

Vocational School / Radiotherapy
2024 - 2025 Academic Year
RADIATION SAFETY & RADIATION PROTECTION
Syllabus

Course Description						
Name		Code	Semester	T+A Hour	Credit	ECTS
RADIATION SAFETY & RADIATION PROTECTION		RAD1213773	Spring Semester	2+0	2	6
Prerequisites Courses						
Recommended Elective Courses						
Language of Instruction		Turkish				
Course Level		Short Cycle (Associate's Degree)				
Course Type		Required				
Course Coordinator		Assist.Prof. Mustafa ÇAĞLAR				
Name of Lecturer(s)		Lect. Navid KHERADMAND				
Assistant(s)						
Aim		To ensure you gain detailed information and competency for safely managing radioactive sources, devices and materials in the workplace.				
Course Content		This course contains; Definition of Radiation and Its Types,Radioactivity,Radiation Units and Radiation Measurement Medtods,Basic Principles in Radiation Protection,Biological Effects of Radiation,Radiation Protection Systems,Dose Constraints,Pregnancy and Radiation Protection,Duties and Responsibilities of Radiation Protection Comittee in Hospitals,Radiation Protection in Radiotherapy and Radiology,Whole Body and Organ Dose Constraints,Legal Regulations About Radioactive Wastes,Legal Obligations about Radiation Accidents,Emergency Procedures.				
Course Learning Outcomes				Teaching Methods		Assessment Methods
Provides information about the historical development of radiation.				10, 16, 9		A
Explains the biological effects of radiation.				10, 16, 9		A
Explains the detectors used in radiation measurement.				10, 16, 9		A
Explains the physical units related to radiation.				10, 12, 16, 9		A
Makes radiation risk calculations.				10, 12, 16, 9		A
It provides radioactive waste management in hospitals.				10, 16, 9		A
Explains the principles of radiation shielding				10, 16, 9		A
Teaching Methods		10: Discussion Method, 12: Problem Solving Method, 16: Question - Answer Technique, 9: Lecture Method				
Assessment Methods		A: Traditional Written Exam				
Lecture Schedule						
Sequenc e	Topics		Preliminary Preparation			
1	Definition of Radiation and Its Types		Mebis Lectures			
2	Radioactivity		Mebis Lectures			
3	Radiation Units and Radiation Measurement Medtods		Mebis Lectures			
4	Basic Principles in Radiation Protection		Mebis Lectures			
5	Biological Effects of Radiation		Mebis Lectures			
6	Radiation Protection Systems		Mebis Lectures			
7	Dose Constraints		Mebis Lectures			
8	Pregnancy and Radiation Protection		Mebis Lectures			
9	Duties and Responsibilities of Radiation Protection Comittee in Hospitals		Mebis Lectures			
10	Radiation Protection in Radiotherapy and Radiology		Mebis Lectures			
11	Whole Body and Organ Dose Constraints		Mebis Lectures			
12	Legal Regulations About Radioactive Wastes		Mebis Lectures			
13	Legal Obligations about Radiation Accidents		Mebis Lectures			
14	Emergency Procedures		Mebis Lectures			
Evaluation Methods			Weight(%)			
Midterm Exam			40			
General Exam			60			

Resources
Radiation Oncology Physics: A Handbook for Teachers and Students
Technical Editor: E.B Podgorsak
INTERNATIONAL ATOMIC ENERGY AGENCY VIENNA, 2005
Chapter 16Mebis Lecture Notes