SYLLABUS

Nuclear medicine 7.5 credits M0083H

Radiografi - Nuklearmedicin

Course syllabus admitted: Autumn 2019 Sp 1 - Spring 2021 Sp 4

DECISION DATE
2019-02-26

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LULEÅ TEKNISKA UNIVERSITET

Nuclear medicine 7.5 credits M0083H

Radiografi - Nuklearmedicin

First cycle, M0083H

Education level	Grade scale	Subject	Subject group (SCB)
First cycle	U G VG *	Radiologi	Medicine

Main field of study

Radiography

Entry requirements

In order to meet the general entry requirements for first cycle studies you must have successfully completed upper secondary education and documented skills in English language and In order to meet the general entry requirements for first cycle studies you must have successfully completed upper secondary education and documented skills in English language and The course assumes knowledge equivalent to:
M0089H Radiography - imaging systems and methods
M0088H Medical Science - in-depth studies in anatomy and pathology
M0057H Radiography in position to conventional radiology with Clinical Practice
M0064H Scientific specialization in radiography
M0074H Radiography - Nursing at Advanced Diagnostics

The course requires furthermore the following passed courses or test:
M0085H Radiography, basic course I
M0086H Radiography, basic course II
M0067H Radigraphy Nursing Interventions in position radiography with Clinical Practice
M0066H Radiography Nursing techniques in position radiography with Clinical Practice
M0026H Medical Science: Anatomy and Physiology in position to Radiology
M0029H Medical Science: Microbiology,infection control and infection disease
M0070H General Pharmacology, Contrast Agents and Pharmaceutical Calculation
M0050H Radiation Science and Radiological Modalities
Test 0012 Clinical practice in M0057H Radiography in position to conventional radiology with Clinical Practice

Selection

The selection is based on 1-165 credits.

Examiner

Johan Kruse

Course Aim

The aim of the course is to provide basic knowledge in the field of nuclear medicine, its different applications and fields of use. After the course, the student should be able to:

- Describe the commonly occurring nuclear medicine examinations and discuss different alternative diagnostic examination possibilities
- Illustrate treatment methods connected to the field
- Explain the main physiological background for the nuclear medicine technology, and apply radiation protection and apply radiation protection measures and consider patient safety and security in nuclear medicine examinations
- Illustrate and describe different methods in nuclear medicine
- Describe examination methodology and be able to explain how image production takes place to ensure diagnosis in commonly occurring nuclear medicine examinations
- Describe underlying topographic anatomy and pathology in frequently occurring examinations
- Apply interview, observation and communication methodology to assess, plan, carry out, evaluate and document nursing in individuals with disease and their next of kin in connection with nuclear medicine examinations
- Describe the different tasks in nuclear medicine examinations and interact with the participating staff
- Describe and apply current laws, statutes and local guidelines that apply in nuclear medicine examinations

Contents

- Fundamentals of isotopes
- Examination technique and methods in nuclear medicine
- Radiation protection in nuclear medicine
- Different fields of use for nuclear medicine examinations
- Isotope procedure and "hotlab"
- Image processing in nuclear medicine
- Comparison of the diagnostic usage of nuclear medicine studies with alternative diagnostic methods
- Work placement in nuclear medicine units

Realization

Each course occasion´s language and form is stated and appear on the course page on Luleå University of Technology's website.

The course offers students introducing lectures in the different sections in order to reach course's objectives. The lectures take place partly on campus or via the distance-bridging technology. The course contains compulsory laboratory sessions/seminar with advanced assignments and patient cases. The students also acquire knowledge and are trained to reach the learning objectives via the work placement. Via the assessment interviews, the student trains critical self-evaluation and to assess own needs of additional knowledge. The content of course elements and its teaching methods specifically geared towards radiology nursing profession

Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided.
The theoretical part is examined partly through a written individual examination at the end of the course and through an advanced assignment that is presented in a seminar. The practical part is examined in connection with the work placement. These sections are compulsory. Alternative examination formats may be used.
Only one re-examination/transfer is given for the course in relation to the work placement. If there are special circumstances, additional retakes/transfers can be granted. Special circumstances are those stated in Regulations of the National Agency for Higher Education HSVFS 1999:1.

Remarks

This is a first-cycle course.

This course, with clinical placement are subject to *Special rules regarding clinical placement* according to Head of Department decision.

Study supervision is in the course room in Canvas.

Overlap

The course M0083H is equal to M0109H, M0062H

The course replaces M0062H

Literature. Valid from Autumn 2016 Sp 1

Aspelin, P. & Pettersson, H. (eds.) (2008). Radiologi. (1st. ed.) Lund: Studentlitteratur
Berglund, E. & Jönsson, B. (2007). Medicinsk fysik. (1st. ed.) Lund: Studentlitteratur.
Bontrager, K.L. & Lampignano, J.P. (2014). Textbook of radiographic positioning and techniques. (8. ed.) St. Louis, Mo.: Mosby/Elsevier.
Ehrlich, R.A. & Coakes, D.M. (2013). Patient care in radiography: with an introduction to medical imaging. (8. ed.) St. Louis, Mo.: Elsevier Mosby. Ejlertsson, G. (2012). Statistik för hälsovetenskaperna. Lund: Studentlitteratur.
Hietala, S. (ed.) (1998). Nuklearmedicin. Lund: Studentlitteratur.

Kompetensbeskrivning och yrkesetisk kod för röntgensjuksköterskor:
http://swedrad.webbsajt.nu/

Reference literature may be added and is stated in the study guide.

Course offered by

Department of Health Sciences

Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0001	Seminar	U G#	2	Mandatory	A15	
0002	Written examination	U G VG *	4	Mandatory	A15	
0003	Work placement in nuclear medicine	U G#	1.5	Mandatory	A15	

Last revised

by 2019-02-26

Syllabus established

by Prefekt vid Institutionen för hälsovetenskap 2015-02-12