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	Science And Philosophy In Science Education								
Course Code	İFB508		Couse Level	Second Cycle (Master's Degree)					
ECTS Credit	8	Workload	200 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course	Understanding the nature of science and philosophy of science.								
Course Content	Philosophy of science, philosophical currents and their effect on science development								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Discussion, Individual Study, Problem Solving								
Name of Lecturer(s)									

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

Recommended or Required Reading	
1	Scientific Evidence, R. Gott and S. Duggan
2	Teach it! Do it! Let's get to it!, A. Goldsworthy and M. Holmes
3	Bilim Felsefesi, C. Yıldırım
4	Science and Technology in World History, J. E. Mcclellan III, H. Dorn

Week	Weekly Detailed Course Contents	
1	Theoretical	Nature of Science
	Preparation Work	Bilim Felsefesi, C. Yıldırım
2	Theoretical	Philosophy of science, philosophical currents and their effect on science development
	Preparation Work	Bilim Felsefesi, C. Yıldırım
3	Theoretical	History of Science
	Preparation Work	Bilim Felsefesi, C. Yıldırım
4	Theoretical	Epistomology and ontology field use in science
	Preparation Work	Bilim Felsefesi, C. Yıldırım
5	Theoretical	Nature of scientific concepts, how attain knowledge
	Preparation Work	Bilim Felsefesi, C. Yıldırım
6	Theoretical	Scientific knowledge and characteristics
	Preparation Work	Bilim Felsefesi, C. Yıldırım
7	Theoretical	Scientific knowledge and characteristics
	Preparation Work	Bilim Felsefesi, C. Yıldırım
8	Preparation Work	Bilim Felsefesi, C. Yıldırım
	Intermediate Exam	Midterm
9	Theoretical	Scientific Method
	Preparation Work	Bilim Felsefesi, C. Yıldırım
10	Theoretical	Scientific Method
	Preparation Work	Bilim Felsefesi, C. Yıldırım
11	Theoretical	Scientific Thinking, Scientific inquiry
	Preparation Work	Bilim Felsefesi, C. Yıldırım
12	Theoretical	Science Process Skills
	Preparation Work	Bilim Felsefesi, C. Yıldırım
13	Theoretical	Science and Society: Science sociology and anthropology
	Preparation Work	Bilim Felsefesi, C. Yıldırım
14	Theoretical	Science ethic

14	Preparation Work	Bilim Felsefesi, C. Yıldırım
15	Theoretical	Philosophical Principles of Turkish Science Education
	Preparation Work	Bilim Felsefesi, C. Yıldırım
16	Preparation Work	Bilim Felsefesi, C. Yıldırım
	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 understand nature of science.
2	To be able to understand science and philosophy relations.
3	To be able to understand science and other subjects relations.
4	To be able to understand science process skills and uses it.
5	to be able to understand scientific knowledge.

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	5	5
P3			4		5
P6	3			3	5
P8	5	5	5	5	5
P11		2	3		5
P12	3				
P14		2	2	2	5