

RELIGION AND SCIENCE

Instructor: Richard Livingston
E-mail: rilivingston@fullerton.edu
Phone: 657-278-3452
Office: UH-308
Office Hours: Thur, 4:00-5:00pm (or by appointment)

Course Number: CPRL 397
Semester: Fall 2012, #16955
Days: Tue, Thu
Time: 2:30-3:45pm
Location: H-128

When we consider what religion is for mankind, and what science is, it is no exaggeration to say that the future course of history depends upon the decision of this generation as to the relations between them.

~A. N. Whitehead, Science and the Modern World

The dialogue between science and religion is likely to continue. There will be a humane future only if we can integrate the two.

~Holmes Rohlston III, "Science, Religion and the Future"

GENERAL COURSE INFORMATION

Course Description

This course will examine the historical and contemporary interaction of religion and science through a study of religious thought and scientific method. The primary emphasis will be the Judeo-Christian tradition in the West from the seventeenth century to the present. Topics will include the scientific revolution, evolutionary theory, modern physics, and cosmology as these relate to religious faith.

Objectives and Student Learning Goals

The purpose of the course is to provide students with a contemporary understanding of religious reflection and the methods of science, and to understand how both science and religion historically embrace paradigms that effect their interpretation of reality. Because the relation between religion and science has been complex, contentious, and confusing, and because it is a topic that has such far-reaching implications, their points of convergence and divergence will receive particular attention. The course is thus designed to help students develop an ability to critically examine the possible ways in which theories of religion and science interrelate. To illuminate both the conflict and the concord between these two great cultural forces, students will review important historical confrontations, analyze key methodological issues, and explore crucial philosophical and theological reflections on religion and human nature, process-relational thought, theistic frameworks, and divine activity in the processes of nature.

Prerequisites

Prerequisites are completion of the General Education Categories B.1 or B.2 and C.2.

General Education Category

This course fulfills GE area E Lifelong Learning and Self-Development. (If you wish to pursue a minor in Religious Studies, you can “double count” this course for GE and the minor – up to nine units of GE courses from one department may be used to meet minor requirements. If you are a major in Religious Studies this class counts as one course toward your “Experience of Religion” requirement, but cannot count for GE.)

This course also fulfills the 'Learning Goals' for GE area E, which state that students shall:

- Further their own critical self-understanding and acquire the knowledge, skills, and attitudes necessary to engage and reflect in learning and self-development practices.
- Develop strategies to be integrated physiological, socio-cultural, and psychological beings to promote a holistic awareness of lifelong learning throughout their lives.
- Actively apply and participate in developing a lifelong commitment to health for both personal well being . . . and societal responsibility.
- Develop themselves as responsible citizens, employees and employers, family members and members of the global society.

General Education Writing Requirement

The term paper discussed below is designed to meet the General Education writing requirement. The substance as well as the manner of organization and expression of the information and ideas will be evaluated. In other words, the content as well as the style and grammar of the paper will be graded. To encourage each student to advance his/her writing competence, the assessment of all papers will include suggestions for improvement on papers for future courses.

Department of Comparative Religion Student Learning Goals & Outcomes

All students majoring in Religious Studies shall achieve competence in the following domains of skill and knowledge:

A. Skills

Learning Goal: Students possess the ability to perform research and interpret materials related to the study of religion.

Outcome 1: Students can analyze written materials related to the study of religion.

Outcome 2: Students have acquired information literacy in the study of religion.

Learning Goal: Students can effectively communicate in written and spoken mediums.

Outcome 3: Students are able to write well-organized critical and analytical research papers related to the study of religion.

Outcome 4: Students are able to speak clearly and effectively using relevant and adequate supporting evidence.

B. Knowledge

Learning Goal: Students can demonstrate an understanding of the beliefs, rituals, texts, and figures related to a variety of religious traditions. [Not applied to this course.]

Outcome 5: Students can describe the basic teachings and practices of major religious traditions and can compare and contrast the principal similarities and differences between them.

Outcome 6: Students are able to identify the history and development of specific religions and their contemporary relevance. [Not applied to this course.]

Outcome 7: Students can compare key theories and theorists in the study of religion.

Outcome 8: Students can interpret key thinkers and figures within religious traditions.

PLANNED ASSIGNMENTS

Quizzes

There will be five unannounced quizzes. Each quiz will have eight questions, and each question will be worth five points each, for a total of 40 points per quiz. Questions will typically require very short answers, ranging from one word to one sentence, but may occasionally require several sentences. Questions will always be based on the required reading, so if you've done the reading you shouldn't have any problem answering them successfully.

