

Course Code	Course Name	Teorical	Practice	Laboratory	Credits	ECTS
FZK-1005	Technology and Innovation in Physics	2.00	0.00	0.00	0.00	2.00
Course Detail						
Course Language	: Turkish					
Qualification Degree	: Bachelor					
Course Type	: Compulsory					
Preconditions	: Not					
Objectives of the Course	: In this course; physics tools and applications in the context of technology and innovation are discussed with examples.					
Course Contents	: The course covers the applications and innovations of fundamental concepts, phenomena and laws in physics in technology.					
Recommended or Required Reading	: 1- Şener, E. (Ed), 2019. Teknoloji, İnovasyon ve Girişimcilik, Beta Yayınları, 9786052424124.					
Planned Learning Activities and Teaching Methods	: Oral lectures with interactive discussions, researches and homeworks.					
Recommended Optional Programme Components	: Doing case studies and research with course subjects.					
Course Instructors	: Prof. Dr. Faruk Soyduğan					
Instructor's Assistants	: Prof. Dr. Faruk SOYDUGAN					
Presentation Of Course	: Face to face					

Course Outcomes

Upon the completion of this course a student :

- 1 Understands and interprets basic concepts in physics.
- 2 Gains knowledge about technology and its applications
- 3 Understands the difference between innovation and R&D and the importance of problem solving in innovation.
- 4 Realizes the importance of physics subjects in technology and innovation processes.

Preconditions

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Weekly Contents

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods
1.Week	*Fundamental concepts with sample applications.				
2.Week	*Fundamental laws and events in physics - NOBEL Physics Price Subjects				
3.Week	*Research Process and Types - R&D				
4.Week	*Term of innovation and samples				
5.Week	*innovation processes				
6.Week	*Innovative Problem Solving Methods - Samples used physics laws				
7.Week	*Requirements for Innovation				
8.Week	*Performance Indicators in Innovation - I				
9.Week	*Individual sampling discussions on technology and innovation applications				
10.Week	*Performance Indicators in Innovation - II				
11.Week	*R&D and Innovation in Our Country				
12.Week	*Encouragement and Importance in Innovation				
13.Week	*Technoparks and Physics Based Companies Examples				
14.Week	*The Importance of Innovation and Physics in Industrial Revolutions - Discussing with Examples				

Assesment Methods %

1 Md Term Exam 1 : 40.000

3 Final : 60.000

ECTS Workload

Activities	Count	Time(Hour)	Sum of Workload
Ödev	3	9.00	27.00
Attending lectures	14	0.00	0.00
Individual study after lecture	14	1.00	14.00
Preparation for midterm	1	6.00	6.00
Research presentation	1	2.00	2.00
			Total : 49.00
			Sum of Workload / 30 (Hour) : 2
			ECTS : 2.00

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	3	4	3	4	4	3	3	4	3	3	4	3	3	4	3	3	4	3	3	4	4	3	3	4
L.O. 2	3	4	4	4	5	4	3	4	3	3	4	4	3	3	3	3	3	3	4	4	5	3	3	4
L.O. 3	4	5	3	4	4	5	4	3	4	4	5	4	4	3	4	5	3	3	4	5	4	4	4	4
L.O. 4	4	4	4	4	5	5	4	4	4	5	5	4	4	4	5	5	4	4	4	5	4	4	5	5

Ders/Program Çıktıları İlişkisi

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	P.O. 2
3	3	4	4	3	4	4	5	5	4	3	3	4	4	4	5	5	3	4	4	4	4	3	5	5