding problems (Lower Urinary Tract Symptom, LUTS), stones and infections in the urinary tract, urinary incontinence, diseases in the male genital organs as well as trauma against the urological organs. Emphasis is put on the urological

cancer diseases including tumours in kidney, the renal pelvis, ureters, urinary bladder, prostate, testicles as well as penis, and covers the investigation of patients with symptoms of these cancer forms.

**Orthopedics, 3 hp** The core of the module consists of clinical skills in orthopaedics. It has its starting point in practical care and includes injuries and diseases in the musculoskeletal system. Orthopaedic conditions, such as arthrosis, spinal diseases, tendinosis and tumours, as well as acute injuries such as fractures, luxations, distortions, nerve injuries, wounds and infections are highlighted. Knowledge of clinical diagnostics and investigation, diagnostic methods, indications for surgery, surgical methods for the most common diagnoses as well as non-operative treatment constitute the theoretical part of the module. Examination technique and practical handling including participation in surgeries constitute the practical part of the module.

**Interprofessional education, 3 hp** The module has its starting point in practical health care and rehabilitation at emergency department or ward. During the module the students learn, together with other health science students, to analyse and meet the patient's needs as well as to evaluate the patient's treatment, nursing and rehabilitation. Focus is on reflections on one's own skills as well as the skills of other professions with the purpose of an increased patient security, as well as on the students' ability to communicate and interact with patients, their families and other professions.

**Oncology, 1.5 hp** The module comprises the most common cancer diagnoses in the Swedish population. Knowledge if these diseases is applied also on other cancer diagnoses. The module includes tumour biology, the process in cancer disease, epidemiology, oncological treatment options, treatment principles, acute oncology, malignancy investigations and palliative oncology and patient approach.

**Anesthesiology and Intensive care, 2.5 hp** The core of the module consists of clinical skills in anesthesiology and intensive care. The module includes acute medical treatment in patients with failing vital functions and perioperative medicine based on basic biomedical knowledge, and how disorders in respiration, circulation and CNS-functions arise, progress and influence one another. A major focus is put on the handling of unfree airway.

**Medical imaging, 1 hp** During the module, the possibilities and limitations of radiological methods as well as indications and contraindications for contrast medium for both DT and MRT and ultrasound are included. The focus is on the ability to choose the correct investigational method. In addition, the module includes assessment of diagnostic imaging studies of commonly occurring condition in surgery, orthopaedics, urology and oncology with an emphasis on acute studies in skeletons, abdominal organs and thorax as well as serious injuries and trauma.

**Primary care, 1.5 hp (PV)** The core of the module consists of the clinical skills that are needed to handle patients with common surgical conditions in surgery, orthopaedics and urology in the primary care setting and has the starting point in patient-focused care in health care centres. Emphasis is put on commonly occurring conditions in the musculoskeletal system and the digestive organs, urinary tract functions as well as trauma and surgery in primary care, the so called "small surgery".

**Forensic Medicine, 0.5 hp** The module comprises basic skills in the speciality forensic medicine including relevant statutes and death administration.

**Professional development, 0.5 hp (PU)** The module is based on earlier achieved skills in professional development. In addition to mentor-tutored workshops including individual self-assessed reflections, professional development is integrated in the workplace based rotations of the course.

**Scientific development, 0.5 hp (VetU)** The component is based on earlier achieved skills in scientific development and includes evidence-based medicine connected to the clinical specialities of the course.

**Final examinations, 1.5 hp** The course is completed with an examination period where a written examination, a structured practical test (OSCE) as well as an oral examination are included.

## Teaching methods

During the course, a number of different teaching and learning methods are included: lectures, seminars, group assignments, project work, proficiency trainings, clinical placement including interprofessional education, formative assessments, case-based teaching, self-studies and reflection. During the placements, scheduling during evenings, nights and weekends occurs.

## Examination

**Professional development** Mandatory: Mentor-tutored workshop.

**Scientific development** Examination: Written assignment and oral presentation.

**The introduction week** Mandatory: Seminars, proficiency trainings and case-based teaching. The knowledge content during the introduction week is a precondition to be able to participate in other components in the course. Examination: Oral examination.

**All other modules** Mandatory: Seminars, proficiency trainings, group assignments, case-based teaching in the clinical environment including on-call duty. Formative feedback is given, which is why the activities contribute to the students learning in a way that cannot otherwise be achieved. To participate in the final examination, it is required that the student has passed all other modules of the course.

**Final examination** The final examination consists of three separate parts;

1. Written examination
2. Structured practical test
3. Oral examination- case-based

**The grades** are pass or fail. All of the parts of the final examination must be approved. International students will get an ECTS grade (A-F) based on their individual achievements during the course.

The course director assesses how, due to absence non-completed mandatory educational activities can be retaken. Absence from a compulsory course element could mean that the student can not retake the element until the next time the course is offered.

**Limitation of number of tests or practical training sessions** If a student fails a clinical placement, the student has the right to redo that element once. For student who have failed the examination, a new opportunity is provided before the next regular examination. The three parts in the examination can be re-examined individually; the number of possible examinations are a total of six per part.

The examiner may, with immediate effect, interrupt a student's clinical placement (or equivalent) if the student demonstrates such serious deficiencies in knowledge, skills or attitude that patient safety or patient confidence in healthcare is at risk. If a clinical placement is interrupted in this way the student is deemed to have failed that element and to have used up one clinical placement opportunity. In such cases, an individual action plan should be set up stating which activities and tests are required before the student is qualified for a new clinical placement on the course.

