Course syllabus for

Clinical medicine 3: Surgery, 30 credits

Klinisk medicin 3: Kirurgisk inriktning, 30 hp
This course syllabus is valid from autumn 2024.

Course code	2EE134
Course name	Clinical medicine 3: Surgery
Credits	30 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Medicine
Level	AV - Second cycle
Grading scale	Excellent, Very good, Good, Satisfactory, Sufficient, Fail, Fail
Department	Department of Clinical Science, Intervention and Technology
Decided by	Programme committee for study programme in medicine
Decision date	2024-03-18
Course syllabus valid from	Autumn 2024

Specific entry requirements

Three years of study at a study programme in Medicine.

Students who fail a clinical placement (or equivalent) as a result of demonstrating such a serious lack of knowledge, skills or attitude that patient safety or the patients' confidence in Health care is at risk, will only be qualified for a new clinical placement once the individual action plan has been carried out.

Objectives

The aim of the course is to deepen and broaden clinical skills from clinical medicine 1 and 2 and with surgical knowledge, skills and attitudes. Based on "symptoms and findings", the students will train to diagnose, initially assess and handle serious and acute diseases within the general surgical disciplines, orthopedics, urology, anesthesiology and intensive care, vascular surgery and forensic medicine, including necessary radiology. In addition, general medicine and primary care perspectives are included. Throughout the course, professional and interprofessional skills are deepened.

During the course, the students practice to apply basic scientific and pathophysiological explanation models with special focus on anatomy, and to apply scientific, sustainable, global, prophylactic and equal health perspectives. Knowledge, skills and practical training of the physician's role in the interprofessional team is based on evidence and patient-centred care and are trained and assessed during clinical supervision with feedback. The proficiency training takes place with progression according to the model for nationally agreed Entrustable Professional Activities (EPA).

Learning outcomes

The intended learning outcomes of the course relate to the national aims for a Degree of Master of Science in Medicine in the System of Qualifications in Higher Education Ordinance (SFS 1993:100). Intended learning outcomes for knowledge and understanding are structured according to the SOLO taxonomy (S2-S5) and intended learning outcomes for competence and skills are divided according to Miller's pyramid (M3-M4).

Knowledge and understanding
To pass the course, the student should be able to:

- explain and evaluate the importance of symptoms and findings in common, acute and serious diseases (S4)
- describe how surgical conditions are diagnosed, treated and followed up and their prognosis (S4)
- describe pros and cons with surgery and other procedures in relation to pharmacological treatment and changes of lifestyle from the individual, societal-global, ethical and sustainability perspective (S4)
- explain and evaluate the importance of screening studies at surgical diseases (S3)
- explain preventive measures to prevent post-operative complication and disease (S4)
- explain choice of anaesthesia form at common surgical measures (S4)
- explain choice of imaging and clinical physiological studies at surgical conditions (S4)
- use basic scientific models above all in the fields of anatomy, pathology, genetics, tumour biology and clinical physiology and pharmacology for symptoms, findings and treatments at common surgical conditions (S4)
- describe basic diagnostics and treatment of pain, fluid therapy and nutritional treatment with consideration taken to the patient's clinical picture and situation before, during and after surgery (S4)
- explain the Swedish donation organisation, ethics and laws concerning donation and for preconditions for donation conversation (S3)
- explain work distribution between different nursing levels, different care units, different professional categories and the skills and areas of responsibility in surgical disciplines (S3) of other health care professions)
- describe principles of identification of individuals where one should suspect exposed position for violence particularly in close relation and be able to give an account of typical injury images (S3)
- explain how diseases and injuries in surgical specialities influence the patient's quality of life and work capacity with respect to disabilities and disability (S4)
- explain ethical and legal principles that regulate decision about treatment limitation (S3)
- explain and describe common etiological mechanisms for bodily injuries and basic forensic ordinances (S3).

