

### Tentative Syllabus for

#### RNK-Phil 542: Epistemology of Science and Five-Dimensional Thinking: A Theoretical Approach (3 credits; 7.5 hours of class time per week for a 6-week semester, 3+0)

<b>Course description</b>	This course investigates the mental frameworks in the mind of a scientist engaged in scientific activity. Moreover, it will proceed to evaluate and try to understand these frameworks in order to question them. There will then follow an attempt to develop a five dimensional approach to analyze these mental frameworks.
<b>Course objectives</b>	The course aims at developing and utilizing a specific mental framework which is identified as “five dimensional thinking” in scientific activities in general and in science education in particular. This approach is developed in the spirit of Said Nursi’s “mana-i harfi” method. In order to fully grasp this, some of Nursi’s major ideas will be discussed and evaluated in relation to scientific research.
<b>Prerequisites</b>	None
<b>Textbook</b>	Acikgenc, A (2014), <i>Islamic Scientific Tradition in History</i> , ISTAC, Malaysia.
<b>Additional reading materials</b>	<ol style="list-style-type: none"><li>1. Selected topics from Risale-i Nur (A compilation of relevant material from Nursi’s writings will be provided in PDF form.)</li><li>2. Selected excerpts from <i>Said Nursi and Science in Islam: Character Building Through Nursi’s Mana-i Harfi</i> (2019), Routledge.</li></ol>
<b>Assessment &amp; evaluation</b>	Short reflection papers and presentations throughout the semester and group projects (70%), Term paper (individual or group) (30%)
<b>Attendance</b>	Required through Zoom
<b>Medium of instruction</b>	English
<b>Leading Instructor</b>	Prof. Alparslan Acikgenc
<b>Guest Instructors</b>	Prof. Colin Turner Prof. Yunus Cengel Prof. Ibrahim Ozdemir Prof. Necati Aydin Prof. Farid Alatas

**Tentative Course Content**  
(May be modified to suit needs)

(During a 5 week-semester, there will be 9 hours of in-class course time per week. Each course-hour consists of 50 minutes of class time and 10 minutes of break.)

<b>Topics</b>	<b>Learning Objectives and Questions for Exploration</b>	<b>Reading assignments/ Guest instructors</b>
<p><b>LECTURE 1</b> Introduction and overview of epistemic problems with modern science</p>	<p>Objectives of the course. The importance of reason-based belief in modern times. Modern values: Personal rights and freedoms, individualism and individual choices, secularism Said Nursi and his contribution to reason-based belief.</p>	<p>Foreword written for Said Nursi and Science in Islam <a href="#">Alparslan Acikgenc</a> <a href="#">Necati Aydin</a></p>
<p><b>LECTURE 2</b> Science, Philosophy, and Belief: How do they reconcile?</p>	<p>What is science? What is the domain of science? What are the limitations of scientific knowledge? How do we ascribe meaning to scientific information? What is connection between knowledge and belief?</p>	<p>Introduction chapter from Islamic Scientific Tradition in History (ISTH) <b>Guest instructor: Prof. Yunus Cengel</b></p>
<p><b>LECTURE 3-4</b> Epistemological and ontological perspectives of science</p>	<p>What is existence? How do we know things exist? What are the different kinds of existence? What is the nature of matter and particles? What is materialism? Is the statement ‘existence is comprised of matter only’ a scientific fact or a supposition? How can a subatomic particle (like an electron) exist at many places at the same time? (Quantum theory). What is information? Is it a form of matter? What is its relation to matter and beings? Are love, compassion and consciousness physical things or are they non-physical things that reflect on animate physical beings?</p>	<p>Chapter 1.1 from ISTH 30<sup>th</sup> Word, “Ana” Treatise from Words by Said Nursi <b>Guest instructor: Prof. Necati Aydin</b></p>
<p><b>LECTURE 5-6</b> Sociological and historical perspectives of science</p>	<p>The scientific revolution and the history of science-based atheism (scientism) The proper working domains of science, philosophy and belief, The basics of ontology, epistemology, reason, logic,</p>	<p>Chapter 1.2 from ISTH Chapter 1.3 from ISTH <b>Guest instructor: Prof. Farid Alatas</b></p>

