



**Karolinska  
Institutet**

Course syllabus for

# **Clinical Medicine - Emphasis on Reproduction and Development, 22.5 credits**

Klinisk medicin - inriktning reproduktion och utveckling, 22.5 hp

This course syllabus is valid from spring 2024.

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

[Spring2014](#) , [Autumn2015](#) , [Autumn2016](#) , [Autumn2018](#) , [Autumn2019](#) , [Spring2020](#) , [Autumn2020](#) , [Autumn2021](#) , [Spring2022](#) , [Spring2023](#) , [Spring2024](#) , [Spring2025](#)

Course code	2LK111
Course name	Clinical Medicine - Emphasis on Reproduction and Development
Credits	22.5 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
Decided by	Programnämnd 2
Decision date	2013-10-25
Revised by	Programme committee for study programme in medicine
Last revision	2023-10-20
Course syllabus valid from	Spring 2024

## **Specific entry requirements**

All credits from semester 1-8

Students who fail to meet placement requirements by demonstrating serious deficiencies in knowledge, skills or attitudes, or who jeopardise patient safety or quality of healthcare, will be eligible for re-qualification for new placement opportunities only after an individual action plan has been successfully completed.

## **Objectives**

### **Aim**

The aim of the course is to provide the student with the knowledge, skills and competency to interact with patients in a safe and professional way, to ensure an ability to diagnose and process a range of common and serious paediatric medicine, paediatric- and adolescent psychiatry, gynaecological,

obstetric and genetic health issues. This requires basic skills in meeting and communicating with patients and families as well as carrying out age appropriate and directed medical histories and clinical examinations. It also requires integrating basic science and clinical medicine.

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). \*

## Learning outcomes

### *Knowledge and understanding*

The student should be able to

- *analyse, discuss and diagnose* a range of common and serious diseases and disabilities in children and adolescents, as well as women in natal and/or gynaecological care. (S3)
- describe the development of the fetus and the child and explain genetically and psychologically related reasons for deviations from this. (S3)
- reflect on and discuss the exposed position of children, adolescents and women in family, close relations and society including men's violence against women and violence in close relations. (S3)
- give an account of when one should suspect that a patient has a genetic condition and explain investigation and handling principles of patients and families with genetic conditions, as well as on a general level give an account of the molecular background of genetic abnormalities (S2)
- describe genetic prenatal diagnostic methods and their clinical application (S2)
- *reflect* on health promotion for pregnant woman, fetuses, newborn, children, adolescents and women. (S3)

### *Skills*

The student should be able to

- *obtain, interpret and relevantly document* medical records and statuses, as well as handle the range of conditions facing pregnant women, fetuses, children, adolescents and women of all different ages. (M3)
- *evaluate* findings from medical and ethical principles and be *able to explain and communicate these* with patients, relatives, staff and students. (M3)
- apply* relevant statutes, laws and conventions with respect to the health, rights and well-being of children, adolescents and women. (M3)
- draw and analyse a pedigree (M3)
- carry out risk estimations at monogenic conditions and assess repetition risk at chromosome aberrations and multifactorial disease (M3)
- formulate a referral for genetic investigation and interpret the information in a referral response (M2)

### *Attitude*

The student should be able to

- respond *respectfully to and interact professionally* with patients, relatives, teachers as well as health-care personnel both in conversations and during examinations, irrespective of background, sex or sexual orientation.
- act respectful to patients, other students, teachers and staff, take active responsibility for their learning and their professional development and be able to reflect on their own limitations.
- be able to reflect on the genetic counseling situation and its ethical aspects.
- be able to reflect on how a genetic diagnosis of an individual can influence other individuals in the family.

## Content

The course includes specialties in gynaecology and obstetrics, paediatrics, pediatric surgery, psychiatric services for children and adolescents as well as clinical genetics. Evaluation is based on the student's participation in the care and discussion of patient cases during placements. Teaching will take place in both in- and out-patient care settings. Interprofessional learning is a central part of the course in order to prepare students for their future professional roles.

## **Clinical medicine with emphasis on reproduction, 10.0 hp**

Grading scale: GU

The part includes the subject areas gynaecology and obstetrics in in- and out-patient care. Clinical rotation are central in the course and strong emphasis is placed on primary care, disease prevention and on principles of diagnostic strategy. The part also contains women's exposed position in family, close relations and society including men's violence against women and in addition relevant laws and regulations. New knowledge is integrated with earlier basic science and clinical knowledge.

## **Clinical medicine with emphasis on development, 10.0 hp**

Grading scale: GU

This part includes the subject areas of paediatrics, pediatric surgery as well as psychiatric services for children and adolescents. The child's development, deviations from this, disease theory and to see the child based on a holistic perspective is covered during the part. We also work with health promotion work, suicide prevention and the children's exposed position in family, close relations and society. Special attention will be given to statutes and laws relevant to investigating and supporting cases involving youth at risk. Strong emphasis is placed on understanding and responding to children of different ages and their guardians as well as understanding differences between children and adult physiology across a spectrum of diseases. Clinical rotation are a central part of the course, where the student is placed both in-hospital and out-patient care.

