Course syllabus for

Perinatology, 7.5 credits

Perinatologi, 7.5 hp
This course syllabus is valid from autumn 2017.
Please note that the course syllabus is available in the following versions:
Autumn2009 , Spring2017 , Autumn2017 , Spring2023

Course code	2LK025
Course name	Perinatology
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 Women's and Children's Health
Participating institutions	• Department of Cell and Molecular Biology • Department of Clinical Science, Intervention and Technology
Decided by	Programnämnden för läkarprogrammet
Decision date	2009-10-23
Revised by	Programme committee for study programme in medicine
Last revision	2017-05-24
Course syllabus valid from	Autumn 2017

Specific entry requirements

All high school credits from semester 1-4 are required. In addition the student should have passed "The sick human 2" section of the course "Medical diagnostics", and the "clinical driving licence" section of the course "Integrated part-exam".

A student that has failed to pass the practical training (VFU) or similar due to a lack in knowledge, skills or views that has been judged to potentially hazard patient security or confidence, is eligible for new VFU only after the individual development plan has been completed.

Objectives

Goals
With the basic scientific courses as a stepping-stone, the course aims at letting the student add in-depth knowledge of clinical medicine regarding the foetus and child's physiology and clinic, as well as essential knowledge of various diseases prevalent during the newborn period.

Learning outcomes
Learning outcomes for knowledge and understanding are structured according to the SOLO taxonomy (S1-S4) and corresponding skills according to Miller's pyramid (M1-M4). *

The student should be able to:
- Explain the concept of epigenetics and relate this to perinatal programming as a basis for future health and disease (S3).
- Diagnostically analyse and discuss important acute disease conditions in foetuses and newborn children. Relate these to inheritance and circumstances during pregnancy, birth and the newborn period (S4).
- Starting with knowledge of normal embryogenesis, foetal development and perinatal transition, relate perinatal development to risk-factors in foetuses and prenatally born children, including maternal health, gestational age, environment and genus (S3).
- Discuss epidemiology and diagnostics of important acute diseases in foetuses and newborn children, and relate these to the mother’s health status (S3).

Skills
The student should be able to:
- Examine a pregnant woman
- Describe ultrasound and foetal monitoring before and in connection with birth (M1).
- During maternity hospital rounds perform examinations of newborn children, communicate with parents and collaborate with other hospital staff (M3).

Attitude
The student should be able to:
- Display an emphatic attitude based on ethical and scientific reasoning.
- Treat patients, other students, teachers and staff with respect, and take active responsibility for his or hers learning and development within the profession.

Content

Life before birth strongly affects the individual’s future health and development. Our knowledge of this essential period in life grows rapidly. We now know that this period has a deciding influence on the individual's future life, as does the pregnancy for the mother’s future health. Birth is a critical event when the newborn rapidly has to adapt to a life outside the uterus. Many transitions are instant, like the switch to continuous respiration, while others gradually develop during the first postnatal period. Insight into these transitions is a prerequisite for the understanding of disease conditions that can affect the newborn child, but also for the understanding of postnatal development and the physiology of more mature children and adults. This correlation is included in the rapidly growing concept of perinatal programming and epigenetics, which belongs to the core of the course. The significance of inheritance and environmental factors is treated with special regard to their impact on the individual's future health and disease.

The course encompass prenatal programming of future health, the child's nervous system and psycho-motoric neuronal development, the child and consciousness, pain-physiology in the newborn, the transition at birth, central nervous system related respiratory disorders, and sudden infant death syndrome. The course is translational and combines basal pre-clinical medicine with bedside-training involving patients. The course ambition is to treat fundamental medical knowledge as well as the latest findings within this rapidly changing field.

The student will work in projects with integrated issues relating to the main theme of the course. During seminars, cases will be presented and discussed. The student can, in consultation with the course management, get access to hospital speciality wardens and also to specialist maternity- and other wardens outside the hospital. This offer is depending on the student’s interest and the demands of the course.

VFU will be in the women's clinic of the Karolinska University hospital Huddinge, and that of Astrid Lindgren's children's hospital.

The student will perform an individual study in perinatology. Different subject and mentors to choose from will be offered during the first week of the course. With help of the mentor, the student will produce a written essay in English or Swedish (5-8 pages, spacing 1.0), with correct references to the scientific literature. The study should be presented orally during a seminar at the end of the course. In addition, the student should be prepared to act as an "opponent" and criticize the studies of two fellow students.

Teaching methods

The course includes lectures, case-descriptions, seminars and clinical demonstrations, as well as practical training (VFU) with bedside education and participation in the work going on in the hospital ward, maternity ward or maternity care unit.
VFU will be in the women's clinic of the Karolinska University hospital Huddinge, and that of Astrid Lindgren's children's hospital.
During the autumn semester, the course is given in English.

Examination

Obligatory parts:
Practical training (VFU) and seminars where assessments are performed.

Examination:
Both oral and written presentation of the individual written essay will be examined as well as opposition and participation in discussion at the presentation seminar Written examination.

Examiner assesses if and how the student might make up for absence from mandatory course requirements. A final assessment cannot be given until the student successfully completes all of the compulsory course requirements (or made arrangements with instructors to make up for absences during the course). Absence from compulsory course requirements may result in failure of the course. Absence may result in course work not being able to be completed until future courses are offered.

