



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Radiobiology							
Course Code		TG209		Couse Level		Short Cycle (Associate's Degree)			
ECTS Credit	2	Workload	52 (Hours)	Theory	2	Practice	0	Laboratory	0
Objectives of the Course		Teaching Biological Effects of Radiation							
Course Content		To examine the effects of radiation on biological systems							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Individual Study					
Name of Lecturer(s)		Lec. Bengü DEPBOYLU							

Assessment Methods and Criteria

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

Recommended or Required Reading

1	Dr. Öğr. Üyesi Bengü DEPOYLU ders notları
---	---

Week	Weekly Detailed Course Contents	
1	Theoretical	Radiobiology Introduction Basic Diagnosis and Concepts
2	Theoretical	General Characteristics of Ionizing Radiation
3	Theoretical	Cell Biology and the Effect of Radiation on Cell Level
4	Theoretical	Response to Cell-level Radiation
5	Theoretical	Factors Affecting Cell Response
6	Theoretical	Effect of radiation on normal tissues
7	Theoretical	The Effect of Radiation on Tumors
8	Intermediate Exam	Midterm
9	Theoretical	Effect of Radiation on Whole Body
10	Theoretical	Cell Death and Survival Curves
11	Theoretical	Radiation Accidents and Biological Dosimetry
12	Theoretical	Radiation Protection and Safety
13	Theoretical	Distribution of Radiation Energy, LET and RBE Concepts
14	Theoretical	Effect of radiation on nucleic acids, enzymes and proteins
15	Theoretical	Effect of radiation on nucleic acids, enzymes and proteins

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Seminar	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	Understand cell biology
2	Understand the effects of radiation on biological systems
3	Understand radiation protection and safety principles
4	Effect of radiation on nucleic acids, enzymes and proteins
5	Cell synchronization and characteristics of synchronous cultures

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
P7		5	5
P12	5		
P16			5
P19			5

