



Course syllabus for

## **Radiography - clinical education 6, 7.5 credits**

Radiografi - verksamhetsförlagd utbildning 6, 7.5 hp

This course syllabus is valid from autumn 2016.

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

[Autumn2011](#) , [Autumn2012](#) , [Autumn2016](#) , [Autumn2018](#) , [Autumn2024](#) , [Spring2025](#)

Course code	1RS045
Course name	Radiography - clinical education 6
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, Fail
Department	Department of Clinical Science, Intervention and Technology
Decided by	Programnämnd 6 (Biomedicinsk analytiker- och Röntgensjuksköterskeprogrammen)
Decision date	2011-04-18
Revised by	Education committee Clintec
Last revision	2016-05-24
Course syllabus valid from	Autumn 2016

### **Specific entry requirements**

To be qualified to higher semester, it is required that the student has taken at least 15 higher education credits from last semester, and all higher education credits from previous semesters. The admittance to the course requires a pass in the course Radiography - clinical rotation 4, 7.5 HE credits

### **Objectives**

The aims of the course are that the student should acquire knowledge and skills within the radiographer's area of responsibility within computed tomography examinations, angiography and interventions and paediatric radiology. Further, the aim is that the student has developed his/her ability to interact with patients in different ages and their family, and colleagues.

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

- treat the patients and their relatives with professional attitude and based on their needs give patients adequate care in complex nursing environments
- adapt communication and information from basis of the patient's needs and age and prepare and

instruct patient and relatives in connection with examinations

- independently plan and perform occurring computed tomography examinations as a whole and within reasonable time, and evaluate the quality of the examination and make corrections when necessary
- motivate the choice of the examination method based on information in the referrals from and from the patients
- analyse and discuss problems and suggest methods or arrangements for examinations which imply higher degree of difficulty or complexity
- apply aseptic technique and prepare patient and equipment for sterile procedures and explain and demonstrate Seldinger technique
- assist within angiography or intervention with support of the supervisor
- explain and apply a radiation-hygienic way of working in connection with angiography and interventions regarding image quality and radiation protection of patients and staff
- account for commonly occurring drugs and their indications in connection with angiography or intervention
- explain and apply a radiation-hygienic way of working when performing computed tomography examinations and paediatric examinations regarding to image quality and radiation protection of patients and staff
- explain and motivate differences within paediatric and adult radiology
- document or explain documentation and reporting of adequate information according to current regulations in connection with examination or treatment
- show good ability for cooperation with different professional groups

## Content

The main part of the course implies practical training at computed tomography and within angiography and intervention. A smaller part takes place in a pediatric-radiological clinic. Clinical rotation focuses on parts that concern values, knowledge and skills, as well as communicative aspects and patient care in connection with examinations or treatments.

### Angiography and interventions

In order to get an overall view about the aim and the performance of examinations and treatments, the student will participate in all phases with support of a supervisor. This means planning and preparations on the basis of the information from patient journal and from communication with patients and staff, as well as performance of the examinations and reporting. Important aspects are patient care and communication, drugs, application of aseptic techniques, measures for radiation protection and reporting and documentation after completed examination or treatment.

### Computed tomography

To achieve an independent professional role within imaging diagnostics, the student participates in all phases in connection with examinations. This includes planning and preparation of both patients and equipment before occurring examinations, and performance of these based on information in patient journal and instructions in a method book. In addition to practical performance, this means that the student should understand chosen methodology for the individual patient.

Patient treatment and care as well as communicative competence in contact with patients, their family, and colleagues are essential aspects in relation to all activities.

### Paediatric radiology

Students participate in the activities within the field of responsibility of a radiographer, to develop an understanding of the special claims that it implies to meet children in different ages and to communicate with them and their relatives. Additional aim is that the student understands the differences that occur in methodology and diagnostics within paediatric and adult radiology.

## Teaching methods

In addition to practical training, even study assignments and seminars are included in order to stimulate

students to search knowledge actively, to solve problems and for anchorage to science and evidence, and that the student would receive an overall picture of methods and reflect on patient perspectives. Student writes a portfolio in order to support the own professional development.

Planning of the clinical education takes place in consultation with an appointed clinical teacher.

## Examination

In the final assessment, a general evaluation, clinical practical parts and study assignments are included.

The clinical examination implies that the student will perform computed tomography examinations on patients, evaluate imaging material as diagnostic basis and explain chosen methodology and patient care. Within angiography and interventions, a practical examination of application of aseptic techniques, includes. There will also be study assignments.

An evaluation form which is given to the student at the beginning of the course, is used as the basis of half-time and final assessment.

The clinical rotation is compulsory and constitutes 32 hours per 1.5 credits. Compensation due to absence will be planned in consultation with appointed clinical teacher.

The student has the right to undergo the clinical rotation within a course at most two times.

Examiner can with immediate impact interrupt a student's clinical placement or the equivalent, if the student shows such serious deficiencies in knowledge, skills or attitudes that the patient security or the patients' trust for the healthcare are jeopardized. When placement is interrupted like this, it means, that the student fails on current part and that one opportunity for clinical education has been used.

