

## **Religion and Philosophy of Science: Theory and Practice**

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Required Text: All texts will be made available online

### **Course Description:**

This class explores global perspectives in religion and philosophy of science and religion. Specifically we will seek out global and multidisciplinary accounts that demonstrate critical aspects of Sir John Templeton's "Humble Approach" to theological and scientific knowing (1998), the "problem of underdetermination" in philosophy of science, and religious value claims and epistemic alternatives essential for social and scientific ethics. By incorporating guest speakers representing relevant disciplines, schools, and global perspectives across UCI's campus, this class aims to provide an interpretive toolbox for students to: (1) assess and expand existing frameworks and methods for religion-science dialog, (2) identify epistemic and value claims within past and present religious-scientific debates, and (3) analyze contemporary ethical issues at the intersection of religion and science (such as climate, human-animal relations, space exploration, abortion, food security, public health, biomedicine, textbook debates, among others) utilizing their own experimental methodology informed by the philosophy of science and other disciplines.

*This course has no prerequisites and presumes no background knowledge in (any) science or in religious studies. While we will approach the study of religion from an academic perspective, we will also grapple with some of the knowledge and power imbalances that such an approach perpetuates.*

### **2a. Undergraduate Student Learning Objectives**

Throughout this course, students will:

- Articulate at least four distinct frameworks, including relevant methods, for studying the relationship between religion and science
- Assess the strengths and gaps of various frameworks for studying the relationship between religion and science
- Identify epistemic and value claims within past and present religion and science debates, cultural dialogs, and case studies
- Analyze a pressing ethical concern at the intersection of religion and science with one's own experimental framework and methods drawn from various worldviews and epistemic tools.

## **2b. Graduate Student Learning Objectives**

In addition to the above SLO's, graduate students will:

- Participate in a “grad session” Discussion thread (through Canvas) each week in which they bring an additional grad reading into dialog with the week's reading
- Complete an additional assignment which is a public-facing poster, podcast episode, outreach brochure, or other similar output.

Consequently, grad students will fulfill the following additional learning outcomes:

- Engage with methodological issues in religion and science through additional multi-perspectival readings in a weekly graduate discussion thread
- Create a public-facing research project and presentation on a contemporary ethical issue at the intersection of religion and science (to be displayed online, or through a School of Humanities event).

## **3. Assignments**

### **A. Attendance**

**Beginning after the drop/add date,** students can have two absences without penalty and will receive a three-point deduction for each absence after.

### **B. Participation 1: Online pre-class quizzes (open book, 5 points each; best 8 of 10 count)**

These quizzes focus on key terms and concepts that will build our vocabulary and provide the foundation for the final exam

### **C. Participation 2: In-class discussion and self-assessment**

As much of our class will revolve around analyzing, discussing, and applying methods of/to religion-science cases and cultural examples, students will complete three self-assessments to reflect upon and strengthen their group collaboration across the quarter.

### **D. Short Writing Responses (4 x 20 points each)**

- a. What is science? What is religion? Baseline reflection
- b. Frameworks, gaps and opportunities within religion and and science dialogs
- c. Alternative modes of knowing and argumentation in religion and science
- d. Ethical issue analysis and experimental method

### **E. Undergraduate Final Exam**

Online exam including revisiting What is Science? What is Religion? First week analysis.

## F. Graduate Final Project

Week 3: choose topic

Week 7: submit annotated bibliography for eight sources

Week 9: upload public output online

Week 11: offer a Discussion thread response to two of your colleague's public output projects

## 8. Tentative Schedule

Week	Theme and Readings
<b>1a</b> Introduction	<b>What is Religion? What is Science?: Methodological Approaches</b> <ul style="list-style-type: none"> <li>Pew Research Center, <a href="#">“On the Intersection of Science and Religion”</a> (2020)</li> </ul>
<b>1b</b>	<b>Traditional Frameworks in Religion-and-Science: Methodological Approaches</b> <ul style="list-style-type: none"> <li>Ian Barbour, <a href="#">“Four Way of Relating Religion and Science: Conflict, Independence, Dialogue and Integration”</a> (1990)</li> <li>John Templeton, <i>The Humble Approach: Scientists Discover God</i> (1989), Chs. 1-3</li> </ul> <p>Week 1 Graduate Meet-up</p>
<b>2a</b> Explanations and Values	<b>Naturalism and Science</b> <ul style="list-style-type: none"> <li>Newton, Isaac Newton, <i>General Scholium in Mathematical Principles of Natural Philosophy</i> (1727)</li> <li>Alvin Plantinga, <i>Where the Conflict Really Lies: Science, Religion, and Naturalism</i> (2011), Chs. 1 and 10</li> </ul>
<b>2b</b>	<b>Apophysis and Underdetermination</b> <ul style="list-style-type: none"> <li>Mario D’Amato, “Buddhism, Apophysis, Truth” (2008)</li> </ul> <p>Week 2 Graduate Reading:</p> <ul style="list-style-type: none"> <li>Émilie DuChâtelet, <i>Foundations of Physics</i> (1740) Chs. 1-4</li> </ul> <p>Faculty speaker: J. B. Manchak, UCI Logic and Philosophy of Science (Zen and Underdeterminism)</p>
<b>3a</b> Comparative Causations	<b>Causation Challenges</b> <ul style="list-style-type: none"> <li>Steven Shaviro, “Whitehead on Causality and Perception” (2017)</li> </ul>

