Fizik Bölümü / PHYSICS /

Course Code	Course Name	Teorical	Practice	Laboratory	Credits	ECTS
FZK-3016	Physics for 21 St Century	3.00	0.00	0.00	3.00	6.00

Course Detail

Course Language	:	Turkish
Qualification Degree	:	Bachelor
Course Type	:	Optional
Preconditions	:	Not
Objectives of the Course	:	Learning the problems of 21st century physics.
Course Contents	:	Introduction, Basics building blocks of matter, Fundamental interactions, Fundamental interactions, Gravity, Gravity, String theory and extra dimensions, Midterm Exam, The quantum world, The quantum world, Macroscopic quantum mechanics, Modulation of light, Biophysics, Dark matter, Dark energy., Final Exam
Recommended or Required Reading	:	'The New Physics: For the Twenty-First Century', Cambridge University Pres, Gordon Fraser, 0521140021 (ISBN-13: 978-0521140027), 2009 'Applied Physics in the 21st Century', Raymond P. Valencia, Nova Science Pub Inc, 1608762890 (ISBN-13: 978-1608762897), 2010,
Planned Learning Activities and Teaching Methods	:	Written exam. (60% Final, 40% midterm)
Recommended Optional Programme Components	:	Knowledge of the fundamental physics courses is important.
Instructors	:	Prof. Dr. Kıvanç Sel
Instructor's Assistants	:	Assoc. Prof. Dr. Kıvanç SEL
Presentation Of Course	:	Face to face

Course Outcomes

Upon the completion of this course a student :

1 1) Apply the basic science knowledge.

2 2) Describe the natural phenomena.

3 4) Identify the problems that must be solved in future

4 6) Describe the research fields of physics.

Preconditions

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Weekly Contents

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods
1.Week	*Introduction				* Lecture and recitation
2.Week	* Basics building blocks of matter,				* Lecture and recitation
3.Week	* Fundamental interactions				* Lecture and recitation
4.Week	* Fundamental interactions				* Lecture and recitation
5.Week	*Gravity				* Lecture and recitation
6.Week	*Gravity				* Lecture and recitation
7.Week	* String theory and extra dimensions				* Lecture and recitation
8.Week	* The quantum world				* Lecture and recitation
9.Week	* The quantum world				* Lecture and recitation
10.Week	* The quantum world				* Lecture and recitation
11.Week	* Macroscopic quantum mechanics				* Lecture and recitation
12.Week	* Modulation of light				* Lecture and recitation
13.Week	* Dark matter				* Lecture and recitation
14.Week	* Dark energy.				* Lecture and recitation

Assesment Methods %

1 Mid Term Exam 1 : 40.000

2 Final : 60.000

ECTS Workload

Activities	Count	Time(Hour)	Sum of Workload
Vize	1	2.00	2.00
Final	1	2.00	2.00
Attending lectures	14	3.00	42.00
Individual study before lecture	14	2.00	28.00
Individual study after lecture	14	4.00	56.00

Activities	Count	Time(Hour)	Sum of Workload
Preparation for midterm	1	20.00	20.00
Preparation for final	1	20.00	20.00
		Total :	170.00
		Sum of Workload / 30 (Hour) :	6
		ECTS :	6.00

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	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L.O. 2	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L.O. 3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L.O. 4	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0