



**Karolinska
Institutet**

Course syllabus for

Breast Ultrasound as Diagnostic Method, 30 credits

Bröstultraljud som diagnostisk metod, 30 hp

This course syllabus is valid from autumn 2019.

Course code	2QA288
Course name	Breast Ultrasound as Diagnostic Method
Credits	30 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Radiography
Level	Second cycle, has only first-cycle course/s as entry requirements
Grading scale	Fail (U) or pass (G)
Department	Department of Clinical Science, Intervention and Technology
Decided by	Education committee CLINTEC
Decision date	2019-01-24
Course syllabus valid from	Autumn 2019

Specific entry requirements

At least 120 credits in which it should be included a Degree of Bachelor of Science in Diagnostic Radiology Nursing. In addition, proficiency in Swedish and English equivalent to Swedish B/Swedish 3 and English A/English 6.

Objectives

On completion of the course, the student should be able to:

- describe medical ultrasound's physics and technology
- describe breasts' normal anatomy and relate this to the normal ultrasound image
- describe diseases in breasts and relate these to the "pathological ultrasound image"
- apply a systematic evidence-based diagnostic methods for study of breasts
- based on clinical issue understand and apply the theoretical knowledge at clinical training at own department of mammography
- analyse and relate to other ultrasonic methods (elastography, doppler) and other diagnostic possibilities

Content

Participants should on completion of the course can implement ultrasonography of breasts in clinical activities. It produced material be discussed with responsible radiologist.

This mean that course are initiated with a specialisation in the medical ultrasound's physiology and technology to thereafter continue with an overview of breast's normal anatomy that are related to the normal ultrasound image. Thereafter happen a specialisation in current pathology that could refer ultrasonography to also relate this to current ultrasound image.

Participant come then train in a systematised way to examine and document breasts at different clinical issues this take place both at department and during the located education of activities.

Course is completed with an overview of alternative diagnostic technologies such as e g doppler and elastography.

From transducer to diagnose, 3.0 hp

Grading scale: GU

Anatomy and pathology of the breast, 7.5 hp

Grading scale: GU

Clinical methodology and clinical training, 19.0 hp

Grading scale: GU

Alternative diagnostic methods, 0.5 hp

Grading scale: GU

Teaching methods

Course am implemented as half-time studies where regular course meetings are given at Karolinska Institutet, campus Flemingsberg

Course build on five course meetings. In these, lectures and seminars are given. Between course meetings happens literature studies based on reading list and scientific articles connected to respective learning objectives that underlies discussion then and examination. Clinical training takes place in parallel with theoretical sections.

Teaching build on "the flipped classroom" as educational idea. It means that compulsory seminars is held in connection with course meeting on KI Campus.

Course contain compulsory proficiency trainings VIL and seminars.

The course coordinator decides if, and how, absence from compulsory parts can be compensated. Study results cannot be reported until the student has participated in compulsory course elements or compensated for any absence in accordance with instructions from the course coordinator.

Absence from a compulsory course element could mean that the student can not retake the element until the next time the course is offered.

Examination

Course's theoretical intended learning outcomes assess through individual written examination, course's practical components be assessed through a clinical examination based on assessment criteria.

Students who do not pass a regular examination are entitled to re-sit the examination on five more occasions. In connection to the course three occasions will be given One within the course, one during the following re-examination. The third opportunity is provided before the beginning of the next semester, or in close connection to that. In certain cases, it is required that the student submits an

exemption application before he/she get the results of his/her latest completed examination. Three more opportunities will be provided as described above when the course is run next time.

If student implemented six failed examinations are given no additional examination. Each occasion the student participates in the same test counts as an examination. Submission of a blank exam paper is regarded as an examination. In case a student is registered for an examination but does not attend, this is not regarded as an examination.

Other directives

A course evaluation will be carried out in accordance with the guidelines established by the Board of Higher Education.

Literature and other teaching aids

Breast Ultrasound

Sencha, Alexander N.; Evseeva, Elena V.; Mogutov, Mikhail S.; Patrunov, Yury N.

Berlin, Heidelberg : Springer Berlin Heidelberg, 2013. - XI, 258 p. 106 illus., 94 illus. in color.

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