Term Paper

Write a ten to twelve page term paper on any topic that is directly relevant to the course. Topics will be chosen by the student in consultation with the instructor, which means that each student must speak or meet with the instructor to receive approval on his or her topic. Additional details will be provided later, but the paper will be written in several steps—topic selection, references/sources selection, outline, submission of final draft—and points will be given for the completion of each step. The paper will be worth a total of 200 points.

Final Exam

The final exam will consist of questions requiring short answers (words, phrases, or one to two sentences), short essay questions (three to five sentences), and one long essay question (three to five paragraphs). No make-up examinations will be given except for reasons of illness or other verified emergencies. Special arrangements for the final must be made within 24 hours of the exam. Make-up exams may contain different questions than the regular test. The final will be worth a total of 220 points.

Class Attendance and Participation

This course is based on class lecture and discussion. Your attendance and participation are essential to the learning process. Attendance is thus required. *Each absence will result in the loss of **four** points.* An outstanding student in this category will not miss more than one class and participate frequently, offering creative insights and posing intelligent questions. An above average student will miss no more than three classes and participate frequently and appropriately. An average student will miss no more than five classes and participate occasionally. Below average grades are given for missing over five classes and infrequent participation.

GRADING POLICY

Grading Points

A total of 700 points will be available for assessment based on the following:

Points	Percent of total grade	Assignment
80	11%	Class attendance and participation
200	29%	Quizzes
200	29%	Term paper
220	31%	Final Exam

Grading Scale

Plus-minus +/- will be used. Final grades will be calculated on the following basis:

A+	97.0-100%	679-700 points	C+	77.0-79.9%	539-559 points
A	94.0-96.9%	658-678 points	C	74.0-76.9%	518-538 points
A-	90.0-93.9%	630-657 points	C-	70.0-73.9%	490-517 points
B+	87.0-89.9%	609-629 points	D+	67.0-69.9%	469-489 points
B	84.0-86.9%	588-608 points	D	60.0-66.9%	420-468 points (no D-)
B-	80.0-83.9%	560-587 points	F	0-59.9%	0-419 points

Policy on Academic Dishonesty

The minimum penalty for cheating on an examination or for plagiarism will be an "F" on the assignment (zero points), without the possibility to re-do the work. Regardless of the final point total, any academic dishonesty will result in a loss of at least one full letter grade. Depending upon the severity of the offense, a final course grade of "F" may be assigned, and the Dean of Students, Judicial Affairs will be notified. Plagiarism is a serious issue. It is the student's responsibility to be clear of the meaning of plagiarism. For examples of when to document your sources, and additional explanation, see the "Student Guide to Avoiding Plagiarism" available at the following URL: www.fullerton.edu/deanofstudents/Judicial/Academic%20Integrity%20Resources.asp.

Technology

Except where authorized by Disabled Students Services (DSS), or special permission has been granted by the instructor, the use of laptops, tablets, or smart phones during class is not permitted. Using any electronic device for email, web browsing, instant messaging, text messaging, or accessing the Internet for any reason is not permitted, so all devices should be turned off or muted and put away during class. Similarly, the use of cell phones to make or receive calls during class is not permitted. Failure to adhere to this prohibition will result in a loss of attendance and participation points.

Special Needs

During the first week of classes, please inform the instructor of any disabilities or special needs that you have that may require special arrangements. Students with disabilities need to document the disability at the Disabled Students Services office in UH 101.

Emergency Procedures

URL: emergencypreparedness.fullerton.edu

TEXTS

Available at The Little Professor Book Center, 725 Placentia Ave. (Major cross streets: Placentia Ave. & Nutwood Ave.) 714-996-3133. Order online at www.FullertonTextbooks.com and they will mail your order to you.