	<ul style="list-style-type: none"> <li>Francis Collins, <i>The Language of God: A Scientist Presents Evidence for Belief</i> (2006), Ch. 5</li> </ul>
<b>3b</b>	<p><b>Types of Causation in Science</b></p> <ul style="list-style-type: none"> <li>L. Ross, “Causal Approaches to Scientific Explanation” <i>Stanford Encyclopedia of Philosophy</i> (2023)</li> </ul> <p>Week 3 Graduate Reading:</p> <ul style="list-style-type: none"> <li>James Woodward, “Scientific Explanation” <i>Stanford Encyclopedia of Philosophy</i> (2021)</li> </ul> <p>Faculty speaker: Lauren Ross, UCI Logic and Philosophy of Science</p>
<b>4a Multiplying Epistemologies</b>	<p><b>The Epistemic Dimensions of Science and Religion</b></p> <ul style="list-style-type: none"> <li>Mikhail Stenmark, <i>How to Relate Science and Religion: A Multidimensional Model</i> (2004), Chs. 1 and 4</li> </ul>
<b>4b</b>	<p><b>Many-sided Knowing in Indian Thought</b></p> <ul style="list-style-type: none"> <li>Melanie Barbato, <i>Jain Approaches to Plurality—Identity as Dialogue</i> (2017), Ch. 3</li> <li>Anne Clavel, “Jain Logic,” in <i>Brill’s Encyclopedia of Jainism Online</i></li> </ul> <p>Week 4 Graduate Reading: Jeffrey D. Long, <i>Jainism: An Introduction</i>, Ch 6 (“The Jain Doctrines of Relativity: A Philosophical Analysis”) pp. 141–71</p> <p>Faculty speaker: Brianne Donaldson, UCI Religious Studies</p>
<b>5a Case Studies and Feminist Insights</b>	<p><b>Evolution and God: Functional Explanations in Biology</b></p> <p>John F. Haught, “God and Evolution” in <i>The Oxford Handbook of Religion and Science</i> (2006)</p>
<b>5b</b>	<p><b>Divine Action and Quantum Indeterminacy</b></p> <p>Nancey Murphy, “Divine Action, Emergence, and Scientific Explanation” in <i>Cambridge Companion to Science and Religion</i> (2010)</p> <p>Week 5 Graduate Reading: Karen Barad, <i>Meeting the Universe Halfway</i> (2007), Chs. 1-2</p>
<b>6a Coloniality and Memory</b>	<p><b>Science as a Colonial Weapon (and Defense): Relativizing Methods</b></p> <ul style="list-style-type: none"> <li>Terrence Keel, <i>Divine Variations: How Christian Thought Became Racial Science</i> (2018), Chs TBD</li> <li>Donald S. Lopez, Jr., “Buddhism” in <i>Science and Religion Around the World</i> (2011).</li> </ul>

