

# HEALTH PHYSICS

1	Course Title:	HEALTH PHYSICS
2	Course Code:	FZK4216
3	Type of Course:	Optional
4	Level of Course:	First Cycle
5	Year of Study:	4
6	Semester:	8
7	ECTS Credits Allocated:	4.00
8	Theoretical (hour/week):	2.00
9	Practice (hour/week):	2.00
10	Laboratory (hour/week):	0
11	Prerequisites:	None
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Prof. Dr. Z. Gökay Kaynak
15	Course Lecturers:	Yok
16	Contact information of the Course Coordinator:	kaynak@uludag.edu.tr Tel: 0 224 294 17 77
17	Website:	
18	Objective of the Course:	To give about position and importance of the radiation at life and medical area To learn and apply general concepts about radiation
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	
	1	Learns information about radiations
	2	Learns the unit of radiactivite
	3	Learns the product of X-ray mechanism
	4	Learns the radioactivity decay law
	5	Learns the interaction of radiation with matter
	6	Have an information about detectors
	7	Learns the biologic and somatic effects of radiation
	8	Have an information about medical applications of radiation
	9	
	10	
21	Course Content:	
	<b>Course Content:</b>	
Week	Theoretical	Practice
1	Matter and structure of atom, Atom models, Radiations and radiation intensity, excited and ionization	
2	Radiations and radiation intensity, excited and ionization	
3	Radioactivity, Radioactive decay, decay constant,	

4	half-life, Average life, Biological half life, effective half life			
5	Units of Radioactivity, Activity calculated, Type of Radioactive decay			
6	X-rays and production, properties			
7	Interactions of radiation with matter			
8	Interactions of radiation with matter			
9	Dosimetry			
10	Dosimetry			
11	Biological effects of radiations, Free radicals			
12	Somatic effects of radiation, Genetic effects			
13	Radiation protected, Non-ionization radiation; sources, units, region			
14	Protected from external radiation sources			
22	Textbooks, References and/or Other Materials:	<p>Çekirdek Fiziğinin Esasları, Atam P.Arya, Çeviren Doç.Dr. Yusuf Şahin Atatürk Üniversitesi Fen Fak. Yayını, 1995.</p> <p>Nükleer Fizik K.S.Krane, Çeviri Editörü Başar Şarer, Palme Yayıncılık 2001.</p> <p>Nükleer Fizik, Prof.Dr. Besim Tanyel, Ege Üniversitesi Fen Fakültesi Ders Kitapları Serisi, No.139, 1994</p> <p>Çekirdek Fiziği Mehmet girin, Yıldız Teknik Üniversitesi,</p>		
Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical		14	2.00	28.00
Practicals/Labs		14	2.00	28.00
Self study and preperation		0	0.00	0.00
Homeworks		14	2.00	28.00
Projects		0	0.00	0.00
Field Studies		0	0.00	0.00
Midterm exams		1	16.00	16.00
Others		0	0.00	0.00
Final Exams		1	16.00	16.00
TERM LEARNING ACTIVITIES		NUMBER	WEIGHT	
Total Work Load				116.00
Midterm Exam		1	40.00	
Total Work load/ 30 hr				3.87
ECTS Credit of the Course				4.00
Home work-project		0	0.00	
Final Exam		1	60.00	
Total		2	100.00	
Contribution of Term (Year) Learning Activities to Success Grade			40.00	
Contribution of Final Exam to Success Grade			60.00	
Total			100.00	
Measurement and Evaluation Techniques Used in the Course				
24	ECTS / WORK LOAD TABLE			

25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
ÖK1	5	5	5	1	0	3	0	0	4	2	0	0	5	5	5	5
ÖK2	5	5	5	1	0	3	0	0	4	2	0	0	0	0	0	0
ÖK3	5	5	5	1	0	3	0	0	4	2	0	0	0	0	0	0
ÖK4	5	5	5	1	0	3	0	0	4	2	0	0	0	0	0	0
ÖK5	5	5	5	1	0	3	0	0	4	2	0	0	0	0	0	0
ÖK6	5	5	5	1	0	3	0	0	4	2	0	0	0	0	0	0
ÖK7	5	5	5	1	0	3	0	0	4	2	0	0	0	0	0	0
ÖK8	5	5	5	1	0	3	0	0	4	2	0	0	0	0	0	0
LO: Learning Objectives    PQ: Program Qualifications																
Contribution Level:	1 very low		2 low			3 Medium			4 High			5 Very High				