Skills and abilities
To pass the course, the student should be able to:

- acquire person-centred medical history for common, serious and acute conditions in surgical diseases and condition and ensure structured information transfer in and between professions (M4)
- carry out an adequate physical examination in view of the current problem, considering risk factors, hygiene rules, the patient's integrity and explain and justify examinations and potential findings (M4)
- prioritise and discuss relevant differential diagnoses (M3)
- evaluate and prioritise medical measures in the subject areas of the course (M3)
- establish an initial investigation plan, choose adequate investigational methods including radiology, issue referrals to other specialists or other health professions, as well as interpret a reply (M4)
- identify the most common findings at radiological studies linked to the "symptoms and findings" (M3) of the course
- formulate an initial action plan in collaboration with the patient and carry out treatment according to planning (M3)

- identify the need for and initiate evidence-based procedures regarding the current condition and surgical complications, tailored after the patients and family's needs (M3)
- describe preventive measures with respect to living habits of importance, and before and after planned surgery establish an action plan with the patient (M3)
- carry out basic general medical procedures, small surgery and apply sterile technology in common and acute conditions (M4)
- identify patients in need of acute care, in need for higher nursing level, and to prioritize and carry out primary treatment at serious and acute conditions (M3)
- prescribe drugs (M4)
- be able to use digital systems in a patient-focused, safe, efficient and sustainable way to communicate and document patient-related factors (M4).
- cooperate in health care and with professions in other parts of the society within the surgical specialities (M3)
- communicate varied and distinctly about medical contents in speech and writing, adequately interpret the description of patient medical records and adapt their communication with situation and receiver (M3)
- teach, cooperate with and lead other students in an interprofessional learning environment (M4)
- evaluate medical history and injury images of patients in a legal and systematic way,indicating crime suspicion, and in an adequate way document these in patient journals that can constitute a basis for court certificates (M3)
- apply laws, ordinances and regulations for Swedish health care, social services and other authorities relevant to the areas of the course (M3)
- cooperate in groups and contribute to another students' learning by being well prepared, participate actively in discussions related to the course content, and use collegial feedback as tool for continuing professional development (M4)
- plan, carry out and evaluate a lecture (M4)
- empathically react to patients, relatives, another students, teachers and staff in a respectful and professional way (M4)

Attitude and judgement
To pass the course, the student should be able to:

- reflect on equal opportunities perspective for patients
- identify value conflicts in meetings with patients and relatives, and handle and discuss these in primary care, at the acute stage and within intensive care and at organ donation
- reflect on the importance of own values, compassion and a professional attitudes in the interaction with patients, families and co-workers
- evaluate own knowledge needs in relation to the intended learning outcomes of the course and the future professional role and be able to formulate aims for own continued continuing professional development.
- act and react judiciously and professionally in clinical and other learning situations.

Content

The course content is directed towards surgical specialities. The student should expand their ability towards independent clinical work, scientific analysis of clinical issues and medical decision making. The course includes compulsory repetition of CPR skills and preparatory theory for aHLR (advancedHLR). Included in the clinical training is corresponding legal and ethical aspects in communication (including digital communication).

The course is divided into eleven different parts:

Introduction to surgical conditions and treatments, 1.5 hp

Grading scale: AF

The main content is knowledge and skills necessary for the placement in the following clerkships of the course with respect to acute, serious and common conditions. It includes basic concepts, case-based teaching, seminars and skill training.

Surgery, 2.5 hp

Grading scale: AF

This part includes knowledge and skills in the area of surgery with a focus on benign and malignant surgical conditions and trauma. The teaching includes both theory and practical exercises. Emphasis is placed on symptoms and findings, clinical argument, diagnostics and handling of acute, serious and common conditions.

Orthopedics, 2.0 hp

Grading scale: AF

This part includes knowledge and skills in the area of orthopaedics with a focus on injuries and diseases in the musculoskeletal system. The teaching includes both theory and practical exercises. Emphasis is placed on symptoms and findings, clinical argument, diagnostics and handling of common, acute and serious conditions.

Anesthesia and Intensive Care, 1.5 hp

Grading scale: AF

This part includes knowledge and skills in the area of anaesthesia. The teaching includes both theory and practical exercises. Emphasis is placed on acute medical treatment on the basis of relevant basic pharmacological, physiological and biochemical scientific knowledge and handling of pain.

Urology, 1.5 hp

Grading scale: AF

This part includes knowledge and skills in the area of urology with a focus on benign and malignant urological conditions. The teaching includes both theory and practical exercises. Emphasis is placed on symptoms and findings, clinical argument, diagnostics and handling of common, acute and serious conditions.

