



**Karolinska
Institutet**

Course syllabus for

Comprehensive diagnostics and monitoring of the seriously ill patient, 7.5 credits

Fördjupad diagnostik och monitorering kring den svårt sjuke patienten, 7.5 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:

Autumn2007 , [Autumn2009](#)

Course code	LKG006
Course name	Comprehensive diagnostics and monitoring of the seriously ill patient
Credits	7.5 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Medicine
Level	AV - Second cycle
Grading scale	Pass, Fail
Department	Department of Molecular Medicine and Surgery
Participating institutions	• Department of Physiology and Pharmacology
Decided by	Programnämnden för läkarprogrammet
Decision date	2007-05-08
Course syllabus valid from	Autumn 2007

Specific entry requirements

Semester 4 in the Study Programme in Medicine, basic electrocardiography knowledge and some experience of patient contact.

Objectives

The overall goal is, with obtained competence, to have a good basis for the future professional work as a physician, when it comes to handle a seriously ill patient, adequately, from a diagnostic and monitoring point of view. This, by possessing advanced knowledge and understanding of clinically applied physiological diagnostics and monitoring that contribute to increased safety in the treatment of patients and to the personal professional development. The knowledge is tiered according to the SOLO taxonomy (S1-S4) and the skills according to Miller's pyramid (M1-M4). Knowledge and understanding The student should understand and be able to discuss electrophysiology hemodynamics, imaging techniques (S3,) respiratory function, gas exchange (S3), clinical picture - examination technique - measure (S3) Skills: The student should be able to in a professional manner register and interpret ECG,

i. e. with a higher grade of independence than according to CC (M4), interpret blood gases, examine lung function and be able to control O₂ - treatment (M4) The student should also be able to show how to seek diagnostic information (M3), how to prioritise, refer and inform the seriously ill patient (M3) Approach: The student should also be able to act in a calm, confident and attentive manner (M3), know how to work analytically, scientifically and seek information (M2) and be able to describe this (S2), know how inform and act with empathy and respect (M2) and be able to describe this (S2), be able to account for common ethical considerations in diagnostics of the seriously ill patient (S2) and know what may influence these (M2)

Content

a) Skills and proficiency training The students may train their skills to assess seriously ill patients with regard to vital functions, mainly respiration and circulation. The skills are also developed in search of diagnostic information, critical understanding, evaluation and interpretation of this information. Skills are achieved in registering and interpreting ECG and in examining and assessing respiratory function. b) Subject integration According to the intentions of the goal model, teachers from basic science (especially physiology) and clinic (especially clinical physiology and anaesthesia) will participate to provide integration and a holistic perspective. Through patient interaction and auscultation within several different disciplines, extensive subject integration takes place. c) Clinical connection A clinical connection is very important to the course, and the participants meet patients within a number of different disciplines, in addition to clinical physiology also intensive care, cardiology, vessel and thoracic surgery, surgery, infection, different medical specialities. This takes place through patient examination, demonstrations, rounds, ward visits. d) Perspectives of particular concern In connection with individual patient contacts, treatment and attitude are practiced. This is also included as a special part in the course, where ethical considerations are also important. The balance between the physician's need of a safe diagnosis, and the patient's benefit of that is emphasised, as well as the importance to show respect for an often anxious patient in a serious situation. A gender perspective on the subject is discussed and special conditions that may play a role for the examined patient are discussed, for example ethnicity, religion, disabilities. e) Research link Physiology and clinical physiology are closely related to research and research perspectives will, naturally, be an integrated part of the teaching; we will also bring up some so called front line research, inter alia in imaging techniques. The course is divided into modules, where each module is initiated with a theoretical overview in the form of shorter lectures and seminars. During the week, practical exercises, ward visits, and additional whole or half group seminars take place, in some cases with participation from several specialities. At the beginning of the course, a problem case is distributed (one per two students). It forms a basis for enhanced literature studies and a so called individual advanced assignment (under supervision) to be presented at the end of the course before class, and constitutes the examination and a joint training opportunity. Function systems and integrating assignments in the course: Circulation chest pain, heart murmurs, heart arrests/sudden death, high blood pressure, low blood pressure, abnormal heart activity, faint/collapse, peripheral circulatory disorder, cerebral circulatory disorder Respiratory dyspnea, respiratory sounds, cyanosis, breathing difficulties. Mentally - unconsciousness/coma, Movement trauma/injury

Teaching methods

Theory in the form of shorter introductory lectures, seminars, group assignment, self-study, advanced assignment including an integrated task. Practical exercises with electrocardiography, spirometry, blood tests, ultrasound. Auscultation in these examinations and in examinations with radionuclide imaging, hemodynamic catheterising, angiography, computer tomography, magnetic resonance imaging. Visits at surgery and different intensive care units.

Examination

An individual advanced assignment in the form of an integrated task is assigned at the beginning of the course. Presentation takes place in writing and orally at seminars at the end of the course. Criticism and

academic discussion of the advanced assignments of a fellow students are included as a natural teaching item in the final examination. The student's absorption of the following parts of the course will be assessed through practical or theoretical exercises and discussions and weighed in the final grade. - Electrocardiography and interpretation resulting in a "driver's licence" in electrocardiography. - Respiratory physiological examination and interpretation - Diagnostic processing of seriously ill patients - Application of an ethical attitude, professional treatment, co-operation ability, scientific ability

Compulsory parts: The course includes practical parts and participation in the different parts is expected. Seminar participation is compulsory. Participation in the presentation of individual advanced assignments is required for a Pass mark in the course. Each student keeps a log book including registration of participation. Individual study goals are formulated by each student at the beginning of the course, and are evaluated at the end of the course. An account for a completed search of literature is included. EBM perspectives are discussed. Presentation of reviewed articles takes place at seminars. During the completing 1-2 days of the course, a presentation of the advanced assignment will take place. The written part of the work should be submitted in advance. An additional presentation session will be arranged when necessary. A compensating activity for a compulsory seminar can when necessary to some extent be agreed on with the examiner. Limitations of the number examination or 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 placement, as a rule, may be repeated only once.

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. Until the new programme syllabus is carried out in full, interim regulations in the individual case can be applied regarding entry demands

Other directives

The course connects to and enhances core knowledge in the stages of the Study Programme in Medicine A and B. During the course the different parts will be graded by the student to the benefit of of future students and continuous improvement work.

Literature and other teaching aids

Brauer, Kerstin

Klinisk fysiologi : med nuklearmedicin och klinisk neurofysiologi

Jonson, Björn; Wollmer, Per

2. uppl. : Stockholm : Liber, 2005 - 427 s.

ISBN:91-47-05244-9 (inb.) LIBRIS-ID:9864337

[Library search](#)

Intensivvård

Larsson, Anders; Rubertsson, Sten; Wilhelmsson, Jan

1. uppl. : Stockholm : Liber, 2005 - 696 s.

ISBN:91-47-05135-3 (inb.) LIBRIS-ID:9829125

[Library search](#)