AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title		Medical Imaging Techniques I Theoretical						
Course Code		TG103		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 for students is to prepare the x-ray machine, computerized x-ray machine, digital x-ray machine, Portable x-ray devices for radiographic examination in accordance with national and international standards and gain proficiency for obtaining radiography in Radiology unit. In addition, it is aimed to be ready. the physical environment of the dark room and equipment, film and printing operations in accordance to the darkroom working conditions in Radiology departments.
Course Content	In the radiology unit; radiography, computed radiography, digital radiography, portable x-ray machine on the national and in line with international standards to prepare for radiographic examination, radiography to gain qualifications related to the acquisition, the physical environment of the dark room according to the darkroom working conditions contained in the radiology department and the materials, contains the necessary academic knowledge in order to make ready the film processing and printing.
Work Placement	N/A
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Demonstration, Case Study, Individual Study
Name of Lecturer(s)	Assoc. Prof. Yasemin DURUM POLAT

Prerequisites & Co-requisities

Co-requisitie	TG107

Assessment Methods and Criteria

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

Recommended or Required Reading

1	Professor Dr. İbrahim Tanzer SANCAK, Basic Radiology, Güneş Medical Bookstores, 2015

Week	Weekly Detailed Course Contents	
1	Theoretical	Patient Preparation
2	Theoretical	Radiological Terminology
3	Theoretical	Radiological Anatomy
4	Theoretical	The structure of X-Ray Machine I
5	Theoretical	The structure of X-Ray Machine II
6	Theoretical	X ray formation and Properties
7	Theoretical	Obtaining radiography
8	Intermediate Exam	Midterm
9	Theoretical	Latent-manifest image formation, Film and printing techniques
10	Theoretical	Darkroom Quality Control Procedures
11	Theoretical	Parameters that affects resolution in radiography
12	Theoretical	The Noise and edge acuity in radiography
13	Theoretical	Radiographic artefacts
14	Theoretical	Digital Radiography Equipment, Detectors
15	Theoretical	Scattered Radiation and the affected Parameters

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	Makes quality control processes of darkroom equipment and materials in accordance with the Radiology departments working conditions and takes corrective measures when needed.
2	Performs the film and printing operations by using the film and printing techniques in accordance with the Radiology departments working conditions.
3	In accordance with the relevant national and international standards for Radiation, radiography will obtain.
4	Prepares the patient, conventional, computerized, digital and portable x-ray devices for radiographic examination.
5	Recognizes and measures the scattered radiation
6	Comprehends the electrical circuits of x-ray machines, the tube structure, tube failures and take the necessary measures to prevent defects
7	Recognizes the image formation and affecting factors.
8	Understand the occurrence and properties of X-Ray, the x-rays interaction with matter and properties to be used in diagnosis.

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 tıo 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	L8
P1	5	5						
P2		5						
P3			5					
P4				5			5	
P5					5			5
P7						5		