



**Karolinska
Institutet**

Course syllabus for

Diagnostic Imaging and Physiology, 30 credits

Bild- och funktion, 30 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:

Autumn2010 , Autumn2011

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| Course code | 2QA140 |
| Course name | Diagnostic Imaging and Physiology |
| 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 | Pass, Fail |
| Department | Department of Clinical Science, Intervention and Technology |
| Decided by | Styrelsen för utbildning |
| Decision date | 2010-02-19 |
| Revised by | Education committee CLINTEC |
| Last revision | 2024-08-22 |
| Course syllabus valid from | Autumn 2011 |

Specific entry requirements

A total of 120 credits including a Degree of Bachelor of Science in Diagnostic Radiology Nursing. Swedish and English language skills equivalent to Swedish B and English A (with at least the Pass grade) are also required.

Objectives

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

Part 1:

- * apply advanced knowledge in different methods within the fields of radiology and clinical physiology
- * describe the structure of the systems and possibilities and limitations
- * explain connections between study quality and the used methodology

Part 2:

- * apply deeper anatomic knowledge within described examination method
- * apply deeper physiological knowledge within described examination method

- * explain underlying occasions and mechanisms of diseases, aetiology
- * explain how the function of the body and the organs is influenced by disease, pathophysiology
- * relate the connections between the disease and used examination methodology with regard to ethical issue

Part 3:

- * describe various types of databases, compare structures for these and identify relevant search strategies
- * describe various types of studies and also be able to explain the differences between a qualitative and a quantitative study
- * analyse and summarize results of both descriptive and statistical material
- * apply a literature study methodology and based on a given issue review and summarize
- * generalise the results of the literature survey within prevailing knowledge situation and apply this as a basis for the continued own knowledge development

Content

The course is divided in three parts.

Pathology, anatomy, physiology and methodology, 12.0 hp

Grading scale: GU

Parts two introduces a deeper understanding in anatomy and physiological processes. The emphasis lies at the anatomy that is important for an understanding of the imaging methods and the physiology that gives deeper understanding of the modern function diagnostic methods. The part also gives an advanced study in the genesis mechanism, symptom, epidemiology and treatment principles of common diseases. Different diseases will be presented under lectures, seminars and demonstrations. The main emphasis will be against diseases that are diagnosed within diagnostic imaging sections for example orthopaedic diseases gastrointestinal diseases, lung diseases, kidney- and urinary diseases, cardiovascular diseases, neurological/neurosurgical diseases and cancer. To obtain deeper knowledge about the methodology of clinical image and function's, field studies are carried out.

Diagnostic imaging methods, 10.5 hp

Grading scale: GU

The part should give advanced knowledge in different diagnostic imaging methods. Example of these can be the magnetic resonance imaging ultrasonic methods, nuclear medicine methods, computed tomography and angiography and interventional methods. The part also includes physiological examination methods. The part gives an overview of both imaging and functional methods.

Literature review, 7.5 hp

Grading scale: GU

During the course is presented various types of databases and the content in these. Further, the student trains to find search strategies to discover the data that are the aim of the search. The course is completed with an overview and the student train to summarize results of review reports.

Teaching methods

The course includes lectures, laboratory sessions and demonstrations and independent written examinations tasks.

The course also contains field studies (in part 1 and 2) that be planned in consultation with responsible teacher.

Laboratory sessions, demonstrations and field studies are compulsory parts. In consultation with the examiner of the course, the student can receive complementary assignment in case of absence from compulsory parts.

Examination

Part 1 is examined through independent written examination.

Part 2 is examined through independent written examination.

Part 3 is examined through written compilation and oral presentation.

For a Pass grade in the course is required participation in laboratory sessions, field studies and individual assignment and passed independent written examination.

A student who has failed in the regular examination, is entitled to participate in five more examinations. If the student has failed six examinations/tests, no more examination is offered.

The number of times that the student has participated in one and the same examination is regarded as an examination session. Submission of a blank examination is regarded as an examination. An examination for which the student registered but not participated in, will not be regarded as an examination.

Transitional provisions

This course has been canceled.

Other directives

Course evaluation will be carried out in accordance with the guidelines established by the Board of Education at Karolinska Institutet.

Language of instruction: Swedish.

Literature and other teaching aids

Radiologi

Aspelin, Peter; Pettersson, Holger

1. uppl. : Lund : Studentlitteratur, 2008 - 848 s.

ISBN:978-91-44-03887-2 (inb.) LIBRIS-ID:10948825

URL: <http://www.studentlitteratur.se/omslagsbild/artnr/31995-01/height/320/width/320/bild.jpg>

[Library search](#)

Forsberg, Christina; Wengström, Yvonne

Att göra systematiska litteraturstudier : värdering, analys och presentation av omvårdnadsforskning

2., [uppdaterade] utg. : Stockholm : Natur & Kultur, 2008 - 215 s.

ISBN:978-91-27-10016-9 (inb.)

[Library search](#)

Underwood, J. C. E.; Cross, Simon S.

General and systematic pathology

5th ed. : Edinburgh : Churchill Livingstone/Elsevier, 2009. - xi, 857 p.

ISBN:978-0-443-06888-1 (pbk.) LIBRIS-ID:11740993

[Library search](#)

Seeley's essentials of anatomy and physiology Essentials of anatomy and physiology

VanPutte, Cinnamon L.; Regan, Jennifer L.; Russo, Andrew F.; Seeley, Rod R.

7th ed. : Dubuque : McGraw-Hill, c2010 - xxv, 586, [74] p.

ISBN:978-0-07-352563-1 (hard copy : alk. paper) LIBRIS-ID:11817465

URL: [Länk](#)

[Library search](#)