



48SJ-DI12
ECTS: 2.00
CYCLE: 2024L

Course syllabus - part A

Diagnostic Imaging 1/2

SUBJECT MATTER CONTENT

LECTURE

Introduction to diagnostic imaging, selected methods of diagnostic imaging e.g. X-ray, MMG, ultrasound and CT and MRI. Radiation protection. How to prepare the patient for examination using different radiological diagnostic methods. Contrast media for radiology. Hospital Information Systems. Teleradiology. Diagnostic imaging of the chest on the basis of selected diseases: radiography and basic symptoms in the diagnosis of selected diseases of the chest. Diagnostic imaging in selected diseases of the mediastinum. Diagnostic imaging in selected diseases of the abdominal cavity, using different diagnostic imaging technique: classical radiology, CT and MRI.

SEMINAR

Understanding of the fundamentals of anatomy and identification of the correct structures of the chest and abdomen in CT images. Diagnostic imaging of selected diseases of the chest including the lung and pleura. Differentiation between disease alveolar and interstitial lung diseases. Recognition of pneumonia. Recognition and differentiation of edema, atelectasis and pleural fluid in the cavities and the pericardial cavity. Lung cancer - radiological signs, recognizing, differential diagnosis. Recognizing the fundamental heart disease. Recognition and interpretation of anomalies in the diagnosis image of the abdominal cavity with particular reference to selected diseases of the liver, biliary tract and pancreas, stomach, XII months, small intestine, colon and rectum.

CLASSES

Repetition of knowledge of radiological and clinical anatomy. Introduction and general information in the field of diagnostic imaging. Acquainted with the organization and functioning of the different lab in radiology department: X-ray, ultrasound, CT and MRI lab. The scope of different examinations methods performed in laboratories like radiography (X-rays), ultrasound, CT and MRI, and interpretation of images based on selected disease. Recognition of the normal anatomical structures of the chest and their variations and technically correct chest X-ray. Diagnostic imaging of selected diseases of lung, pleura and mediastinal organs - the interpretation of particular images in the field of radiology classic chest X-ray and CT studies in the field of diseases of the chest. Diagnostic imaging of selected diseases of the liver, biliary tract, pancreas and stomach, XII-old, small intestine, colon and rectum, in the particular images of classical radiology X-ray, CT and MRI - interpretation of certain radiological images. Radiological features of obstruction, bowel perforation, and nodular changes of the gastrointestinal tract.

TEACHING OBJECTIVE

Acquire knowledge of the types of examinations performed in radiology and diagnostic imaging and their application to clinical cases. To learn about the principles of operation of instruments, including the safety of their use, radiological protection, physical principles of formation of

Legal acts specifying learning outcomes:
311/2023

Disciplines: medical sciences

Status of the

course:Obligatoryjny

Group of courses:B -

przedmioty kierunkowe

Code: ISCED 0912

Field of study:Medicine

Scope of education:

Profile of education:

General academic

Form of studies: full-time

Level of studies: uniform
master's studies

Year/semester: 3/6

Types of classes: Lecture,
Seminar, Classes

Number of hours in semester:Lecture: 10.00,
Seminar: 10.00, Classes:
10.00

Language of instruction:English

Introductory subject:

Radiological and clinical
anatomy, biophysics,
pathophysiology

Prerequisites: Review
knowledge about radiological
and clinical anatomy and
biophysics

Name of the organisational unit conducting the course:Katedra Radiologii

Person responsible for the realization of the course:dr
n. med. Grzegorz Wasilewski

e-mail:
grzegorz.wasilewski@uwm.ed
u.pl

Additional remarks:

radiological images in individual imaging methods (x-ray, tk, mr, ultrasound, mammography, vascular laboratory, surgical radiology). To learn the basics of radiological symptoms, interpretation of examinations, radiological images in various disease entities. Getting acquainted with the diagnostic pathways in selected disease entities, with indications and contraindications to perform, ordering individual radiological examinations.

