

Vocational School / Opticianry

2024 - 2025 Academic Year

RADIATION PROTECTION

Syllabus

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
RADIATION PROTECTION	OPT1112350	Fall Semester	2+0	2	2
Prerequisites Courses					
Recommended Elective Courses	-				
Language of Instruction	Turkish				
Course Level	Short Cycle (Associate's Degree)				
Course Type	Elective				
Course Coordinator	Assist.Prof. Mustafa ÇAĞLAR				
Name of Lecturer(s)	Assist.Prof. Mustafa ÇAĞLAR				
Assistant(s)	None				
Aim	To provide knowledge and develop skills in the basic concept of mechanics and radiation				
Course Content	This course contains; Definition of Radiation and Its Types, Radioactivity, Radiation Units and Radiation Measurement Methods, Basic Principles in Radiation Protection, Biological Effects of Radiation, Radiation Protection Systems, Dose Constraints, Pregnancy and Radiation Protection, Duties and Responsibilities of Radiation Protection Committee 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	
1. Tells about about historical development of radiation and its biological, acute and chronic effects.			16, 9	A	
2. Explains detectors used to measure radiation.			12, 16, 9	A	
4. Explains radiation units			16, 9	A	
4. Tells collection of radiation waste.			13, 16, 9	A	
Teaching Methods	12: Problem Solving Method, 13: Case Study Method, 16: Question - Answer Technique, 9: Lecture Method				
Assessment Methods	A: Traditional Written Exam				
Lecture Schedule					
Sequence	Topics	Preliminary Preparation			
1	Definition of Radiation and Its Types	Mebis Lecture Notes			
2	Radioactivity	Mebis Lecture Notes			
3	Radiation Units and Radiation Measurement Methods	Mebis Lecture Notes			
4	Basic Principles in Radiation Protection	Mebis Lecture Notes			
5	Biological Effects of Radiation	Mebis Lecture Notes			
6	Radiation Protection Systems	Mebis Lecture Notes			
7	Dose Constraints	Mebis Lecture Notes			
8	Pregnancy and Radiation Protection	Mebis Lecture Notes			
9	Duties and Responsibilities of Radiation Protection Committee in Hospitals	Mebis Lecture Notes			
10	Radiation Protection in Radiotherapy and Radiology	Mebis Lecture Notes			
11	Whole Body and Organ Dose Constraints	Mebis Lecture Notes			
12	Legal Regulations About Radioactive Wastes	Mebis Lecture Notes			
13	Legal Obligations about Radiation Accidents	Mebis Lecture Notes			
14	Emergency Procedures	Mebis Lecture Notes			
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 16 Lecture notes