AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Scientific Principles of Technology						
Course Code	AEK204		Couse Level	Short Cycle (Associate's Degree)			
ECTS Credit	3	Workload	72 *(Hours)*	Theory	2	Practice	0	Laboratory	0
Objectives of the Course	To be able to comprehend the basic physical quantities and unit systems in order to be able to adapt to the advanced education.						
Course Content	Measurement systems, Basic and Derived Quantities, Vectors, Work and Energy, Load and Matter, Electrical Field, Gauss's Law, Electrical potential, Capacitors and dielectric, Magnetic Field, Ampere Law, Faraday's law, Induction, Magnetic Properties of Matter, Electromagnetism.						
Work Placement	N/A						
Planned Learning Activities and Teaching Methods			Explanation (Presentation), Discussion, Problem Solving				
Name of Lecturer(s)	Ins. Emre IŞIKLI						

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	70

Recommended or Required Reading

1	Alternatif Enerji Kaynakları Yazar: Mustafa Acaroğlu

Week	Weekly Detailed Course Contents	
1	Theoretical	Fiziksel Büyüklükler ve Birim Sistemleri
2	Theoretical	Üslü Sayı İşlemleri, Koordinat Sistemi ve Okunması
3	Theoretical	Trigonometrik Değerlerin Gösterilmesi ve Teoremler
4	Theoretical	Vektörler, Vektörlerle İlgili İşlemler, Üç Boyutlu Koordinat Sistemleri
5	Theoretical	Vektörler, Vektörlerle İlgili İşlemler, Üç Boyutlu Koordinat Sistemleri
6	Theoretical	Kuvvet, Bileşke Kuvvetler, İki Kuvvetin Farkı, Moment Kuralları, Kütle ve Ağırlık Kavramı
7	Theoretical	Konum, Yerdeğiştirme, Hareket, Hız ve İvme
8	Theoretical	Konum, Yerdeğiştirme, Hareket, Hız ve İvme
9	Theoretical	İş, Güç, Enerji Kavramları
10	Theoretical	Elektrik ve Magnetizma, Elektriklenme ve Elektrik Yükü
11	Theoretical	Yüklü Cisimler Arası İlişkiler
12	Theoretical	Elektrik Akım Kaynaklar
13	Theoretical	Elektrik Akımı ve Elektriksel Güç
14	Theoretical	Magnetik Kutuplar, Magnetik Akı, Geçirgenlik, Akımın Magnetik Etkisi
15	Theoretical	Magnetik Kutuplar, Magnetik Akı, Geçirgenlik, Akımın Magnetik Etkisi
16	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	13	0	2	26
Assignment	8	0	2	16
Reading	6	0	1	6
Individual Work	6	0	2	12
Midterm Examination	1	5	1	6
Final Examination	1	5	1	6
			Total Workload (Hours)	72
			[Total Workload (Hours) / 25*] = **ECTS**	3

25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	
2	
3	
4	
5	

Programme Outcomes *(Alternative Energy Sources Technology)*

1	To have knowledge about basic science and technology.
2	To have knowledge about basic energy and alternative energy sources.
3	To have knowledge about basic electrical and electronic laws.
4	To have knowledge about the installation and operation of energy facilities.
5	Learning the methods of recycling of waste and use of energy.
6	To have experience in energy generation and project design.

Contribution of Learning Outcomes to Programme Outcomes *1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High*

	L1	L2	L3	L4	L5
P1	5	5	5	5	5
P2	3	3	3	3	3
P3	5	5	5	5	5