	<p>Mechanisms of acquiring knowledge: Empiricism, rationalism, and testimony; Basic concepts, tools and techniques of methodology:</p> <p>Critical thinking, analysis, logical consistency, compliance with reason, conformity with observed phenomena and common experiences, agreement with existing body of knowledge, internal coherence, drawing general conclusions on observed phenomena (generalizations, induction), applying general rules on particular cases (deduction), causality, analogy, thought experiments, case studies, etc.</p>	
<p><b>LECTURE 7</b> Knowledge and certainty</p>		<p>Chapter 2 from Said Nursi and Science in Islam</p> <p>Guest instructor: Prof.Necati Aydin</p>
<p><b>LECTURE 8</b> Comparative arguments on the existence of Deity: Nature, causes, chance</p>	<p>Does existence appear to be purposeless piles of atoms and molecules, or are they made with purpose, wisdom, knowledge and art? What is the nature of ‘Nature’? Can it be a ‘maker’?</p> <p>Is nature a creation or a creator? Is it an art or an artist?</p> <p>Can the existence of God be proven/disproven scientifically?</p>	<p>23<sup>rd</sup> Flash on nature from Flashes by Said Nursi</p> <p>Guest instructor: Prof.Colin Turner</p>
<p><b>LECTURE 9</b> Causes, forces, laws of physics, motion of particles, life, knowledge, information</p>	<p>What is the nature of the laws of physics? Do they originate from matter or do they diffuse in matter and govern matter?</p> <p>Do physical laws agent? Do they come with knowledge?</p> <p>Is there any resemblance between life and laws of physics? Does life come with its own set of laws to govern matter within its domain of influence?</p> <p>Do the laws and forces of nature come equipped with purpose, knowledge, and power?</p>	<p>The Words: 32<sup>nd</sup> word, 2<sup>nd</sup> Stopping Place, 1<sup>st</sup> Topic</p> <p>Article on life and laws of physics by Y. Cengel</p> <p>Guest instructor: Prof.Yunus Cengel</p>

	Is information a causal agent? Does information know anything and have the ability to do anything?	
<b>LECTURE 10</b> The essence of existence: Manifestations of Divine names	Why does God do what he does the way He does? The driving force behind the ‘hand of power’: the character of God, which is the collection of the divine attributes. Using a sculptor as an example and the drives and motives he has as he renders his art and the numerous traits involved, the secrets behind creation and the intense divine activity are explained.	The Words: 32 <sup>nd</sup> Word, 3 <sup>rd</sup> Stopping Place, 1 <sup>st</sup> Topic; The Letters: 18 <sup>th</sup> Letter, 3 <sup>rd</sup> Matter  Guest instructor: Prof.Ibrahim Ozdemir
<b>LECTURE 11</b> Manifestations of attributes on existence	Is a book simply a pile of letters? Does a pile of letters constitute a book? What is the matter and meaning of a book? Is a creature like a bird or a flower simply a mass of atoms? How does a painting differ from a mixture of different colors of paints? What is the relation between a painting and its painter? Is it fair to say that the attributes of an artist reflect on his art? How can be read the manifestations of the attributes of the creator on creation?	The Words: 33 <sup>rd</sup> Word – 33 Windows; 11 <sup>th</sup> Word  Guest instructor: Prof.Ibrahim Ozdemir
<b>LECTURE 12</b> The nature of humans as manifestation of divine attributes	Why does God continually create and recreate? Why did God create humankind? Why is the humankind the best of creation? What does the phrase ‘Man is created in the image of God’ mean? How do the attributes of humans relate to the attributes of God? What is the brain? Is the brain made of different atoms and molecules than the rest of the body? Can the atoms or molecules in one part of the body know about the rest of the body, order them to perform tasks? Are hormones makers or markers? What is the difference between a robot and human being? Can robots in the future be smarter than humans and enslave the human race?	(The Letters: 12 <sup>th</sup> Letter, 1 <sup>st</sup> question)  Guest instructor: Prof. Colin Turner

	What is consciousness? Can matter progress in time by itself to know itself?	
<b>LECTURE 13-14</b> Scientific Process in Islamic Civilization: The Stage of Worldview		Chapter 2 from ISTH A. Acikgenc
<b>LECTURE 15</b> Scientific Process in Islamic Civilization: The Stage of Problems		Chapter 3 from ISTH A. Acikgenc
<b>LECTURE 16</b> Scientific Process in Islamic Civilization: The Disciplinary Stage and the Rise Of Islamic Scientific Tradition		Chapter 4 from ISTH A. Acikgenc
<b>LECTURE 17</b> The Progress of Islamic Scientific Tradition (300's-900's A.H./1000's-1500's A.Ce.)		Chapter 5 from ISTH A. Acikgenc
<b>LECTURE 18</b> Presentations	Presentations of term papers	

### Assignments

Topics	Due Dates
Critical reading reflection of Chapter 1 of ISTH (up to 600 words)	Lecture 4
Critical reading reflection of Chapter 3 of Said Nursi and Science in Islam (up to 600 words)	Lecture 7
Critical reading reflection of Chapter 2 of ISTH (up to 600 words)	Lecture 13
Critical reading reflection of Chapter 3 of ISTH (up to 600 words)	Lecture 15
Critical reading reflection of Chapter 4 of ISTH (up to 600 words)	Lecture 16
A Term paper (15 pages)	Lecture 18
Presentation of the term paper	Lecture 18