

**Vocational School of Health Services / Medical Imaging Techniques**

**2024 - 2025 Academic Year**

**MEDICAL IMAGING I**

**Syllabus**

<b>Course Description</b>					
<b>Name</b>	<b>Code</b>	<b>Semester</b>	<b>T+A Hour</b>	<b>Credit</b>	<b>ECTS</b>
MEDICAL IMAGING I	TGT1178050	Fall Semester	2+0	2	6
<b>Prerequisites Courses</b>					
<b>Recommended Elective Courses</b>					
<b>Language of Instruction</b>	Turkish				
<b>Course Level</b>	Short Cycle (Associate's Degree)				
<b>Course Type</b>	Required				
<b>Course Coordinator</b>	Lect. Mehmet Siddik CEBE				
<b>Name of Lecturer(s)</b>	Lect. Mehmet Siddik CEBE				
<b>Assistant(s)</b>					
<b>Aim</b>	To teach the working principles and device technologies of medical imaging devices with all the details.				
<b>Course Content</b>	This course contains; The structure of atom and its properties,X-ray production ,Properties of x-rays,Basics of Imaging,Radiography Device and Radiographic Imaging,Fluoroscopy Device and Fluoroscopic Imaging,Computed Tomography Device,Tomographic Imaging, Tomographic Imaging II,Mammography,Ultrasound imaging,Ultrasound imaging II,Magnetic Resonance Imaging,Magnetic Resonance Imaging II.				
<b>Course Learning Outcomes</b>			<b>Teaching Methods</b>	<b>Assessment Methods</b>	
Analyzes basic image processing methods and the need for them			10, 16, 37, 9	A, G	
Can compare the advantages and disadvantages of different imaging technologies			10, 16, 37, 9	A, G	
Recognizes the display method of a visualized image			10, 16, 37, 9	A, G	
Describes the physical principles used in creating medical images			10, 16, 37, 9	A, G	
Describes the basic principles and technical features of medical imaging systems			10, 16, 37, 9	A, G	
<b>Teaching Methods</b>	10: Discussion Method, 16: Question - Answer Technique, 37: Computer-Internet Supported Instruction, 9: Lecture Method				
<b>Assessment Methods</b>	A: Traditional Written Exam, G: Quiz				
<b>Lecture Schedule</b>					
<b>Sequence</b>	<b>Topics</b>	<b>Preliminary Preparation</b>			
1	The structure of atom and its properties	Lecture Notes			
2	X-ray production	Lecture Notes			
3	Properties of x-rays	Lecture Notes			
4	Basics of Imaging	Lecture Notes			
5	Radiography Device and Radiographic Imaging	Lecture Notes			
6	Fluoroscopy Device and Fluoroscopic Imaging	Lecture Notes			
7	Computed Tomography Device	Lecture Notes			
8	Tomographic Imaging	Lecture Notes			
9	Tomographic Imaging II	Lecture Notes			
10	Mammography	Lecture Notes			
11	Ultrasound imaging	Lecture Notes			
12	Ultrasound imaging II	Lecture Notes			
13	Magnetic Resonance Imaging	Lecture Notes			
14	Magnetic Resonance Imaging II	Lecture Notes			
<b>Evaluation Methods</b>		<b>Weight(%)</b>			
Midterm Exam		40			
General Exam		60			
<b>Resources</b>					
Lecture Notes-Basic Medical Radiological Imaging Technique/ hyperlinks					