UNIVERSITY OF WARMIA AND MAZURY IN OLSZTYN

of Medicine

Course/module syllabus - part A

48SJ-DI12
ECTS: 2
YEAR: 2022L

DIAGNOSTIC IMAGING 1/2
DIAGNOSTIC IMAGING 1/2

COURSE CONTENT
CLASSES

CLINICAL 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. 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.

LECTURES

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.

EDUCATIONAL OBJECTIVE:

Preparing student to recognize and understand different modern imaging methods in radiology, taking into account the physical and technical basis of selected imaging tests. Prepare the student to interpret the basic physical phenomena used in radiology and diagnostic imaging, and to recognize some basic and symptoms as well as pathology in the diagnosis of specific diseases of the chest and abdomen based on the selected imaging. Shaping the professional attitudes of students focusing on patient needs, possibilities of cooperation in an interdisciplinary team and an indication of the possibility of deepening and updating the knowledge of radiology and diagnostic imaging.

DESCRIPTION OF LEARNING OUTCOMES FOR THE COURSE IN RELATION TO FIELD AND MAJOR LEARNING OUTCOMES

Codes of learning outcomes in a major field of study:	M/NM+++, M/NMA_P7S_UW+, M/NMA_P7S_WG++,
Codes of learning outcomes in a major area of study:	A.U4.+, A.W3.+, B.U2.+, F.W10.+, K.2.+, K.3.+, K.4.+, K.5+, K. 6.+, K.7.+, K.8.+, KA7_UW3+, KA7_WG1+, KA7_WG2+,

LEARNING OUTCOMES:

Knowledge

W1 - F.W10.
W2 - A.W3.
W3 - KA7_WG1
W4 - KA7_WG2

Skills

U1 - A.U4.
U2 - B.U2.
U3 - KA7_UW3

Social competence

K1 - K.2.
K2 - K.3.
K3 - K.4.
K4 - K.5
K5 - K.6.
K6 - K.7.
K7 - K.8.

BASIC LITERATURE

1) Lange S. Walsh G.Herring William., Learning Radiology, 2nd Edition. Recognizing the Basics ., wyd. Elsevier,

Course/module:
Diagnostic Imaging 1/2
Fields of education:

Course status:	mandatory
Course group:	B - przedmioty kierunkowe
ECTS code:	
Field of study:	Medicine
Specialty area:	Medicine
Educational profile:	General academic
Form of study:	full-time
Level of study:	uniform master's studies
Year/semester:	3 / 6

Type of course:
Classes, Seminar, Lecture

Number of hours per semester/week:	Classes: 10, Seminar: 10, Lecture: 10

Teaching forms and methods

Classes(K1, K2, K3, K4, K5, K6, K7, U1, U2, U3, W1, W2, W3, W4) : Interpretation of imaging studies from different clinical disciplines., Seminar(K1, K2, K3, K4, K5, K6, K7, U1, U2, U3, W1, W2, W3, W4) : Interactive discussion in small teaching group with interpretation of selected diagnostic imaging cases in various fields of clinical trials using the forms of problem based teaching. Various methods of imaging in diagnostic imaging - indications and contraindications in clinical practice - discussion. Analysis and interpretation of X-ray/CT/MRI/US images of selected pathologies of individual patient cases, Lecture(K1, K2, K3, K4, K5, K6, K7, U1, U2, U3, W1, W2, W3, W4) : Presentation of imaging studies. Indications and contraindications for their implementation in the form of an interactive discussion and PowerPoint Presentation

Form and terms of the verification results:

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 66%(K1, K2, K3, K4, K5, K6, K7, U1, U2, U3, W1, W2, W3, W4) ; SEMINAR: Prezentation - Final test - 20 clinical cases in the form of OSCE using multimedia methods, credit from 66% (K6) ; LECTURE: Part in the discussion - interactive discussion and PowerPoint Presentation (K1, K2, K3, K4, K5, K6, K7, U1, U2, U3, W1, W2, W3, W4)

Number of ECTS points:	2
Language of instruction:	English

Introductory courses:

Radiological and clinical anatomy, biophysics, pathophysiology

Preliminary requirements:

Review knowledge about radiological and clinical anatomy and biophysics

Name of the organizational unit offering the course:

2011 ; 2) Geraldine Walsh, Sebastian Langemil Reif , Radiology of Chest Diseases, wyd. Thieme, 2017, t. I-III

SUPPLEMENTARY LITERATURE

1) Richard B. Gunderman, Essential Radiology: Clinical Presentation, Pathophysiology, Imaging, wyd. Thieme, 2016 ; 2) William E Brant, Clyde Helms, Fundamentals of Diagnostic Radiology, wyd. LWW, 2012

Katedra Radiologii,

Person in charge of the course:

dr hab. n. med. Anna Żurada,

Course coordinators:

Notes:

Detailed description of the awarded ECTS points - part B

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DIAGNOSTIC IMAGING 1/2
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The awarded number of ECTS points is composed of:

1. Contact hours with the academic teacher:

- participation in: classes	10 h.
- participation in: seminar	10 h.
- participation in: lecture	10 h.
- consultation	2 h.
	32 h.

2. Student's independent work:

-	18 h.
	18 h.

1 ECTS point = 25-30 h of the average student's work, number of ECTS points = 50 h : 25 h/ECTS = 2,00 ECTS
on average: **2 ECTS**

- including the number of ECTS points for contact hours with direct participation of the academic teacher: 1,28 ECTS points,
- including the number of ECTS points for hours completed in the form of the student's independent work: 0,72 ECTS points,