DESCRIPTION OF THE LEARNING OUTCOMES OF THE COURSE IN RELATION TO THE DESCRIPTION OF THE CHARACTERISTICS OF THE SECOND LEVEL LEARNING OUTCOMES FOR QUALIFICATIONS AT LEVELS 6-8 OF THE POLISH QUALIFICATION FRAMEWORK IN RELATION TO THE SCIENTIFIC DISCIPLINES AND THE EFFECTS FOR FIELDS OF STUDY:

Symbols for outcomes related to the discipline:

M/NMA_P7S_WG+++ , M/NMA_P7S_UW+

Symbols for outcomes related to the field of study:

KA7_WG1+, KA7_UW3+, K.8.+ , K.5.+ , F.W10.+ , A.U4.+ , KA7_WG2+ , B.U2.+ , K.7.+

LEARNING OUTCOMES:

Knowledge:

W1 - Graduate knows and understands: F.W10. the problems of currently used imaging tests, in particular: 1) radiological symptomatology of basic diseases, 2) instrumental methods and imaging techniques used to perform medical procedures, 3) indications, contraindications and preparation of the patient for particular types of imaging tests and contraindications to the use of contrast agents;

W2 - Graduate knows and understands: KA7_WG2 knows the physical basics of selected imaging techniques in medicine and the principles of radiological protection, including radioisotope, functional diagnostics and structural diagnostics in nuclear medicine

W3 - Graduate knows and understands: KA7_WG1. human body structure based on vital diagnostic examinations, in particular x-rays, ultrasound images, computed tomography and magnetic resonance imaging;

Skills:

U1 - Graduate can: KA7_UW3 applies to the rules of radiological protection, draws conclusions about the presence of a pathological process on the basis of selected imaging tests, carries out differential diagnosis

U2 - Graduate can: B.U2. assess the harmfulness of ionizing radiation dose and follow the rules of radiation protection;

U3 - Graduate can: make conclusions about the relationships between anatomical structures on the basis of vital diagnostic examination, in particular in the field of radiology (radiological examinations, examinations with the use of contrast agents, computed tomography and nuclear magnetic resonance);

Social competence:

K1 - Graduate has the ability to: K.5. perceiving and recognizing own limitations and self-assessment of deficits and educational needs;

K2 - Graduate has the ability to: M/NM_K.8. formulating conclusions from own measurements or observations;

K3 - Graduate has the ability to: M/NM_K.7. of objective sources of information;

TEACHING FORMS AND METHODS:

Classes(W1;W2;W3;U1;U2;U3;K1;K2;K3;):Analysis and interpretation of

selected imaging examinations

FORM AND CONDITIONS OF VERIFYING LEARNING

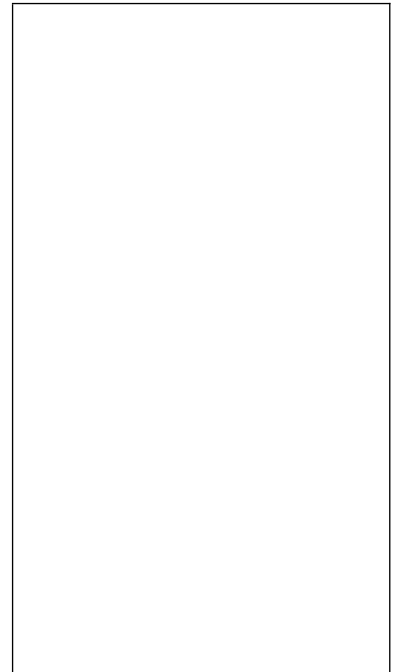
OUTCOMES:

Lecture (Part in the discussion) - active participation in the discussion -
Seminar (Part in the discussion) - active participation in the discussion -
Classes (Competention test) - Evaluation of the work and cooperation in the group - Skills assessment discussion and cooperation in the group including the assessment of the various methods and skills during analysis of various clinical cases test. Final test with 20 clinical cases in the form of OSCE using multimedia methods, Passing from 60% -

BASIC LITERATURE:

1. William Herring, *Learning Radiology Recognizing the Basics 5th Edition*, Wyd. Elsevier, R. 2023
1. <https://radiologyassistant.nl>

SUPPLEMENTARY LITERATURE:



Detailed description of ECTS credits awarded - part B

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The number of ECTS credits awarded consists of:

1. Contact hours with the academic teacher:

| | |
|-----------------------------|--------|
| - participation in: Lecture | 10.0 h |
| - participation in: Seminar | 10.0 h |
| - participation in: Classes | 10.0 h |
| - consultation | 2.0 |
| Total: 32.0 h. | |

2. Independent work of a student:

| | |
|--------------------------|---------|
| independent student work | 18.00 h |
|--------------------------|---------|

Total: 18.0 h

contact hours + independent work of a student Total: 50.0 h

1 ECTS credit = 25-30 h of an average student's work, number of ECTS credit = 50.0 h : 25.0 h/ECTS
= 2.00 ECTS on average: 2.0 ECTS

- including the number of ECTS credits for contact hours with the direct participation of an academic teacher: 0,00 ECTS points,

- including the number of ECTS credits for hours of independent work of a student: