AYDIN ADNAN MENDERES UNIVERSITY
GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES
MATHEMATICS AND SCIENCE EDUCATION
SCIENCE EDUCATION
SCIENCE EDUCATION MASTER
COURSE INFORMATION FORM

Course Title	Inquiry-Based Science Teaching								
Course Code	İFB519		Couse Level	Second Cycle (Master's Degree)					
ECTS Credit	8	Workload	200 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course	Providing students a general viewpoint to learning and teaching models, introducing to students the position of constructivist approach in science education, the history and varieties of it								
Course Content	The basic concepts of curriculum development; historical, philosophical, and social bases of curriculum development, curriculum development approaches and models, need assesment and evaluation in education, planning curriculum development, the processes of curriculum design, applying the curriculum, continuing the curriculum, new approaches in curriculum development and the effects of new trends to the process, reviewing curriculum researches, to prepare and to evaluate a curriculum design sample.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Discussion, Case Study, Project Based Study, Individual Study								
Name of Lecturer(s)	Lec. Burak FEYZİOĞLU								

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading	
1	Constructivism in Science Education, M.R. Matthews, Kluwer Academic Publishers, 1998, Netherlands.
2	The Content of Science – A Constructivist Approach to Its Teaching and Learning, P. J. Fensham, R.F. Gunstone, R.T. White,-Falmer Press, 1995, London.
3	Constructing Science in Middle and Secondary School Classrooms, D.R. Baker, M.D. Piburn, Allyn & Bacon, 1997, USA.

Week	Weekly Detailed Course Contents	
1	Theoretical	Constructivist Learning Approach
	Preparation Work	
2	Theoretical	Active learning-teaching strategies
	Preparation Work	
3	Theoretical	Inquiry-based learning and the steps of inquiry-based learning
	Preparation Work	
4	Theoretical	Inquiry based learning applications in science education
	Preparation Work	
5	Theoretical	Philosophy and the history of Inquiry-based learning
	Preparation Work	
6	Theoretical	What is the benefit of inquiry based learning for students?
	Preparation Work	
7	Theoretical	The power of student thinking, The common concept errors about inquiry-based learning
	Preparation Work	
8	Intermediate Exam	MIDTERM
9	Theoretical	Inquiry-based learning ve hands-on teaching techniques
	Preparation Work	
10	Theoretical	Inquiry-based learning ve hands-on teaching techniques
	Preparation Work	
11	Theoretical	Scientific Process Skills related to inquiry-based learning
	Preparation Work	
12	Theoretical	Planning inquiry-based learning activities
	Preparation Work	

13	Theoretical	Planning inquiry-based learning activities
	Preparation Work	
14	Theoretical	Measurement and evaluation in inquiry-based learning based classes
	Preparation Work	
15	Theoretical	Measurement and evaluation in inquiry-based learning based classes
	Preparation Work	
16	Final Exam	TERM

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	2	3	70
Assignment	5	10	0	50
Reading	5	9	0	45
Midterm Examination	1	10	2	12
Final Examination	1	20	3	23
			Total Workload (Hours)	200
			[Total Workload (Hours) / 25*] = **ECTS**	8

**25 hour workload is accepted as 1 ECTS*

Learning Outcomes

1	To be able to relate the fundamental concepts of chemistry to daily life.
2	To be able to understand the proper models for constructivist teaching.
3	To be able to understand the role of teacher and student inquiry-based learning.
4	To be able to create and apply a lesson plan according to an inquiry-based learning.
5	To be able to do a need assessment about a curriculum

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
P1	5	5	5	4	5
P2				5	5
P3	3			3	5
P4				4	5
P6	3	4	4		5
P8	4	3	3		5
P11	5				
P13	5			5	5
P14	4	4	4	4	5

P15				5	