Radiology, 1.0 hp

Grading scale: AF

This part includes the possibilities and limitations of radiological methods and indications and contraindications for contrast media at all modalities. Emphasis on being able to choose adequate examination method related to relevant issue. In addition, the module includes assessment of diagnostic imaging studies of commonly occurring conditions 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.

Forensic Medicine, 0.5 hp

Grading scale: AF

This part includes knowledge and understanding of the role of the forensic activities in relation to the health care and the judicial system. The focus is directed towards identification of different kind of injuries and documentation of these in relation to crime. Emphasis is placed on relevant ordinances and the application of these with respect to physical examinations. It also includes understanding of forensic aspects and relevant ordinances when handling suspected cases of violence in close relationships.

Interprofessional Learning in Work-place based education, 3.0 hp

Grading scale: AF

This part includes interprofessional training in clinical placements. 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.

Work-place based education, 14.5 hp

Grading scale: AF

In this part, placement with a focus on surgery, orthopaedics, anaesthesia, urology or primary care is included. During the clinical placements, the students practice medical history taking, to carry out an adequate physical examination, differential diagnostics and investigations, suggest and initiate treatment of patients with common, serious and acute conditions in the respective fields. In addition, the students deepen their generic physician competence from earlier courses with the aim to reach increased independence. Emphasis is placed on increased independence in general and directed examination technique, priority of relevant differential diagnoses, investigation plan, practical handling in collaboration with the patient and where appropriate participate at surgical procedures.

Examination (grading) of professional attitude in the clinical placements is arranged in this component *, through continuous assessment, based in the criteria of the programme.

Placement in surgery (equivalent to 1.5 credits)
The placement implies clinical placement on a surgical unit. During the placement, the students deepen and apply knowledge and skills they acquired during the theoretical component in surgery and vascular surgery. In addition, the students deepen their generic physician competence.

Placement in surgery - long placement (equivalent to 4.5 credits)
The placement implies a three weeks long cohesive placement on a surgical ward. The aim of the cohesive placement is that the student should deepen their generic physician competence from earlier courses so that the student reaches increased independence in the care. This includes professional activities such as rounds, writing medical records, writing referrals and report to other co-workers. In addition, the student should analyse aspects of sustainable development in care.

Placement in orthopaedics (equivalent to 2.5 credits)
The placement implies clinical placement on an orthopaedic unit. During the placement, the students deepen and apply knowledge and skills they acquired during the theoretical component in orthopaedics. In addition, the students deepen their generic physician competence.

Placement in anesthesiology and intensive care (equivalent to 1.5 credits)
The placement implies clinical placement on a unit in anaesthesia and intensive care. During the placement, the students deepen and apply knowledge and skills they acquired during the theoretical component in anaesthesia and intensive care. In addition, the students deepen their generic physician competence. Emphasis is placed on increased understanding at preoperative assessment and independence at initial handling and structured communication about vital functions and primary treatment of patients in needs of acute care.

Placement in urology (equivalent to 1.5 credits)
The placement implies clinical placement on an urological unit. During the placement, the students deepen and apply knowledge and skills they acquired during the theoretical component in urology. In addition, the students deepen their generic physician competence.

Placement in primary care (equivalent to 1.5 credits)
The placement implies clinical placement in primary care. During the placement is deepened and apply the students knowledge and skills acquired from teaching at other components. The placement intends to deepen clinical skills and increase independence when handling patients with common conditions in

surgery, vascular surgery, orthopaedics and urology based on person-centred care and general medicine perspective. Emphasis is put on commonly occurring condition in the musculoskeletal system and the digestive organs and urine functions.

Placement in acute care centers (equivalent to 1.5 credits)
The placement implies clinical placement in smaller acute care units. The placement intends to increase the student's independence when handling patients with common acute conditions in surgery, vascular surgery, orthopaedics and urology. 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".

Professionalism, responsibility and learning, 1.0 hp

Grading scale: AF

Teaching, training and assessment of a professional attitude, responsibility and learning takes place continuously during the course and specifically in connection with TBL, the Mentor programme and the final written assignment with reflection over the student's own learning in relation to the intended learning outcomes of the course. Examination (grading) of professional attitudes outside the clinical placement is arranged in this component *, through continuous assessment, based in the criteria of the programme.