Required

- Barbour, Ian. *Religion and Science: Historical and Contemporary Issues*. New York: HarperCollins, 1997. **(Barbour-RAS)**
- Brooke, John. *Science and Religion: Some Historical Perspectives*. New York: Cambridge University Press, 1991. **(Brooke-SAR)**
- Southgate, Christopher, ed. *God, Humanity and the Cosmos: A Companion to the Science-Religion Debate*. 3rd ed. New York: T&T Clark International, 2011. **(Southgate-GHC)**

Supplemental

- Alexander, Dennis. *Rebuilding the Matrix: Science and Faith in the 21st Century*. Grand Rapids, MI: Zondervan, 2003. **(Alexander-RTM)**
- Barbour, Ian. *When Science Meets Religion: Enemies, Strangers, or Partners?*. New York: HarperCollins, 2000.
- Brooke, John and Geoffrey Cantor. *Reconstructing Nature: The Engagement of Science and Religion*. New York: Oxford University Press, 1998.
- Clayton, Philip. *God and Contemporary Science*. Grand Rapids, MI: Wm. B. Eerdmans Publishing Company, 1998.
- Dixon, Thomas. *Science and Religion: A Very Short Introduction*. New York: Oxford University Press, 2008.
- Eagleton, Terry. *Reason, Faith, and Revolution*. New Haven, CT: Yale University Press, 2009.
- Ferngren, Gary B., ed. *Science and Religion: A Historical Introduction*. Baltimore, MD: Johns Hopkins University Press, 2002. **(Ferngren-SAR)**
- Haight, John. *Science and Religion: From Conflict to Conversation*. Mahwah, NJ: Paulist Press, 1995.
- McGrath, Alister. *Science and Religion: A New Introduction*. 2nd ed. Wiley-Blackwell, 2010.
- Peacocke, Arthur. *Theology for a Scientific Age: Being and Becoming-Natural, Divine and Human*. Augsburg Fortress Publishers, 1993.
- Pennock, Robert T., ed. *Intelligent Design Creationism and Its Critics: Philosophical, Theological, and Scientific Perspectives*. MIT Press, 2001.
- Polkinghorne, John. *Theology and Science: An Introduction*. Minneapolis, MN: Augsburg Fortress Publishers, 1998.
- Russell, Robert J. *Cosmology: From Alpha to Omega: The Creative Mutual Interaction of Theology and Science*. Minneapolis, MN: Augsburg Fortress Press, 2008.

Anthologies

- Dixon, Thomas, ed., et al. *Science and Religion: New Historical Perspectives*. New York: Cambridge University Press, 2010.
- Harrison, Peter, ed. *The Cambridge Companion to Science and Religion*. New York: Cambridge University Press, 2010.
- Proctor, James D., ed. *Science, Religion, and the Human Experience*. New York: Oxford University Press, 2005.

SCHEDULE, READINGS, AND DUE DATES

Readings are subject to change. Those marked with two asterisks (**) will be made available electronically.

WEEK	TOPIC(S)	ACTIVITIES
1 8/28 & 8/30	<p>INTRODUCTION</p> <p>Which science? Whose religion?</p> <p>Required Readings: C. Southgate & M. Poole in Southgate-GHC, 3-22 (chapter 1, section A); **Alexander-RTM, 12-31 (chapter 1); Brooke-SAR, 16-51 (chapter 1).</p> <p>Supplemental Readings: Ferngren-SAR, 3-30 (chapters 1 & 2); J. Brooke and G. Cantor, <i>Reconstructing Nature</i>, 1-72 (intro & chapters 1-2); A. McGrath, <i>Science and Religion</i>, 1-16 (chapters 1-2); T. Dixon, <i>A Very Short Introduction</i>, (chapter 1); A. Peacocke, <i>Theology for a Scientific Age</i>, 1-24 (intro).</p>	
2 9/4 & 9/6	<p>HISTORICAL CONFRONTATIONS</p> <p>Seventeenth Century</p> <p>Required Readings: Barbour-RAS, 3-32 (chapter 1); **Alexander-RTM, 108-39 (chapter 5); Brooke-SAR, 117-51 (chapter 4).</p> <p>Supplemental Readings: Brooke-SAR, 82-116 (chapter 3); Ferngren-SAR, 93-176 (chapters 7-13); A. McGrath, <i>Science and Religion</i>, 17-25 (chapter 3); J. Brooke and G. Cantor, <i>Reconstructing Nature</i>, 106-38 (chapter 4).</p>	
3 9/11 & 9/13	<p>Eighteenth Century</p> <p>Required Readings: Barbour-RAS, 33-48 (chapter 2); **Alexander-RTM, 140-76 (chapter 6); Brooke-SAR, 152-191 (chapter 5).</p> <p>Supplemental Readings: Brooke-SAR, 192-225 (chapter 6); A. McGrath, <i>Science and Religion</i>, 26-32 (chapter 4); J. Brooke and G. Cantor, <i>Reconstructing Nature</i>, 141-75 (chapter 5).</p>	
4 9/18 & 9/20	<p>Nineteenth Century</p> <p>Required Readings: Brooke-SAR, 226-74 (chapter 7); Barbour-RAS, 49-74 (chapter 3); **Alexander-RTM, 177-219 (chapter 7).</p> <p>Supplemental Readings: Brooke-SAR, 275-320 (chapter 8); Ferngren-SAR, 208-33 (chapters 16 & 17); A. McGrath, <i>Science and Religion</i>, 33-42 (chapter 5); J. Roberts in <i>The Cambridge Companion to Science and Religion</i>, 80-102 (chapter 4).</p>	
5 9/25 & 9/27	<p>Twentieth Century</p> <p>Required Readings: **Alexander-RTM, 289-310 (1st part of chapter 9); E. Larson in Ferngren-SAR, 289-98 (chapter 22); **<i>Intelligent Design Creationism and its Critics</i>, 755-97 (chapters 35-37).</p> <p>Supplemental Readings: Brooke-SAR, 321-47 (Postscript); R. Numbers in Ferngren-SAR, 277-88 (chapter 21); P. Murray in Southgate-GHC, 89-126 (chapter 4); N. Murphy in <i>Intelligent Design Creationism and its Critics</i>, 451-69 (chapter 18).</p>	

