Course Information								
Course Code	**T**	**P**	**L**	**C**	**ECTS**	**Type** C/E	**Language** TR/ENG etc.	**Year/Semester**
FİZ3014	**3**	**0**	**0**	**3**	**5**	**E**	**TR**	**3/SPRING**
Course Name (Turkish**)**	**Sağlık Fiziği**							
Course Name (English**)**	**Physics of Health**							

Unit/Program	Physics Department/Undergraduate Program
Course Prerequisite	No
Course Objectives	To convey to students the effects of ionizing radiation and its effect on biological systems.
Course Outline	Definition of Radiation, Determination of Sources and Biological Effect. Radiation Protection.
Textbook/ Material / Resources	Radiation and Health, by Thormod Henriksen and H. David Maillie, Printed by Taylor And Francis Group
Internship Status	No

Course Precedents

University Name	**Program Name**	**Course Name**	**T-P-L-C; ECTS**	**Type**
Gebze Technical University	**Physics**	**Radiation and Health Physics**	**3-0-0-3; 5**	**E**
Duzce University	**Physics**	**Radiation and Health Physics**	**3-0-0-3; 6**	**E**

The instructor who proposed the course (Title, Name and Surname)	*Signature*
Instructors who can teach the course (Title, Name and Surname)	*Signature*

Academic justification for the opening of the course? (The effect of course outcomes on program outcomes, etc.)

Brief explanation of the course (theoretical lecture, applications, laboratory, studio, off-campus activity, using software, etc.)

Face-to-face courses will be taught under the supervision of the relevant faculty member.

External Stakeholder Opinions About the Course (It is expected that the opinions to be obtained from the business world that will employ your graduates or from real or legal persons outside the University who have expertise on the subject of the course will be specified. Proof documents must be attached to this form.)

Stakeholder Name	**Opinion** (It should be given as a summary, it should not exceed two lines.)

Weekly Course Content Distribution		
Week	**Theory**	**Application/Laboratory**
1	What is Health Physics and Its Importance	
2	Definition of Radiation, Occurrence, Types of Radiation	
3	Radiation Sources	
4	Neutron-Proton Balance and Radioactivity in the Nucleus	
5	Radiation Decay, Half-Life, Physical Half-Life, Law of Radiation Decay	
6	Radiation Dose, Equivalent Dose, Other Dose Units	
7	Radiation measurement and detection devices	
8	Radiation Protection, Dose Limit Values	
9	Midterm Exam	
10	Radiation in Medicine and Research, Radiation Therapy, Isotopes Used in Industry, Sterilization of Medical Equipment and Food Products, Control of Insects	
11	Small Doses and Risk Estimates, Experimental Information on Dose Effect Curve, Radiation and Cancer	
12	Biological Effects of Radiation	
13	The Effect of Ionizing Radiation on Cells-Bodily and Genetic Effects of Radiation on Living Beings	
14	Radiation and Environment, Use of Radiation in Society, Nuclear Energy, Nuclear Energy and Radioactive Emission	
15	Final Exam	
16		

Assessment			
Evaluation Criteria	**Activity**	**Custom**	**Contribution to Success Grade (%)**
	Midterm Exams	1	40
	Quizzes		
	Assignments		
	Projects		
	Term Paper		
	Laboratory		
	Other		
	Final Exam	1	60
		Sum:	100
Remarks			

Content Design and Subject Weight (%)	Mathematics and Basic Sciences	60
	Engineering Sciences	40
	Social Sciences	
	Health Sciences	
	Educational Sciences	
	Culture and Art Sciences	
	Design Information	

Workload (ECTS) Calculation			
Events	**Number**	**Duration (Hours)**	**Total workload (Hours)**
Fieldwork			
Midterm Exam Application	1	2	2
Self-Study (including pre-class and exam preparation)	14	2	28
Make-up Exam	1	2	2
Experiment and Observation			
Class Participation (Theory)	14	3	42
Homework			
Final Exam Practice	1	2	2
Laboratory			
Article Review			
Writing an Article			
Reading			
Case Study			
Performance			
Problem Solution			
Project Preparation			
Project Submission			
Quiz			
Report Preparation			
Submitting Reports			
Role/Drama Work			
Seminar			
Oral Exam			
Team/Group Work	12	3	36
Argument	14	1	14
Application/Practice			
Other			
TOTAL WORKLOAD:			**126**
ECTS CREDİTS OF THE COURSE: *(The number obtained as a result of Total Workload/25 is calculated by rounding to the whole number.)*			**5**

Program Outcomes (PO) / **Learning Outcomes (LO)** *(Course Outcomes)*		1	2	3	4	5	6	7	8	9	10	11
1	To be able to identify natural radiation sources in the environment we live in	**5**	**5**	**5**	**4**	**3**	**3**	**4**	**5**	**5**	**3**	**3**
2	Identify ionizing radiation and be able to comment on its effect on biological systems	**5**	**5**	**5**	**4**	**3**	**3**	**4**	**5**	**5**	**3**	**3**
3	To be able to explain the procedures of protection from ionizing radiation	**5**	**5**	**5**	**4**	**3**	**3**	**4**	**5**	**5**	**3**	**3**

Organizer: Assist. U.S. Seçil NİKSARLIOĞLU
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