## Transitional provisions

If a course has been closed down or undergone major changes, at least two additional examinations (excluding regular examinations) in the previous contents are provided during a period of a year from the date of the change.

## Other directives

**Course evaluation** In connection with the examination, the student answers a databased course evaluation questionnaire.

**Course in English** An English-speaking course is given annually during the autumn term.

**Eligibility** A student who has failed a clinical placement (or equivalent) due to such serious deficiencies in knowledge, skills or attitude that patient safety or patient confidence in healthcare is at risk, is qualified to new clinical placement only when the individual action plan has been completed.

\* Taxonomies concerning knowledge and skills Aims concerning knowledge and understanding are structured according to the SOLO taxonomy: S1) simple (e.g. know, identify), S2) compound (e.g. account for, describe), S3) related (e.g. analyse, relate to), and S4) extended (e.g. theorise, analyse). Practical skills outcomes are structured according to Miller: M1) know, M2) know how to carry out, M3) be able to show, and M4) be able to carry out professionally.

\*\* the parenthesis states streaks that are included in the intended learning outcomes

## Literature and other teaching aids

### *Surgery*

*Bergqvist, David*

#### **Kirurgi**

*Hamberger, Bertil; Haglund, Ulf*

8., [rev., uppdaterade och utök.] uppl. : Stockholm : Liber, 2013 - 680 s.  
ISBN:9789147108114 (inb.) (bok med eLabb) LIBRIS-ID:14286776

[Library search](#)

#### **Kirurgi**

*Jeppsson, Bengt; Ljungqvist, Olle; Naredi, Peter; Sund, Malin*

4., [rev.] uppl. : Lund : Studentlitteratur, 2016 - 790 s.  
ISBN:9789144099842 LIBRIS-ID:18850803

[Library search](#)

*Hansson, Lars-Erik*

#### **Akut buk : diagnostik och behandling av akut buksmärta**

2., [rev. och uppdaterade] uppl. : Lund : Studentlitteratur, 2013 - 323 s.  
ISBN:978-91-44-05144-4 LIBRIS-ID:13879475

[Library search](#)

*Lindgren, Urban; Svensson, Olle*

#### **Ortopedi**

4. uppl. : Stockholm : Liber, 2014 - 760 s.  
ISBN:9789147105397 (inb.) LIBRIS-ID:16555214

[Library search](#)

#### **Anestesiologi**

*Bodelsson, Mikael; Forss, Kalle; Werner, Mads; Nilsson, Ingemar*

2., [rev.] uppl. /b [foto: Mikael Bodelsson och Ingemar Nilsson] : Lund : Studentlitteratur, 2005 - 229 s.  
ISBN:91-44-03907-7 LIBRIS-ID:9977548

[Library search](#)

*Fryckstedt, Jessica*

#### **Matell-Reichards Akutmedicin**

3., rev. och uppdaterade uppl. : Lund : Studentlitteratur, 2014 - 509 s.  
ISBN:9789144103488 LIBRIS-ID:17072319

[Library search](#)

*Berséus, Olle*

#### **Vätsketerapi**

*Svensén, Christer; Hjelmqvist, Hans*

2., uppdaterade och utök. uppl. : Stockholm : Liber, 2014 - 255 s.

ISBN:9789147113972 LIBRIS-ID:14878239

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*Jakobsson, Jan.*

### **OAL Anaesthesia for Day Case Surgery**

Oxford University Press, 2011

LIBRIS-ID:14671630

*Nilbert, Mef*

### **Klinisk onkologi**

1. uppl. : Lund : Studentlitteratur, 2013 - 285 s.

ISBN:9789144083421 LIBRIS-ID:14663524

[Library search](#)

*DeVita, Vincent T.; Lawrence, Theodore S.; Rosenberg, Steven A.*

### **Devita, Hellman, and Rosenberg's cancer : principles & practice of oncology**

10th edition. : Philadelphia : Wolters Kluwer, 2015 - xlv, 2234 pages

ISBN:9781451192940 LIBRIS-ID:17431325

[Library search](#)

### **Urologi**

*Damber, Jan-Erik; Peeker, Ralph*

2., [rev.] uppl. : Lund : Studentlitteratur, 2012 - 549 s.

ISBN:978-91-44-07592-1 LIBRIS-ID:13482989

[Library search](#)

*Lisle, David.*

### **Imaging for students**

4th ed. : London : Hodder Arnold, 2012. - xi, 292 p.

ISBN:9781444121827 LIBRIS-ID:13515920

[Library search](#)

### **Radiologi**

*Aspelin, Peter; Pettersson, Holger*

1. uppl. : Lund : Studentlitteratur, 2008 - 848 s.

ISBN:978-91-44-03887-2 (inb.) LIBRIS-ID:10948825

URL: <http://www.studentlitteratur.se/omslagsbild/artnr/31995-01/height/320/width/320/bild.jpg>

[Library search](#)

*Heijne, Anders von; Wirell, Staffan*

### **Röntgenremissen : dialog i flera dimensioner**

1. uppl. : Lund : Studentlitteratur, 2012 - 226 s.

ISBN:978-91-44-08162-5 LIBRIS-ID:13516310

[Library search](#)

*Killén, Kari*

### **Professionell utveckling och handledning : ett yrkesövergripande perspektiv**

*Larson, Per*

1. uppl. : Lund : Studentlitteratur, 2008 - 271 s.

ISBN:9789144047737 LIBRIS-ID:10908555

[Library search](#)