



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Medical Imaging Techniques III Theoretical							
Course Code		TG203		Couse Level		Short Cycle (Associate's Degree)			
ECTS Credit	2	Workload	52 (Hours)	Theory	2	Practice	0	Laboratory	0
Objectives of the Course		The aim of this course is to gain knowledge and skills related to Magnetic resonance and computed tomography Imaging to the students in the classrooms and hospital conditions.							
Course Content		Preparation for magnetic resonance imaging, Cranial MR Imaging, Neck MR Imaging, Thorax MR Imaging, Upper Abdominal MR Imaging, Lower Abdominal MR Imaging, Vertebrae MR Imaging, Upper Extremity MR Imaging, Lower Extremity MR Imaging, MR Angiography, Advanced MRI Methods, Preparation for Computed Tomography, Head and Neck CT Imaging, Vertebrae CT Imaging, Thoracic and Abdominal CT Imaging , Extremity CT Imaging , Advanced Ct Imaging Methods							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Case Study, Individual Study, Problem Solving					
Name of Lecturer(s)		Prof. Alparslan ÜNSAL							

Prerequisites & Co-requisites

Co-requisite	TG207
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Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	70

Recommended or Required Reading

1	Physics of Radiological Imaging, Nobel Medical Bookstores,
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Week	Weekly Detailed Course Contents	
1	Theoretical	Magnetic Resonance Imaging Device
2	Theoretical	Magnetic Resonance Imaging Physics I
3	Theoretical	Magnetic Resonance Imaging Physics II
4	Theoretical	MRI patient preparation, Indications and Contraindications
5	Theoretical	Cranial, Neck and Vertebrae MRI
6	Theoretical	Thorax, Abdominal MRI
7	Theoretical	MR Angiography, Advanced MRI
8	Intermediate Exam	Midterm
9	Theoretical	CT Physics
10	Theoretical	Computed Tomography Device, CT patient preparation
11	Theoretical	Thorax and Abdominal CT Imaging
12	Theoretical	CT Angiography, Advanced CT Imaging
13	Theoretical	CT-MRI Contrast Agents
14	Theoretical	CT-MRI Patient Safety, CT Dose Reduction Parameters
15	Theoretical	Cranial, Neck and Vertebrae CT Imaging

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Individual Work	14	0	1	14
Midterm Examination	1	4	1	5



Final Examination	1	4	1	5
Total Workload (Hours)				52
[Total Workload (Hours) / 25*] = ECTS				2
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	Evaluates the magnetic resonance imaging (MRI) and Computerized Tomography (CT) image quality
2	Applies the CT imaging method
3	Selects the parameters for using CT
4	Understands the CT working principles, structure and generation
5	Implement the plan and used MRI sequences
6	Recognizes the contrast material used for MRI and CT
7	Understand the physics of MRI

Programme Outcomes (Medical Imaging Techniques)

1	To be able to get information the working principles of Radiology, Nuclear Medicine and Radiotherapy devices, and distinguish their components, use these devices in accordance with operating instructions.
2	To be able to perform the procedures in accordance with the examination of Radiology and Nuclear Medicine imaging .
3	To be able to apply the radiotherapy treatment, planned by radiation physicist with instruction of radiotherapist.
4	To be able to develop and perform the film printing of the images that obtained by imaging techniques of Radiology, Nuclear Medicine
5	To be able to evaluate the images that obtained by imaging techniques of Radiology, Nuclear Medicine in terms of radiographic quality and takes the necessary measures.
6	To be able to know the medical and radiologic terminology, and pronounce and use them correctly
7	To be able to take the necessary measures in accordance with the rules of Radiation safety and protection from radiation, and apply them.
8	To be able to distinguish the anatomical structures on images, obtained by the conventional and cross-sectional imaging techniques of Radiology, Nuclear medicine.
9	To be able to communicate well with patient, their family and the hospital staff.
10	To be able to move with own professional duties, powers and responsibilities of the consciousness and apply the rules of professional ethics.
11	To be able to adapt to a multi-disciplinary team work.
12	To be able to have a basic knowledge of human physiology.
13	To be able to distinguish anatomical structures.
14	To be able to establish a cause-and-effect relationship between events.
15	To be able to have the ability of analytical thinking and problem solving.
16	To be able to apply the basic principles of first aid.
17	It has basic knowledge about human anatomy
18	Understanding the basic concepts and principles of physics while providing, in the medical field and in particular medical imaging students better understand the issues involving technical vocational courses
19	OHS 'basic concepts; work accidents, occupational diseases, occupational physicians, occupational safety specialist, İSGB, OSGB, hazard classes, risk assessment, OHS employee representatives is
20	Have basic knowledge about basic medical practices and makes applications

Contribution of Learning Outcomes to Programme Outcomes 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High

	L1	L2	L3	L4	L5	L6	L7
P1	5	5	5	5	5	5	5
P2	5	5	5	5	5	5	5
P3	5	5	5	5	5	5	5
P4	5	5	5	5	5	5	5
P5	5	5	5	5	5	5	5
P6	5	5	5	5	5	5	5
P7	5	5	5	5	5	5	5
P8	5	5	5	5	5	5	5
P20	5	5	5	5	5	5	5

