



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Applications of Science to Technology							
Course Code		FBÖ358		Course Level		First Cycle (Bachelor's Degree)			
ECTS Credit	4	Workload	100 (<i>Hours</i>)	Theory	2	Practice	0	Laboratory	0
Objectives of the Course		To understand the application areas and importance of science							
Course Content		Semiconductors and technologies, laser technology, superconductors and their applications; X-rays and technology, communication technology; different physical sensors, nanotechnology; GPS and radar technology, imaging techniques and tools (ultrasonics, NMR, tomography, scintillation, electron and scanning microscopes); technology and greenhouse gases; water-producing technologies; pharmaceutical technology; chemical cleaning materials and production technologies; chemical pollution and prevention technologies; GDO technology; stem cell technology; pharmaceutical and cosmetic products technology; ready food technology; biological sensors; genetic replication; bioinformatics.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Case Study					
Name of Lecturer(s)		Lec. Hanife Can ŞEN, Prof. Hatice ÖZENOĞLU							

Assessment Methods and Criteria

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

Recommended or Required Reading

1	1 Douglas A. Skoog, F. James Holler, Stanley R. Crouch. (2007). Principles of Instrumental Analysis (6.baskı), Philadelphia: Saunders College Pub.
2	2 McClellan, J., E., Dorn, H. (2013). Dünya Tarihinde Bilim ve Teknoloji (Çev. Yalçın, H.). Akılçelen Kitaplar
3	3 Pouge, D. (2016). Günlük Hayatın Bilimi. Çevirmen: Kurt, F. National Geographic Society. 1 Douglas A. Skoog, F. James Holler, Stanley R. Crouch. (2007). Principles of Instrumental Analysis (6.baskı), Philadelphia: Saunders College Pub.

Week	Weekly Detailed Course Contents	
1	Theoretical	1. Semiconductors and technologies
2	Theoretical	2. Laser technology, superconductors and applications
3	Theoretical	3. X-rays and technology, communication technology
4	Theoretical	4. Different physical sensors, nanotechnology
5	Theoretical	5. GPS and radar technology, imaging techniques and tools (ultrasound, NMR, tomography, scintillation, electron and scanning microscopes)
6	Theoretical	6. Technology and greenhouse gases
7	Theoretical	7. Water production technologies
8	Intermediate Exam	midterm
9	Theoretical	9. Pharmaceutical technology
10	Theoretical	10. Chemical cleaning materials and production technologies
11	Theoretical	11. Chemical pollution and prevention technologies
12	Theoretical	12. GMO technology; stem cell technology
13	Theoretical	13. Cosmetic products technology
14	Theoretical	14. Prepared food technology
15	Theoretical	15. Biological sensors; genetic copying; bioinformatics.
16	Final Exam	final

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	1	2	42
Assignment	14	1	1	28
Individual Work	12	0	1	12



Midterm Examination	1	6	1	7
Final Examination	1	10	1	11
Total Workload (Hours)				100
[Total Workload (Hours) / 25*] = ECTS				4

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	1 Know the use of semiconductors and technologies, laser technology and superconductors.
2	2 They explains X-rays and technology.
3	Know communication technology and usage areas.
4	4 Know nanotechnology and usage areas.
5	5 It refers to the relationship between technology and greenhouse gases.
6	6 Order chemical cleaning materials and production technologies.
7	7 It recognizes the importance of chemical pollution and prevention technologies.
8	8 Expresses GMO technology and its usage areas.
9	Know stem cell technology and list its usage areas.
10	10 Know drug and cosmetic products and technologies.
11	11 Ready-to-eat food technology and Bioinformatics know and recognize the importance.

Programme Outcomes (Science Teacher Education)

1	To be able to gain subject knowledge of profession in theory and practice in the learning process.
2	To be able to gain the competence of using the appropriate approach, strategy, method and technique for the instructional plans to be prepared in the learning process.
3	To be able to gain the skills of the teaching profession in the learning process.
4	To be able to implement teaching profession knowledge, skills, attitudes and habits related to the subject-matter in a real teaching and learning environment in the learning process.
5	To be able to comprehend contemporary approaches of education and the philosophy they are based on.
6	To be able to gain the basic skills such as comprehending, expressing, commenting, evaluating, being aware and enterprising, communicating, acknowledging the individual related to the subject-matter.
7	To be able to become individuals faithful to the Principles and Revolutions of Atatürk, be modern democratic, secular, protecting and deveoping one's country, being alive to the nation, respecting human rights, preserving the nature, not being discriminatory, giving importance to the traditions and customs, protecting the values
8	To be able to improve oneself in terms of sport, art and culture.
9	To be able to become individuals believing in lifelong learning.
10	To be able to gain the vision of being individuals who keep up with developments in social, economic, technological and scientific areas, who investigate the main reasons of World problems and try to contribute to the solutions of these problems.

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

	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11
P1	5	5	5	5	5	5	5	5	5	5	4
P2	5	5	5	5	4	4	4	5	5	5	5
P3	5	5	5	5	4	5	4	5	5	5	5
P4	5	5	4	5	5	5	4	5	4	5	4
P5	4	4	5	4	4	4	5	5	4	5	5
P6	4	4	5	4	5	4	4	4	5	5	4
P7	4	5		4	4	4	5	5	5	5	5
P8	5	5			5	5	4	5	5	5	5
P9	5	4	5	4	4	4	4		4	4	5
P10	4	4	5	5	5	4	4	5	5	5	5