Professional attitude in authentic clinical situations is assessed and is not graded in this component but rather in the placement component of the course.

The mentor programme that is included in this part relates to other teaching in the course in order to support the student's personal and professional development. Together with the mentor be given the student occasion to reflect, based on CanMEDS framework over their development in relation to the intended learning outcomes of the education, documented achievement in the portfolio and the future professional physician's role.

Application and Integration, 1.0 hp

Grading scale: AF

This component includes discussion groups in which students train structured, situation based reflection and self-assessment of their own experiences from clinical placement/clinically integrated training during professional management.

In this part, the examinations of the course are also included, which consist of an OSCE, a written examination and an oral examination. In connection with the examination, there are time for self-study and reflection.

Teaching methods

Working methods during the course are:

- Placement (VFU)
- Clinically integrated training
- Team-based learning (TBL)
- Seminars
- Proficiency training
- Simulations
- Lectures
- Discussion group meetings
- The mentor programme

The central working methods of the course are placement and clinically integrated training.

Examination

Introduction to surgical conditions and treatment, 1.5 credits
Compulsory participation
- Teacher-supervised proficiency trainings
- Seminars

Examination
- Oral examination

To participate in the examination of the course, it is required that the student has a Pass grade on all parts and components of the course shown equivalent knowledge and skills in a different way.

Surgery, 2.5 credits
Compulsory participation
- Team-based learning (TBL)
- Teacher-supervised proficiency trainings
- Case-based teaching of the care
- Simulations
- Seminar

Ortopaedics, 2 credits
Compulsory participation
- Team-based learning (TBL)
- Teacher-supervised proficiency trainings
- Case-based teaching of the care
- Simulations
- Seminar

Anesthesia and Intensive Care, 1.5 credits
Compulsory participation
- Team-based learning (TBL)
- Teacher-supervised proficiency trainings and case-based teaching of the care
- Seminar

Urology, 1.5 credits
Compulsory participation
- Team-based learning (TBL)
- Teacher-supervised proficiency trainings
- Case-based teaching of the care
- Simulations
- Seminar

Radiology, 1 credit
Compulsory participation
- Team-based learning (TBL)
- Teacher-supervised proficiency trainings and case-based teaching of the care
- Simulations
- Seminar

Forensic Medicine, 0.5 credits
Compulsory participation
- Team-based learning (TBL)

Interprofessional Learning in Work-place based education, 3 credits
Compulsory participation

- Interprofessional learning (IPL)
- Placement (VFU)

Compulsory formative assessments
Continuous assessment in clinical placement

Examination
Examination in clinical placement **

Work-place based education, 14.5 credits
Compulsory participation
- Placement (VFU)

Compulsory formative assessments
- Continuous assessment in clinical placement

Examination
- Examination in clinical placement **

Professionalism, responsibility and learning (PRAL), 1.5 credits
Compulsory participation
- The mentor programme
- Discussion group meetings

Compulsory formative assessments
- Written assignment (reflection over own learning)
- Self-assessment and collegial feedback (TBL)
- Self evaluation and individual action plan (the Mentor programme)

Examination
- Examination of professional attitude*

Application and integration, 1 credit
Examination
- Objective structured clinical examination (OSCE)
- Written examination (exam)
- Oral examination

All course modules of the course has to be passed in order to participate in the examination of the course "Application and integration".

Professional behavior is assessed continuously, based on assessment criteria, in all contexts where the student acts in their role as a student or related to educational activities within the university or healthcare, in communication, and via digital media. In case of insufficient goal achievement, as revealed during assessment, the examiner may fail the PRAL (Professionalism, responsibility and learning) component or the Clinical Placements component (if insufficient goal achievement occurs during Clinical Placements). In such cases, an action plan should be established.

During the assessment of professional behavior in PRAL and Clinical placements, the student has the right to two assessment opportunities. If professional behavior is deemed inadequate in Clinical placements, one assessment opportunity has been used. For re-assessment, the student needs to redo the entire component, guided by the action plan. Re-assessment of a failed PARL component occurs during a subsequent course as specified in the action plan.

Examination during the Clinical placements involves summative assessment based on a comprehensive foundation from VFU. This foundation comprises formative assessments during clinical training, supported by assessment instruments such as MiniCEX, DOPS, EPA, Dialoginstrument, and BIPS.