In such cases, an individual action plan will be drawn up explaining the activities and knowledge tests which are required before the student will be given an opportunity to carry out this clinical course again.

If the course is examined by a extern exam, or other assignments with deadlines, a latest submission date is given at the introduction of the course. In cases where a completion is required a new date for latest submission is set. If the requirements for submission are not fulfilled the student is given the opportunity to submit the exam or the assignment at the next time course is given. Reasons for not meeting deadlines may be taken under consideration by examiner.

## Transitional provisions

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

## Other directives

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

*Björkman, Eva; Karlsson, Karin*

**Medicinsk teknik för sjuksköterskor : material, metod, ansvar**

3., [rev. och utök.] uppl. : Lund : Studentlitteratur, 2008 - 367 s.

ISBN:978-91-44-04794-2 LIBRIS-ID:10956051

[Library search](#)

*Ehrlich, Ruth Ann; McCloskey, Ellen Doble; Daly, Joan A.*

**Patient care in radiography : with an introduction to medical imaging**

6. ed. : St. Louis, Mo. : Mosby, cop. 2004 - xv, 447 s.

ISBN:0-323-01937-4 LIBRIS-ID:9649937

[Library search](#)*Möller, Torsten B.; Reif, Emil; Abel, Eleonore.***Pocket atlas of radiographic positioning : including positioning for conventional angiography, CT, and MRI**

3. ed. : Stuttgart : Thieme, 2010. - xiii, 378 p.

ISBN:978-3-13-784203-3 LIBRIS-ID:11925829

[Library search](#)*Moeller, Torsten B.; Reif, Emil.***Pocket atlas of radiographic anatomy**

3rd ed. : Stuttgart : Thieme, c2010 - xi, 388 p.

ISBN:978-3-13-784203-3 LIBRIS-ID:11934526

[Library search](#)*Möller, Torsten B.0 77501; Reif, Emil***Pocket atlas of sectional anatomy : computed tomography and magnetic resonance imaging. n Vol. 1, p Head, neck, spine, and joints**

2. ed., rev. and expanded : Stuttgart : Thieme, 2000 - ix, 262 s.

ISBN:3-13-125502-1 (Stuttgart) LIBRIS-ID:3280404

[Library search](#)*Möller, Torsten B.; Reif, Emil***Pocket atlas of sectional anatomy : computed tomography and magnetic resonance imaging. n Vol. 2, p Thorax, heart, abdomen and pelvis**

3. ed., rev. and updated : Stuttgart : Thieme, cop. 2007 - viii, 247 s.

ISBN:3-13-125603-6 (GTV) LIBRIS-ID:10322889

[Library search](#)*Möller, Torsten B.; Reif, Emil***Pocket atlas of sectional anatomy : computed tomography and magnetic resonance imaging. n Vol. 3, p Spine, extremities, joints**

Stuttgart : Thieme, cop. 2007 - - ix, 334 s.

LIBRIS-ID:10446229

URL:

<https://lt.ltag.bibl.liu.se/login?url=http://www.thieme.com/SID2358701978210/ebooklibrary/flexibook/pulz> Extern access endast anställda och studenter vid LiU**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](#)*Isaksson, Mats***Grundläggande strålningsfysik***Lund, Annika*

Lund : Studentlitteratur, 2002 - 310 s.  
ISBN:91-44-01528-3 LIBRIS-ID:8427844

[Library search](#)

*Feneis, Heinz; Dauber, Wolfgang*

**Anatomisk bildordbok**

*Spitzer, Gerhard; Brinkman, Ingrid*

5., utökade uppl. /b [fackgranskning: Håkan Aldskogius] : Stockholm : Liber, 2006 - [4], 520 s.  
ISBN:91-47-05301-1 LIBRIS-ID:10162715

URL: <http://www2.liber.se/bilder/omslag/100/4705301o.jpg>

[Library search](#)

*Lindskog, Bengt I.*

**Medicinsk terminologi**

*Andrén-Sandberg, Åke; Frank, Urban; Buckhøj, Poul*

5., [rev.] uppl. /b [illustrationer: Urban Frank och Poul Buckhöjd] : Stockholm : Norstedts Akademiska, 2008 - 704 s.

ISBN:978-91-7227-557-7 (inb.) LIBRIS-ID:10740673

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*Rönnberg, L*

**Hälso- och sjukvårdsrätt**

2., [uppdaterade och omarb.] uppl. : Lund : Studentlitteratur, 2007 - 340 s.

ISBN:978-91-44-02067-9 LIBRIS-ID:10302460

URL: <http://www.studentlitteratur.se/omslagsbild/artnr/31851-02/height/320/width/320/bild.jpg>

[Library search](#)

**Författningshandbok för personal inom hälso- och sjukvården. 2010 = 41. uppl.**

*Raadu, Gunnel*

Stockholm : Liber, 2009 - 823 s.

ISBN:978-91-47-09938-2 LIBRIS-ID:11741634

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