Course syllabus for

Radiographic methodology 3, 7.5 credits

Radiografisk metodik 3, 7.5 hp
This course syllabus is valid from spring 2019.
Please note that the course syllabus is available in the following versions:
Spring2008 , Autumn2009 , Autumn2011 , Spring2012 , Autumn2013 , Spring2017 , Spring2019 , Spring2023 , Spring2024 , Spring2025

Course code	1RS015
Course name	Radiographic methodology 3
Credits	7.5 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Radiography
Level	G2 - First cycle 2
Grading scale	Pass with distinction, Pass, Fail
Department	Department of Clinical Science, Intervention and Technology
Decided by	Programnämnden för Röntgensjuksköterskeprogrammet
Decision date	2007-12-11
Revised by	Education committee CLINTEC
Last revision	2018-10-16
Course syllabus valid from	Spring 2019

Specific entry requirements

To be qualified to a higher semester, it is required that the student has taken at least 15 ECT credits from last semester, and all credits from previous semesters.

Objectives

After the course the student should be able to:

- explain actions and which equipment that should be used because the patient and personnel radiation protection should function satisfactory and in accordance with Swedish Radiation Safety Authority:s regulations and the ALARA-principle on a department of radiology as well as a nuclear medical unit
- discuss about radiation considerations that may arise in examination of women of fertile age, child examinations, supplementary images etc
- explain for various types of personal dosimeters and describe the basic principles of gas-filled detectors, scintillation detectors and semiconductor detectors
- describe the interaction of radiation with tissue/DNA and discuss the factors that govern the grade

of injury.
- explain the concepts of absorbed dose, efficient dose and equivalent dose from radiation types different effects on biological tissue and the radiation sensitivity of different cells
- analyse and reflect, based on scientific literature, on current radiation based problems in clinic

Content

The course gives advanced knowledge of the biological injuries and risks that can arise in using ionising radiation. Knowledge is also provided about different ways of detecting radiation and the radiation doses that may occur in using medical equipment for ionising radiation. In order to understand adequate radiation protection measures in their professional function, advanced knowledge about the laws and regulations that control the subject area is provided both to patients and staff . The part also provides knowledge about radiation and its use in society and environment, and risks associated with this.

Teaching methods

The course is mainly based on seminars and lectures lectures as well as literature studies.

Examination

To pass the course so that is required approved participation on compulsory components such as laboratory sessions, literature studies as well as passed individual written examination.

In consultation with the examiner of the course, the student may get a complementary assignment in case of absence from a compulsory part.

The student is entitled to a total of six test occasions to get passed.

In connection to the course three occasions will be given One within the course, two during the following re-examinations. 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.

Transitional provisions

The student may be examined according a previous syllabus within a year after the date when a close-down or major changes of the course was decided.

Other directives

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

Literature and other teaching aids

Compulsory literature

Fosbinder, Robert.; Orth, Denise.

Essentials of radiologic science

Philadelphia : Wolters Kluwer Health/Lippincott Williams & Wilkins, c2010.
ISBN:978-0-7817-7554-0 LIBRIS-ID:12148840

Library search

Recommended literature

Isaksson, Mats

Grundläggande strålningsfysik

2., [kompletterade och uppdaterade] uppl. : Lund : Studentlitteratur, 2011 - 330 s.
ISBN:9789144066196 LIBRIS-ID:11957596
Library search