## **Professional development, 0.5 hp**

Grading scale: GU

Teaching in professional development includes a workshop about adolescent medicine, mentor dialogue and a seminar with a focus on medical-ethical issues in connection with genetics, pregnancy, post-natal care, children and adolescents.

## **Clinical Genetics, 2.0 hp**

Grading scale: GU

The component treats the principles for when one should suspect a chromosome aberration or other hereditary disease, risk assessments of these conditions as well as how one identifies healthy genetic traits, the principles of researching genetic history and how preventive measures can be used to curb disease. At a patient demonstration, the patient and/or relative with rare hereditary disease present their medical record and facilitate discussion of the patient perspective at hereditary conditions.

## **Teaching methods**

The respective parts of the course in gynaecology respective paediatrics starts with an introduction consisting of lectures, seminars and examination technique. The rest of the course consists of lectures, seminars, workshops, group assignment, skills training and interprofessional training. Self-study before interactive seminars. Students may be scheduled evenings, nights and weekends. During the spring term, the course is given in English.

## **Examination**

Students will be assessed in all parts of the course from professionalism and skills during the clinical rotation as well as the seminars, case-based teaching, skills training and interprofessional education described above.

'Professionalism' may also be assessed outside established examinations such as at different educational occasions and in other course-related contacts.

Access to the written examination requires passed quizzes and completed mandatory activities including clinical rotation. For access to the practical examination in the form of structured practical test during part Development , 50% of the clinical rotation must be completed.

For access to the practical examination in the form of structured practical test during part Reproduction , 50% of the clinical rotation must be completed.

### **Part Reproduction**

#### *Mandatory requirements*

In order to attend clinical rotation the student is required to participate in the examination skills training as an introduction to clinical rotation.

Clinical rotation including documented MiniCEX

Seminars

Theme day about violence in close relations

Proficiency training (examination technique in gynaecology and obstetrics)

Interprofessional learning with midwife

#### *Examination:*

Digital written examination (quiz)

Written examination

Structured practical examination

Passed achievement in clinical rotation

### **Part Development**

#### *Mandatory requirements*

In order to attend clinical rotation the student must participate in proficiency training of status examination of children as well as an introduction to clinical rotation.

Clinical rotation including documented MiniCEX

Seminars

Skills training (emergency room practice, examination technique, pediatric CPR)

Interprofessional education with nurse students

#### *Examination:*

Digital written examination (quiz)

Written assignment (Child- and adolescent psychiatry)

Written examination

Structured practical examination

Passed achievement in clinical rotation

### **Part Professional skills**

#### *Mandatory requirements*

Mentoring conversation and seminar in medical ethics.

#### *Examination*

Passed achievement in workshop about adolescent medicine.

Formative assessment by mentor during workshop.

### **Part Clinical Genetics**

#### *Mandatory requirements*

Seminar

Patient demonstration

*Examination***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.

Written assignments that are submitted for examination or as a supplement for missed compulsory teaching after stated deadline, are assessed at the next examination.

Students who do not pass a regular examination are entitled to re-sit the examination on five more occasions. If the student has failed six examinations/tests, no additional examination is given. Regarding clinical rotation, the student has the right to attend these two (2) times.

In the event of special circumstances, or if a student with a disability is in need of certain adjustments, the examiner may decide to depart from the syllabus' regulations on examination form, number of examination opportunities, possibility of completion or exemption from compulsory educational elements, etc. Content and intended learning outcomes as well as the level of expected skills, knowledge and abilities must not be altered, removed or lowered.

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 rotation, must be established. In such cases only one new clinical rotation opportunity is given during the course.

## **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 takes place according to the guidelines that have been established by the Board of Education at Karolinska Institute.

Some teaching may be in English.

\*

The knowledge is tiered 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. theorize analyse)

The skills goals are structured according to Miller's pyramid:

M1) know

M2) know how to carry out

M3) be able to demonstrate

M4) be able to carry out in a professional manner

## Literature and other teaching aids

### Clinical medicine with emphasis on reproduction

#### *Recommended literature and study material*

##### **Obstetrik**

*Ajne, Gunilla; Blomberg, Marie; Carlsson, Ylva*

Tredje upplagan : Lund : Studentlitteratur, [2021] - 798 sidor

ISBN:9789144142609 LIBRIS-ID:bq1q8t2m8p0mbv5s

[Library search](#)

##### **Gynekologi**

*Bäckström, Torbjörn; Kjølhede, Preben Kirkegaard; Landgren, Britt-Marie*

Tredje upplagan : Lund : Studentlitteratur, [2022] - 503 sidor

ISBN:9789144144191 LIBRIS-ID:t8v946nfr41h20dr

[Library search](#)

*O'Reilly, Barry; Bottomley, Cecilia; Rymer, Janice*

##### **Essentials of obstetrics and gynaecology**

2nd ed. : Edinburgh : Elsevier, 2012 - x 329 p.

