



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Misconceptions in Science Teaching							
Course Code		FBÖ258		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 enable students to gain the knowledge of the place and the importance of the teaching and learning approaches which can be used in meaningful learning and constructivism theory, cognitive learning, concept learning and concept teaching and to gain experience through sample applications in these settings.							
Course Content		Theories of meaningful learning and constructivism in science teaching, cognitive learning and concept learning; basic concepts and misconceptions in science teaching; learning and teaching approaches that can be used in concept teaching, concept maps, conceptual cartoons, analogies, conceptual change texts; evaluation of conceptual learning process in science teaching; the reasons and solutions of the misconceptions in science teaching.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Discussion, Individual Study					
Name of Lecturer(s)		Prof. Eylem YILDIZ FEYZİOĞLU							

Assessment Methods and Criteria

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

Recommended or Required Reading

1	Gödek, Y., Polat, D., Kaya, V. H. (2019). Fen Bilgisi Öğretiminde Kavram Yanılgıları. Pegem Akademi Yayıncılık
2	Güneş, B. (2017). Fizikte Kavram Yanılgıları. Pegem Akademi Yayıncılık
3	Özden, Y. (2005). Öğrenme ve Öğretme. Pegem Akademi Yayıncılık
4	Demirel, Ö. (2011). Eğitimde Yeni Yönelimler. Pegem Akademi Yayıncılık

Week	Weekly Detailed Course Contents	
1	Theoretical	Behavioral learning theory in science teaching
2	Theoretical	Cognitive learning theory in science teaching
3	Theoretical	Constructivist learning theory in science teaching
4	Theoretical	Concept learning in science teaching
5	Theoretical	Basic concepts in science teaching
6	Theoretical	Misconceptions in science teaching
7	Theoretical	the reasons for developing misconceptions
8	Intermediate Exam	Midterm
9	Theoretical	Eliminating Students 'Misconceptions: solution offers
10	Theoretical	Teaching and learning approaches for concept teaching
11	Theoretical	Concept maps
12	Theoretical	Concept cartoons
13	Theoretical	Analogies
14	Theoretical	Refutational text
15	Theoretical	Evaluation of conceptual learning process in science teaching
16	Final Exam	Final

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	1	2	42
Assignment	12	1	2	36
Project	1	2	5	7
Midterm Examination	1	1	5	6



Final Examination	1	4	5	9
Total Workload (Hours)				100
[Total Workload (Hours) / 25*] = ECTS				4
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	Discuss and understand the theory of meaningful learning and constructivism in science teaching.
2	Learn the aims and philosophy of cognitive learning and concept learning in science teaching
3	Explains the relationship between out of school learning environment and science curriculum
4	Explain and explain the content, scope and types of learning and teaching approaches that can be used in concept teaching.
5	Gives examples for evaluation of conceptual learning process in science teaching.
6	Learn the importance of learning and teaching approaches that can be used in concept teaching
7	Designs and manages sample materials for the evaluation of the conceptual learning process in science teaching.

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 developing 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
P1	5	5	5	5	5	5	5
P2	5	5	5	5	5	5	5
P3	5	5	5	5	5	5	5
P4	5	5	5	5	4	5	5
P5	5	5	5	4	5	4	4
P6	5	5	4	5	4	5	5
P7	5	5	5	5	5	4	4
P8	5	5	4	4	4	5	5
P9	5	5	5	5	5	4	4
P10	5	5	4	4	4	5	5