<p><b>6b</b></p>	<p><b>Persian Science in the Islamic Context</b></p> <ul style="list-style-type: none"> <li>• Nidhal Guessom and Stephano Bigliardi, <i>Islam and Science: Past, Present, and Future Debates</i> (2023), Chs. 1-2</li> </ul> <p>Week 6 Graduate Reading:</p> <ul style="list-style-type: none"> <li>• John Stenhouse, “Christian Missionaries, Science, and the Complexity Thesis in the Nineteenth-Century World” in <i>Rethinking History, Science, and Religion: An Exploration of Conflict and the Complexity Principle</i> (2019)</li> </ul> <p>Faculty speaker: Touraj Daryaee, UCI History; Persian Studies</p>
<p><b>7a</b> <b>Multicultural Medicine</b></p>	<p><b>Religion, Vaccines, and Fieldwork Evidence</b></p> <ul style="list-style-type: none"> <li>• Maya J. Goldenberg, <i>Vaccine Hesitancy: Public Trust, Expertise, and the War on Science</i> (2021), Introduction and Ch. 1</li> </ul>
<p><b>7b</b></p>	<p><b>Traditional Chinese Medicine and Modern Technology</b></p> <ul style="list-style-type: none"> <li>• Mei Zhan, <i>Other-Worldly: Making Chinese Medicine through Transnational Frames</i> (2009), Ch. 1</li> </ul> <p>Week 7 Graduate Reading:</p> <ul style="list-style-type: none"> <li>• Zhan, Chs. 2-4</li> </ul> <p>Faculty speaker: Mei Zhan, Program in Science, Medicine, and Technology, UCI Anthropology</p>
<p><b>8a</b> <b>Demarcation and Science Education</b></p>	<p><b>Evolution in US Public Schools</b></p> <ul style="list-style-type: none"> <li>• William R. Overton, “McLean v. Arkansas United States District Court, Eastern District of Arkansas, Western Division Opinion” (1982)</li> <li>• Michael Ruse, “Creation Science Is Not Science” (1982)</li> <li>• Larry Laudan, “Commentary: Science at the Bar—Causes for Concern” (1982)”</li> <li>• Barry R. Gross, “Commentary: Philosophers at the Bar—Some Reasons for Restraint” (1983)</li> </ul>
<p><b>8b</b></p>	<p><b>Maori Science Debates Across Perspectives</b></p> <ul style="list-style-type: none"> <li>• Georgina Tuari Steward, “Mātauranga and Putaiao: the question of `Māori science” (2019)</li> <li>• Emily Parke and Dan C H Hikuroa “Let’s Choose Our Words More Carefully When Discussing Mātauranga Māori and Science” on <i>The Conversation</i> (2021)</li> <li>• Richard Dawkins, “Myths Do Not Belong in Science Classes: Letter to the Royal Society of New Zealand” (2022)</li> <li>• Dawkins, “Why I’m Sticking up for Science” on <i>The Spectator</i> (2023)</li> </ul>

	<p>Week 8 Graduate reading:</p> <ul style="list-style-type: none"> <li>● Larry Laudan, “The Demise of the Demarcation Problem” (1983)</li> <li>● Robert T. Pennock, “Can’t philosophers tell the difference between science and religion?: Demarcation revisited” (2011)</li> </ul>
<b>9a Knowledge in and of the World</b>	<p><b>The Ecological Crisis</b></p> <ul style="list-style-type: none"> <li>● Lynn White Jr, “The Historical Roots of Our Ecological Crisis.” (1967)</li> <li>● Susan Power Bratton, “Ecology and Religion” in <i>The Oxford Handbook of Religion and Science</i> (2006)</li> </ul>
<b>9b</b>	<p><b>Animals and Other Beings</b></p> <ul style="list-style-type: none"> <li>● Nancy R. Howell, “Relations between Homo sapiens and Other Animals: Scientific and Religious Arguments” in <i>The Oxford Handbook of Religion and Science</i> (2006)</li> <li>● John Gluck, “The Gift of the Monkey Who Danced into Oblivion and the One Dressed in a Cage”</li> </ul> <p>Week 9 Graduate Reading:</p> <ul style="list-style-type: none"> <li>● Donovan Schaefer, “Voracious Secularism: Knowledge, Violence, and Desire”</li> </ul>
<b>10a Building Bridges</b>	<p><b>Respectful Humility: The Mauna Kea Telescope</b></p> <ul style="list-style-type: none"> <li>● Rosie Alegado, “Telescope Opponents Fight the Process, Not Science” (2019)</li> <li>● Sonia Zárata, “An Open Letter Urging a Halt to Construction of the Thirty Meter Telescope” (2019)</li> <li>● Jamaica Heolimeleikalani Osorio, “On the Frontlines of Mauna Kea” on <i>FLUX: The Current of Hawai’i</i> (2020)</li> </ul>
<b>10b</b>	<p><b>Religion-and-Science: The Future of a Relationship</b></p> <ul style="list-style-type: none"> <li>● Kimberly Rios, “Examining Christians’ Reactions to Reminders of Religion-Science Conflict: Stereotype Threat versus Disengagement” (2021)</li> <li>● John Templeton, <i>The Humble Approach: Scientists Discover God</i> (1989), Chs 12-13</li> </ul>
<b>11a</b>	<b>Final exam</b>