Students who do not pass a regular examination are entitled to re-sit the examination on five more occasions. If the student has carried out six failed examinations no additional examination will be given. In such and event the student will be offered the opportunity to retake the course.

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, stating the required proficiency skills and other activities necessary in order for the student to resume his/her clinical placements, must be established. In such cases only one new clinical placement opportunity is given during the course. If the student is unsuccessful, an opportunity to retake the course from the beginning will be made available.

Transitional provisions

If a course has been cancelled or undergone major changes, at least two additional examinations (excluding regular examinations) on the previous contents will be provided within a year of the date of the change.

Other directives

Course evaluation is performed according to the guidelines set by the board of education at Karolinska Institute.

The course connects to and deepens knowledge, skills and attitudes in the physicians programme and is defined as near Specialty.

The course cannot be included in a degree together with an Advanced course, attended in Sweden or abroad, whose course content completely or in essential parts correspond with the course.

*

The knowledge is structured according to the SOLO taxonomy:
S1) simple (e.g. know, identify)
S2) composite (e.g. account for, describe)
S3) related (e.g. analyse, relate)
S4) extended (e.g. theorise, analyzs)

The skills goals are structured according to Miller's pyramid:
M1) know
M2) to apply knowledge
M3) to be able to show
M4) to be able to demonstrate professionally

Literature and other teaching aids

Hagberg, Henrik

Obstetrik

Marsal, Karel; Westgren, Magnus

2., [uppdaterade] uppl. : Lund : Studentlitteratur, 2014 - 715 s.
ISBN:9789144095707 (inb.) LIBRIS-ID:16249815
Library search

Lagercrantz, H; Hellström-Westas, L; Norman, M

Neonatologi

Studentlitteratur AB, 2008
ISBN:91-44-04643-X LIBRIS-ID:10674783
Library search

Avery, Gordon B.

Neonatology : pathophysiology and management of the newborn

5. ed. : New York : Lippincott Williams & Wilkins, cop. 1999 - 1621 s.
ISBN:0-7817-1210-6 LIBRIS-ID:8307437
Library search

Developmental origins of health and disease

Gluckman, Peter; Hanson, Mark

New York : Cambridge Univ. Press, cop. 2006 - xvi, 519 s.
ISBN:0-521-84743-5 LIBRIS-ID:10092864
Library search

Epigenetic mechanisms and the mismatch concept of the developmental origins of health and disease

Godfrey, KM; Lillycrop, KA; Burdge, GC; Gluckman, PD; Hanson, MA

2007 Ingår i:
Pediatric research :[Elektronisk resurs]b an international journal of clinical, laboratory and

developmental investigation

Baltimore, Md : Williams and Wilkins Co,
ISSN:1530-0447z 0031-3998 (print) LIBRIS-ID:9841568
URL:
http://link.libris.kb.se/sfxkib?url_ver=Z39.88-2004&ctx_ver=Z39.88-2004&ctx_enc=info:ofi/enc:UTF-8&
Tillgänglig för användare inom Karolinska institutetz Ovid Lippincott Williams & Wilkins Journal Definitive Archive:Full Textz Ovid Lippincott Williams & Wilkins Total Access Collection:Full Text
(2007) s. 5R-10R

Ewald, Uwe; Sjöberg, Nils-Otto

Perinatalt omhändertagande vid extrem underburenhet

Stockholm : SFOG, 2004 - 124 s.
LIBRIS-ID:9855312

Gabbe, Steven G.; Niebyl, Jennifer R.; Simpson, Joe Leigh

Obstetrics : normal and problem pregnancies

5th ed. : Philadelphia, PA : Churchill Livingstone/Elsevier, 2007. - xvii, 1391 p.
ISBN:978-0-443-06930-7 LIBRIS-ID:10596335
Library search

Gluckman, PD; Hanson, MA

Living with the past: evolution, development, and patterns of disease

2004 Ingår i:
Science

Washington,c 1883- : 1883-
ISSN:0036-8075 LIBRIS-ID:8258315
URL:
http://www.du.se/proxy.aspx?=http://search.ebscohost.com/login.aspx?direct=true&db=afh&jid=SCI&site
Fulltext online (1997-2004)
(2004) s. 1733-6

Kliegman, Robert; Nelson, Waldo E.

Nelson textbook of pediatrics

18. ed. : Philadelphia : Saunders Elsevier, cop. 2007
ISBN:978-1-41602450-7 LIBRIS-ID:10532141
Library search

Obstetriskt ultraljud

Stockholm : Svensk förening för obstetrik och gynekologi, 2007 - 119 s.
LIBRIS-ID:10736534

Obstetrisk öppenvård

Grennert, Lars; Marsál, Karel

2., [rev. och aktualiserade] uppl. : Stockholm : Liber, 2004 - 384 s.
ISBN:91-47-05220-1 (korr.) LIBRIS-ID:9717908
Library search

Olofsson, Nina

Förlossningssmärta och dess behandling

Lund : Studentlitteratur, 2003 - 143 s

ISBN:91-44-01624-7 : 268:0 LIBRIS-ID:8804103
Library search

Turnbull, Alec; Chamberlain, Geoffrey

Obstetrics

Edinburgh : Churchill Livingstone, 1989 - 1200 s.
ISBN:0-443-03539-3 LIBRIS-ID:4942449
Library search