Vocational School of Health Services / Medical Imaging Techniques

2024 - 2025 Academic Year

MEDICAL IMAGING III

Syllabus

Course Description					
Name	**Code**	**Semester**	**T+A Hour**	**Credit**	**ECTS**
MEDICAL IMAGING III	TGT2163520	Fall Semester	2+8	6	15

Prerequisites Courses	
Recommended Elective Courses	
Language of Instruction	Turkish
Course Level	Short Cycle (Associate's Degree)
Course Type	Required
Course Coordinator	Prof.Dr. Cengiz EROL
Name of Lecturer(s)	Lect. Navıd KHERADMAND
Assistant(s)	
Aim	Fundamentals, Physics of MRI and usage of MRI according to clinic systems
Course Content	This course contains; Magnetic resonance device I,Magnetic resonance device II,Cranial magnetic resonance imaging,Neck magnetic resonance imaging,Thorax magnetic resonance imaging,Upper abdomen magnetic resonance imaging, lover abdomen magnetic resonance imaging,Vertebra magnetic resonance imaging,Upper extremity magnetic resonance imaging, lower extremity magnetic resonance imaging,MR angio imaging, advanced MRI,Computerized tomography device (CT),Head and neck CT imaging,Vertebra CT imaging,Thorax and abdomen CT imaging,Extremity CT imaging, Advanced CT.

Course Learning Outcomes	**Teaching Methods**	**Assessment Methods**
1. Features, Physics and Basic working principles of MRI	16, 9	A
1.1. Knows about MR sequences	14, 9	A
1.2. Explains basic imaging parameters and their effects on images	16, 9	A
2. Learns about basic features of system based methods and sequences of MRI	16, 6, 9	A
2.1. Cranial	16, 6, 9	A
2.2. Neck	16, 6, 9	A
2.3. Thorax	16, 9	A
2.4. Abdomen	9	A
2.5. Spinal	9	A
2.6. Musculoskeletal system	16, 9	A
2.7. Advanced MRI	14, 6, 9	A
3. Learns about basic features of CT	14, 16, 9	A
3.1. Explains about radiation protection including its applications	16, 6, 9	A
3.2. Knows about dose limitation methods of the device	16, 6, 9	A
4. Learns about system based applications of CT	6, 9	A
4.1. Head and Neck	16, 9	A
4.2. Vertebral column	9	A
4.3. Thorax	9	A
4.4. Abdomen	9	A
4.5. Extremity	9	A
4.6. Advanced CT methods	14, 16, 9	A

Teaching Methods	14: Self Study Method, 16: Question - Answer Technique, 6: Experiential Learning, 9: Lecture Method
Assessment Methods	A: Traditional Written Exam

Lecture Schedule

Sequence	**Topics**	**Preliminary Preparation**
1	Magnetic resonance device I	presentations
2	Magnetic resonance device II	presentations
3	Cranial magnetic resonance imaging	presentations
4	Neck magnetic resonance imaging	presentations
5	Thorax magnetic resonance imaging	presentations
6	Upper abdomen magnetic resonance imaging, lover abdomen magnetic resonance imaging	presentations
7	Vertebra magnetic resonance imaging	presentations
8	Upper extremity magnetic resonance imaging, lower extremity magnetic resonance imaging	presentations
9	MR angio imaging, advanced MRI	presentations
10	Computerized tomography device (CT)	presentations
11	Head and neck CT imaging	presentations
12	Vertebra CT imaging	presentations
13	Thorax and abdomen CT imaging	presentations
14	Extremity CT imaging, Advanced CT	presentations

Evaluation Methods	**Weight(%)**
Midterm Exam	40
General Exam	60

Resources
Notes wil be given to the studentsSerway I, Serway II, Nükleer Tıp Fiziği ve Klinik Uygulamaları