The examiner evaluates whether and how absence from mandatory educational components can be remedied. Before a student participates in the obligatory educational elements or makes up for any absence according to the examiner's instructions, study results cannot be reported. Absence from a mandatory educational component may necessitate waiting until the course is offered again.

The examiner has the authority to immediately terminate a student's Clinical placement or equivalent if the student demonstrates severe deficiencies in knowledge, skills, or attitudes that jeopardize patient safety or erode patient trust in healthcare. When a placement is terminated in this manner, the student fails the current segment, and the Clinical placement opportunity is expended. In such cases, an individual action plan must be established, outlining the activities and knowledge assessments required before the student is granted a new Clinical placement opportunity within this course.

A student who is not approved after the regular examination opportunity has the right to participate in an additional five examination opportunities. If a student has attempted six unsuccessful exams or assessments, no further examination opportunities are provided. Each instance of a student participating in the same exam or assessment counts as an examination opportunity. Submitting a blank response also counts as an examination opportunity. Instances where a student has registered for an examination but did not participate are not considered examination opportunities. In Clinical placements examinations, students have the right to two examination opportunities."

If there are specific reasons or a need for accommodation due to a student's disability, the examiner may decide to deviate from the course syllabus regulations regarding examination format, number of examination opportunities, possibilities for supplementation, or exceptions from mandatory educational components, among other considerations. However, the content, learning objectives, and expected level of skills, knowledge, and abilities must not be altered, removed, or lowered.

Other directives

Language of instruction
The language of instruction is English. Swedish and English literature is used in the course.

Learning portfolio
Supports for the student's development in different domains are collected continuously during the education in the student's individual learning portfolio.

Scheduling
Scheduling during evenings, nights and weekends can occur during the clinical placements of the course.

Course evaluation
Course evaluation is carried out according to Karolinska Institutet's guidelines.

Literature and other teaching aids

Kirurgi
Hamberger, Bertil; Haglund, Ulf

Nionde upplagan, reviderad : Stockholm : Liber, 2017 - 682 sidor
ISBN:9789147112982 LIBRIS-ID:20885691
Library search

Kirurgi
Ljungqvist, Olle; Naredi, Peter; Sund, Malin; Thorlacius, Henrik

Femte upplagan : Lund : Studentlitteratur, [2021] - 725 sidor
ISBN:9789144134239 LIBRIS-ID:bprsmffl8zp5cc7h
Library search

Stark för kirurgi-stark för livet

Svenska Läkarsällskapet, 2020
URL: http://www.sls.se/levnadvanesprojektet/
https://www.sls.se/halsa--sjukvard/levnadsvanor/levnadsvanor-infor-operation/stark-for-kirurgi--stark-for-

Lindgren, Urban; Svensson, Olle

Ortopedi

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

Ortopedi : patofysiologi, sjukdomar och trauma hos barn och vuxna

Karlsson, Magnus; Karlsson, Jón; Roos, Harald

Upplaga 1 : Lund : Studentlitteratur, [2018] - 589 sidor
ISBN:9789144090849 LIBRIS-ID:gqfrh5fgdm2hs234
Library search

Ortopedkompendium

Institutionen för klinisk vetenskap, intervention och teknik,

Hamblen, David L.; Simpson, A. Hamish R. W.; Adams, John Crawford

Adams's outline of orthopaedics

14. ed. : Edinburgh : Churchill Livingstone Elsevier, cop. 2010 - viii, 485 s.
ISBN:9780702030611 LIBRIS-ID:11615504
Library search

Dandy, David J.; Edwards, Dennis J.

Essential orthopaedics and trauma

5th ed. : Edinburgh : Churchill Livingstone, 2009 - xi, 490 p.
ISBN:9780443067181 LIBRIS-ID:11723431
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
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. - ix, 292 p.
ISBN:1444164821 (e-book) LIBRIS-ID:14206255
Library search

Radiologi

Blomqvist, Lennart; Zackrisson, Sophia

Upplaga 2 : Lund : Studentlitteratur, 2022 - 668 sidor
ISBN:9789144129013 LIBRIS-ID:8pz0dxzt6ctcn629
Library search