<p>6 10/2 & 10/4</p>	<p>THEORETICAL & METHODOLOGICAL CONSIDERATIONS</p> <p>Constructing the Scientific & the Sacred Required Readings: S. Weldon in Ferngren-SAR, 374-387 (chapters 29 & 30); **B. Latour, "Thou Shalt Not Freeze-Frame" and "How to Be Iconophilic in Art, Science, and Religion".</p> <p>Supplemental Readings: B. Latour, "Thou Shalt Not Take the Lord's Name in Vain"; P. Harrison, "'Science' and 'Religion': Constructing the Boundaries," in <i>Science and Religion: New Historical Perspectives</i>, 23-49 (chapter 2); J. Golinski, "Science and religion in postmodern perspective: the case of Bruno Latour," in <i>Science and Religion: New Historical Perspectives</i>, 50-68 (chapter 3).</p>	
<p>7 10/9 & 10/11</p>	<p>Relating the Scientific & the Sacred Required Readings: Barbour-RAS, 77-105 (chapter 4); **M. Stenmark, "Ways of relating science and religion" in <i>The Cambridge Companion to Science and Religion</i>, 278-95 (chapter 15).</p> <p>Supplemental Readings: J. Brooke in Southgate-GHC, 68-88 (chapter 3); G. Cantor, in <i>Science and Religion: New Historical Perspectives</i>, 283-98 (chapter 14); S. Gould, "Nonoverlapping Magisteria," <i>Natural History</i> 106 (March 1997): 16-22; J. Haught, <i>Science and Religion</i>, 3-26 (intro and chapter 1); A. McGrath, <i>Science and Religion</i>, 45-50 (chapter 6); J. Polkinghorne, <i>Theology and Science</i>, 1-24 (chapter 1); R. Russell, <i>Cosmology</i>, 1-32 (intro).</p>	
<p>8 10/16 & 10/18</p>	<p>Modeling the Scientific & the Sacred Required Readings: Barbour-RAS, 106-36 (chapter 5); **S. McFague, <i>Metaphorical Theology</i>, 75-108 (portions of chapters 3-4).</p> <p>Supplemental Readings: I. Barbour, <i>Myths, Models and Paradigms</i> (1976); A. McGrath, <i>Science and Religion</i>, 102-09, 128-34 (chapters 13 & 16); R. Frigg and S. Hartmann, "Models in Science", <i>The Stanford Encyclopedia of Philosophy</i>.</p>	<p>Term Paper: Topic Proposal (10/18)</p>
<p>9 10/23 & 10/25</p>	<p>Knowing the Scientific & the Sacred Required Readings: P. Murray, "Truth and reason in science and theology" in Southgate-GHC, 89-126 (chapter 4).</p> <p>Supplemental Readings: Alexander-RTM, 220-88 (chapter 8); A. McGrath, <i>Science and Religion</i>, 67-75 (chapter 9).</p>	