ISBN:9780702043611 LIBRIS-ID:14968461

[Library search](#)

*Oats, Jeremy; Boyle, Jacqueline*

##### **Llewellyn-Jones fundamentals of obstetrics and gynaecology**

11th edition : Amsterdam : Elsevier, 2023 - ix, 303 pages

ISBN:9780702083013 LIBRIS-ID:n43vhhsplh2rwgp6

[Library search](#)

##### **Problemorienterad gynekologi och obstetrik**

*Bixo, Marie; Poromaa Sundström, Inger*

Andra upplagan : Stockholm : Liber, 2022 - 506 sidor

ISBN:9789147141906 LIBRIS-ID:9qq37hb97dqxzz12

[Library search](#)

##### **Beckmann and Ling's obstetrics and gynecology**

*Casanova, Robert; Connolly, AnnaMarie; Goepfert, Alice R.; Hueppchen, Nancy A.; Weiss, Patrice M.*

9. edition : Philadelphia : Wolters Kluwer, 2024 [i.e. 2023] - xvii, 507 s.

ISBN:1975180577 LIBRIS-ID:5nprllnb383ghvbw

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### Clinical medicine with emphasis on development

#### *Recommended literature and study material*

##### **Pediatric**

*Moëll, Christian; Gustafsson, Jan*

2:a upplagan : Stockholm : Liber, 2017 - 627 sidor

ISBN:9789147112968 LIBRIS-ID:21139754

[Library search](#)

### **Illustrated textbook of paediatrics**

*Lissauer, Tom; Carroll, Will*

Sixth edition : Elsevier, [2022] - 593 sidor

ISBN:9780702081804 LIBRIS-ID:71vn7h7x59jj1zzv

URL: [Länk](#)

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### **Barnmedicin**

*Hanséus, Katarina; Jägervall, Martin; Norman, Mikael*

5 uppl. : Studentlitteratur AB, 2020 - 914 sidor

ISBN:9789144129563 LIBRIS-ID:dqcngst5bbf77xdx

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### **Akut pediatrik**

*Norgren, Svante; Ludvigsson, Jonas; Norman, Mikael*

Åttonde upplagan : Stockholm : Liber, [2019] - 454 sidor

ISBN:9789147114276 LIBRIS-ID:6hcdb3t547nrlll2

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### **Kompendium i barnkirurgi och barnortopedi**

*Frenckner, Björn; Hirsch, Georg; Wester, Tomas; Åstrand, Per*

[Ny, omarb. och uppdaterad utg.] : Stockholm : Karolinska Institutet University Press, 2015 - 388 s.

ISBN:9789185565764 LIBRIS-ID:17592866

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### **Nelson essentials of pediatrics**

*Marcdante, Karen J.; Kliegman, Robert; Schuh, Abigail M.*

9 edition : Philadelphia, PA : Elsevier, [2023] - xv, 829 pages

ISBN:9780323775625 LIBRIS-ID:v9gdpfs7sbqjgzq2

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### **Psykiatri**

*Herlofson, Jörgen; Ekselius, Lisa; Lundin, Anders; Mårtensson, Björn; Åsberg, Marie*

2., [rev. och omarb.] uppl. : Lund : Studentlitteratur, 2016 - 879 s.

ISBN:9789144094977 LIBRIS-ID:19600701

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### **Kliniska riktlinjer; Svensk barn- och ungdomspsykiatrisk förening**

Svensk barn- och ungdomspsykiatrisk förening,

URL: [Länk](#)

### **Kunskapsstöd för vårdgivare; Suicidnära barn och ungdomar**

Region Stockholm, 2020

URL: [Länk](#)

### **Ätstörningar, kliniska riktlinjer**

Svenska psykiatriska förening,

URL: [Länk](#)

## Clinical Genetics

### *Recommended literature and study material*

#### **Genetiska sjukdomar**

*Nordenskjöld, Magnus*

1. uppl. : Stockholm : Liber, 2011 - 326 s.

ISBN:978-91-47-09417-2 LIBRIS-ID:12280743

[Library search](#)

*Read, Andrew P.; Donnai, Dian*

#### **New clinical genetics**

2. ed. : Oxfordshire, UK : Scion, 2011 - xvii, 442 s.

ISBN:978-1-904842-80-4 LIBRIS-ID:12071084

*This book may be borrowed from the course administration for international students*

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