



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Philosophy and History of Science							
Course Code		FLSF627		Course Level		Third Cycle (Doctorate Degree)			
ECTS Credit	5	Workload	131 ( <i>Hours</i> )	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		The aim of this course is to discuss and assess the properties of theories which are characterized as scientific; the problems of scientific activity, the historical value of scientific theories; and the historical processes of conceptions of science as well as scientific activity from the viewpoints of different doctrines in the philosophy of science.							
Course Content		The historical development of natural science; the conceptions of nature and science; the epistemology of scientific cognition; epistemological problems concerning theoretical and empirical knowledge; the methodological problems of scientific inquiry. The subject-matters of this course are the following issues: i. The conceptions of nature in Ancient Greeks; ii. Aristotelian physics and his theory of science; iii. Medieval conceptions of nature and science; iv. The rise of modern science (Galileo, Kepler, Descartes, Newton) and the critique of Aristotelian conceptions of nature and science; v. The conception of scientific knowledge in Hume, Kant and in the 19th century philosophers; vi. The rise of philosophy of science in the 20th century and the Logical Positivists; vii. Karl Popper and his falsificationism, the demarcation between science and pseudo-science; viii. structuralism and historicism in the philosophy of science; ix. Paul K. Feyerabend and his anarchist philosophy of science; x. Imre Lakatos and his methodology of scientific research programs.							
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	Özkan, C. İ. (2020). Bilim Felsefesi. Say Yayınları.
2	Koyré, A. (2000). Bilim Tarihi Yazıları. (Çev. Kurtuluş Dinçer). Tübitak Yayınları.
3	Lakatos, I. (2013). Bilimsel Araştırma Programlarının Metodolojisi. (Çev. Duygu Uygun). Alfa Yayınları.
4	Hempel, C. G. (2015). Doğa Bilimi Felsefesi. (Çev. C. İ. Özkan – T. Kabadayı). Nobel Akademi Yayıncılık.
5	Taylor, A. (2020). Platon. (Çev. C. İ. Özkan). Fol Yayınları.
6	Popper, K. R. (2005). The Logic of Scientific Discovery. Routledge Classics.
7	Kuhn, T. S. (2017). Bilimsel Devrimlerin Yapısı. (Çev. Nilüfer Kuyaş). Kırmızı Yayınları.

Week	Weekly Detailed Course Contents	
1	Theoretical	1 Introduction: The fundamental problems of history of science and of philosophy of science.
2	Theoretical	The conceptions of nature and motion in Ancient Greeks.
3	Theoretical	Medieval conceptions of nature and science.
4	Theoretical	The rise of modern science: Galileo, Kepler, Descartes, Newton.
5	Theoretical	Modern understanding of science: Descartes, Hume and Kant
6	Theoretical	Scientific revolution in 20th century: Einstein's theory of gravity
7	Theoretical	The rise of philosophy of science in the 20th century: Logical Positivism
8	Theoretical	Henri Poincaré on conventionalism
9	Theoretical	Carl Hempel's Philosophy of Natural Science
10	Theoretical	Hempel on D-N Model
11	Theoretical	Pierre Duhem on conventionalism
12	Theoretical	Karl Popper on Falsificationism
13	Theoretical	Thomas Kuhn and a new and historicist approach to philosophy of science.
14	Theoretical	Paul Feyerabend's anarchist philosophy of science.



15	Theoretical	Imre Lakatos and Scientific Research Programmes
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**Workload Calculation**

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	15	0	3	45
Reading	15	0	4	60
Quiz	1	10	3	13
Midterm Examination	1	10	3	13
Total Workload (Hours)				131
[Total Workload (Hours) / 25*] = <b>ECTS</b>				5

\*25 hour workload is accepted as 1 ECTS

**Learning Outcomes**

1	Comprehending the characteristic properties of scientific knowledge.
2	Analyzing the outlines and processes of history of science.
3	Making an assessment on the problems of interpretations related to history of science.
4	Analyzing progressive, justificationist, falsificationist, constructivist-historicist and postmodernist evaluations of history of science.
5	Discussing the problem of demarcation lines between the science and pseudo-science.

**Programme Outcomes (Philosophy Doctorate)**

1	By deepening the rooted vision that has been built on the masters proficiency, to be able to create an origin philosophical solution to a specific problem.
2	Being able to systemize, analyze and critically evaluate philosophical knowledge, being able to conduct an independent philosophical research and gaining expertise in the field
3	To be able to comprehend the source and position of a specific philosophical issue in the history of philosophy and being able to realize its contemporary social value
4	To be able to access and understand the recent work of contemporary thinkers and being capable of genuine interpretation
5	To be able to contribute to the wellbeing of society by pursuing an academic education at advanced level

**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		2			
P2	2		1		1
P3	1	1			
P4				1	

