AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Ict Based Science Teaching Applications - I						
Course Code	İFB533		Couse Level	Second Cycle (Master's Degree)			
ECTS Credit	8	Workload	200 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course	The aim of this course, developing knowledge and skills of science teachers about the use of ICTs in science education. In this course content, science specific educational ICTs and their applications will be taught.						
Course Content	Theoretical bases of ICT's, Bloom's revised taxonomy, Social Networks, Wiki's, Virtual Worlds, Video Archives, Animations, Slowmations, Joyful Science, Web 2.0 applications, Scientific e-journals, Graphic Applications, Knowledge Literacy, Voice and Video Interactions, Virtual Trips, Media Literacy, Photograph Applications						
Work Placement	N/A						
Planned Learning Activities and Teaching Methods			Explanation (Presentation), Discussion				
Name of Lecturer(s)							

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading

1	Eğitimde bilişim teknolojileri (Edt. Sami Şahin), Pegem Akademi Yayıncılık, 2016
2	Harrison C. & Varoxis J. (2019). Getting Social with Science – How Social Media can Enhance Collaboration and Leverage your Valuable Time, Science Education News, 68(1), 29-32
3	Gorakhnath I. & Padmanabhan J. (2017). Educational Robotics: A New Arena in Classroom Teaching, Electronic Interdisciplinary International Research Journal (EIIRJ), 6(6), 216-236
4	Kasinathan, G. & Ranganathan, S. (2018). How to integrate ICTs in the public education system, https://itforchange.net/how-to-integrate-icts-public-education-system
5	Lateef F. (2010). Simulation-based learning: Just like the real thing. Journal of emergencies, trauma, and shock, 3(4), 348–352. doi:10.4103/0974-2700.70743
6	Ekici, E ve Ekici, F (2011). Fen eğitiminde bilişim teknolojilerinden faydalanmanın yeni ve etkili bir yolu: "yavaş geçişli animasyonlar. İlköğretim Online, 10(2), 1-9.
7	Koçak, Ö., Karakuş Yılmaz, T. & Göktaş, Y. (2018). Bir Öğrenme Ortamı Olarak Sanal Dünyaların Tasarımında Karşılaşılan Pedagojik Zorluklar, Eğitim Teknolojisi Kuram Ve Uygulama, 8(2), 90-107

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction to the course: general principles of the course, importance, informing the students about the target, content, process and evaluation
2	Theoretical	Definition and scope of information technologies
3	Theoretical	Information technology skills
4	Theoretical	Information and communication technologies (social networks, wiki, new network technologies)
5	Theoretical	Animations and simulations
6	Theoretical	Slow motion animations and use in science education
7	Theoretical	Information literacy and media literacy
8	Intermediate Exam	midterm
9	Theoretical	Virtual experiments
10	Theoretical	Virtual environments and virtual field trips
11	Theoretical	Science education and information technology integration sample applications
12	Theoretical	Science education and information technology integration applications
13	Theoretical	Science education and information technology integration applications
14	Theoretical	Science education and information technology integration applications
15	Theoretical	General Evaluation
16	Final Exam	final

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	2	3	70
Assignment	5	10	2	60
Reading	5	9	0	45
Midterm Examination	1	10	2	12
Final Examination	1	10	3	13
			Total Workload (Hours)	200
			[Total Workload (Hours) / 25*] = **ECTS**	8

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	1 Describe ICTs and give examples
2	2 Explain ICT knowledge and skills
3	3 Investigate web 2.0 applications such as social networks, wiki's, etc.
4	4 Know and explain animation and slowmation preparation process
5	5 Know and explain knowledge literacy concept
6	6 Know and explain media literacy concept
7	7 Investigate and explain virtual environments and virtual trips
8	8 Realize required infrastructure to integrate ICTs into science education
9	9 Interpret the importance of ICTs in learning & teaching process

Programme Outcomes *(Science Education Master)*

1	To be able to have an expert theoretical knowledge within the field of science educatıon.
2	To be able to transfer expert knowledge gained in science education into various instructional environment.
3	To be able to integrate science education knowledge with the other disciplines and product functional knowledge
4	To be able to use information and communication technologies efficiently in conceptual learning
5	To be able to find scientific solutions to the problems in the field of science education
6	To be able to evaluate the knowledge critically in the field
7	To be able to participate in team projects in the science education field
8	To be able to adopt lifelong learning strategies to his/her studies
9	To be able to use at least one foreign language efficently in oral and verbal communication
10	To be able to share national and international data in the field of science education
11	To be able to comprehend and evaluate science-technology-society and environment interactions
12	To be able to comprehends science under the ethical values and take account of ethical considerations
13	To be able to use scientific information in the other domains that is gained in the masters field and have the transfer skills
14	To be able to follow the current development in the science education field
15	To be able to develop strategical plans and evaluate them in the context of quality processes

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
P1	5	5	5	5	5	5	5	5	5
P2	4	5	4	4	4	4	5	4	4
P3	4	5	4	4	4	4	5	4	4
P4	4	5	4	4	4	4	5	4	4
P5	4	4	5	4	4	4	5	4	4
P6	4	4	5	4	4	4	5	5	5
P7	4	4	5	4	4	4	5	5	5
P8	4	4	5	4	4	4	4	5	5
P9	4	5	5	4	4	4	4	4	5
P10	5	4	5	4	4		4	4	5
P11	5	4	5	4	4	4	4	4	4
P12	5	4	5	4	4	4	4	4	4
P13	5	4	5	4	4	4		4	4

| P14 | 5 | 4 | 5 | 4 | 4 | 4 | 4 | 4 | 4 |
| P15 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |