Fizik Bölümü / PHYSICS /											
Course Code	Course Name	Teorical	Practice	Laboratory	Credits	ECTS					
FZK-4023 Course Detail	Health Physics	2.00	2.00	0.00	3.00	7.00					
Course Language	: Turkish										
Qualification Degree	: Bachelor										
Course Type	: Optional										
Preconditions	: Not										
Objectives of the Course	: This course aims to to determine radiation protection principles, especially to hur exposed radiation doses of individuals, planning of radiation used establishments	nan, of all living thi s. To learn necess	ngs, applying th ary protective n	ese principles t neasures about	o the fields. T radiation.	Fo calculate					
Course Contents	: Definition and basic concepts of health physics, radioactivity, radiation dosimeter and fall-out, biological effects of radiations, Introduction to radioisotope important protection from radiation, saving of radioactive waste, disposal methods, planning legal cases, using of radiation and radionuclide in medicine, industry and biology	r, exercises related for human and en g of the field of rad	l to radiation do vironment healt iation is used,	osimeter, natura h, exercises rela radiation accide	l and man-mated to radiat	ade radiations ion unit, ation-related					
Recommended or Require Reading	d : Sağlık Fiziği, Prof Dr. Tulay Engizek, İstanbul Üniversitesi Fen Fakültesi Basımev Publishing Ltd, 1999. F. Pehlivan, Biyofizik, Pelikan Yayıncılık, 2011. Sağlık Fiziği	i. B H Brown, et. al , Herman Cember	., Medical Phys Thomas E Jol	sics and Biomeo Inson, Mc Graw	dical Enginee w Hill, 2009.	ering, IOP					
Planned Learning Activitie Teaching Methods	s and : Lectures will be made. In addition, student participation in problem solving will be	made on the subje	ect.								
Recommended Optional Programme Components	:										
Instructors	: Prof. Dr. Emine Dilara Atalay										
Instructor's Assistants	:										
Presentation Of Course	: Face to face										
Course Outcomes											
Upon the completion of this course	a student :										
1 Learn the related field of Health Physics											
2 Solve exercises and learn formulas related to radiation dosimeter.											
3 Explain and use the radiation units.											
4 Classify the methods of Radiation	n Protection.										
5 Compute the necessary calcula	ions related to the planning of radiation fields.										
Preconditions											
Course Code	Course Name	Teorical	Practice	Laboratory	Credits	ECTS					

Weekly C	Weekly Contents											
	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods							
1.Week	*Definition and basic concepts of health physics.	*Definition and basic concepts, review and problem solving.										
2.Week	*Radioactivity	*Radioactivity review and problem solving.										
3.Week	*Radiation dosimeter 1											
4.Week	*Radiation dosimeter 2											
5.Week		*Exercises related to radiation dosimeter										
6.Week	*Natural and man-made radiations and fall-out											
7.Week	*Interaction of radiation with matter; photons, charged particles and neutrons											
8.Week	*Dose Units and radiation detection	*Dose Units and radiation detection										
9.Week	*Radionuclide production and radiopharmaceuticals	*Radionuclide production and radiopharmaceuticals										
10.Week	*Biological effects of radiation, radioisotopes important for human health and the environment											
11.Week	*Radiation Protection Methods	*Internal and external dose calculations; measurement of environmental radiations										
12.Week	*Accumulation of radioactive material waste, making radioactive wastes harmless and transportation methods											
13.Week	*Health Physics instrumentation, planning of radiation workplaces, radiation accidents and radiation- related legal status	*Health Physics instrumentation, planning of radiation workplaces, radiation accidents and radiation- related legal status										
14.Week		*Use of radiation and radionuclide in medicine, industry and biology										

Assesment Methods %

1 Presentation/Seminar : 40.000 2 Ödev : 10.000

4 Final : 50.000

ECTS Workload

Activities	Count	Time(Hour)	Sum of Workload
Ödev	4	3.00	12.00
Final	1	3.00	3.00
Individual study before lecture	4	5.00	20.00
Preparation for final	14	2.00	28.00
Class Hours (14 weeks)	14	4.00	56.00
Presentation/Seminar	4	2.00	8.00
Further Study	14	3.00	42.00
Preliminary Study	14	3.00	42.00
	Total	211.00	

Program And OutcomeRelation

	P.O. 1	P.O. 2	P.O. 3	P.O. 4	P.O. 5	P.O. 6	P.O. 7	P.O. 8	P.O. 9	P.O. 10	P.O. 11	P.O. 12	P.O. 13	P.O. 14	P.O. 15	P.O. 16	P.O. 17	P.O. 18	P.O. 19	P.O. 20	P.O. 21	P.O. 22	P.O. 23	P.O. 24
L.O. 1	4	3	2	3	3	3	4	4	4	3	3	4	4	3	4	4	3	3	4	3	3	4	4	3
L.O. 2	5	4	4	3	4	3	3	4	3	4	4	3	4	4	3	3	2	3	3	4	4	3	3	3
L.O. 3	4	4	3	4	4	4	4	5	3	3	3	3	3	3	3	3	3	4	3	4	3	3	3	3
L.O. 4	5	4	4	4	3	3	5	5	4	3	4	3	3	4	3	3	2	3	3	4	4	4	4	3
L.O. 5	4	3	3	3	4	4	4	4	3	4	4	4	3	3	4	3	2	4	3	4	3	3	3	3
4	4																					►		

Ders/Program Çıktıları İlişkisi

P.O.	1 P.O. 2	2 P.O. 3	P.O. 4	P.O. 5	P.O. 6	P.O. 7	7 P.O. 8	P.O. 9	P.O. 10	P.O. 11	P.O. 1	2 P.O. 13	P.O. 1	4 P.O. 1	5 P.O. 16	6 P.O. 17	P.O. 18	8 P.O. 19	P.O. 20	P.O. 21	P.O. 22	P.O. 23	P.O. 24	P.O. 2
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
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