<p>10 10/30 & 11/1</p>	<p>TOPICAL REFLECTIONS</p> <p>Cosmology and Creation Required Readings: Barbour-RAS, 195-220 (chapter 8); **Alexander-RTM, 310-29 (2nd part of chapter 9), 407-25 (chapter 12).</p> <p>Supplemental Readings: P. Clayton, <i>God and Contemporary Science</i>, 127-68 (chapter 5); C. McConnell in Ferngren-SAR, 314-21 (chapter 24); J. Haught, <i>Science and Religion</i>, 100-19 (chapter 5); A. McGrath, <i>Science and Religion</i>, 84-92 (chapter 11); R. Numbers in <i>The Cambridge Companion to Science and Religion</i>, 127-47 (chapter 6); R. Russell, <i>Cosmology</i>, 33-109 (chapters 1-3); P. Murray and D. Wilkinson in Southgate-GHC, 44-67 (chapter 2); W. Stoeger in <i>The Cambridge Companion to Science and Religion</i>, 173-89 (chapter 8).</p>	<p>Term Paper: Source Selection (11/4)</p>
<p>11 11/6 & 11/8</p>	<p>Secularity and Divinity Required Readings: J. Brooke, "Science and secularization," in <i>The Cambridge Companion to Science and Religion</i>, 103-23 (chapter 5).</p> <p>Supplemental Readings: E. Davis and R. Collins in Ferngren-SAR, 322-34 (chapter 25); Haught, <i>Science and Religion</i>, 27-46 (chapter 2); C. Southgate in Southgate-GHC, 225-54 (chapter 8); D. Griffin, <i>Reenchantment Without Supernaturalism</i>, 20-51 (chapter 1); J. Polkinghorne, <i>Theology and Science</i>, 66-83 (chapter 4).</p>	
<p>12 11/13 & 11/15</p>	<p>Evolution and Creationism Required Readings: **Alexander-RTM, 330-59 (chapter 10); C. Southgate, et al. "Theology and evolutionary biology" in Southgate-GHC, 162-203 (chapter 6).</p> <p>Supplemental Readings: Alexander-RTM, 360-406 (chapter 11); Barbour-RAS, 221-52 (chapter 9); Haught, <i>Science and Religion</i>, 47-71 (chapter 3); McGrath, <i>Science and Religion</i>, 163-74; S. Morris in <i>The Cambridge Companion to Science and Religion</i>, 148-72 (chapter 8); B. Szerszynski in <i>Science and Religion: New Historical Perspectives</i>, 153-74 (chapter 8); R. Russell, <i>Cosmology</i>, 212-25 (chapter 6).</p>	<p>Term Paper: Outline (11/22)</p>
<p>Week of 11/19</p>	<p>Fall Recess</p>	
<p>13 11/27 & 11/29</p>	<p>Contemporary Physics and Religious Reflection Required Readings: Barbour-RAS, 165-94, 281-304 (chapters 7 & 11).</p> <p>Supplemental Readings: Brooke-SAR, 321-47 (Postscript); Ferngren-SAR, 301-313 (chapter 23); A. McGrath, <i>Science and Religion</i>, 157-63; J. Polkinghorne, <i>Theology and Science</i>, 25-48 (chapter 2); Russell, <i>Cosmology</i>, 151-211 (chapter 5); L. Osborn in Southgate-GHC, 127-61 (chapter 5).</p>	

<p>14 12/4 & 12/6</p>	<p>Natural Mechanism and Divine Action Required Readings: **Alexander-RTM, 426-57 (chapter 13); Barbour-RAS, 305-33 (chapter 12); C. Southgate, "As test case: divine action" in Southgate-GHC, 274-314 (chapter 10). Supplemental Readings: McGrath, <i>Science and Religion</i>, 93-101; A. Peacocke, <i>Theology for a Scientific Age</i>, 135-83 (chapter 9); J. Polkinghorne, <i>Theology and Science</i>, 84-95 (chapter 5); R. Russell, <i>Cosmology</i>, 110-50 (chapter 4).</p>	<p>Term Paper Due (12/6)</p>
<p>15 12/11 & 12/13</p>	<p>Old Atheism and New Fundamentalism Required Readings: W. Stahl, "One-Dimensional Rage," in <i>Religion and the New Atheism</i>, 97-108 (chapter 7); R. Falcioni, "Is God a Hypothesis?," in <i>Religion and the New Atheism</i>, 203-24 (chapter 13). Supplemental Readings: T. Eagleton, <i>Reason, Faith, and Revolution</i>; McGrath, <i>Science and Religion</i>, 145-50; McGrath, <i>Science and Religion</i>, 145-50; C. Southgate in Southgate-GHC, 441-48 (chapter 17).</p>	
<p>16</p>	<p>Final Exam: Thursday, December 20, 2:30-4:20</p>	

This syllabus is subject to revision, but no changes will be made without clearly communicating them in class and by email.