

TESP 83: Dialogues between Science & Religion

Spring Quarter 2009; MW 2:15-4:00pm; Kenna Hall 216

Instructor

Dr. Mark Graves
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Course Description

Explores and dialogues with the distinct methods and ways of thinking in theology and science. Examines how the interpretations of the scientific (cosmology, biology, and ecology) and the theological worldviews of the 21st century relate to the questions concerning God, origins of the universe, evolution, creativity, human experience, and ecology. Prerequisite: Introductory level course (SCTR 1-19, TESP 1-19, or RSOC 1-19).

Must science and religion conflict? Historically, science and religion have explained nature from different perspectives. Those explanations often appear to conflict, but closer scientific study and deeper religious insight often show places of fruitful dialogue and integration. The course explores topics of nature and humanity where science and religion conflict, dialogue, and integrate.

As an introductory religious studies course, the course has no specific religious studies or science prerequisites, though students should have some background, motivation, and/or desire to study the topics and appreciate the interdisciplinary issues involved. A goal of the course is to lay a foundation for critical intellectual engagement with science and religion where they overlap, and engaging the interaction between science and religion requires some grounding in both.

Student Learning Outcomes

After successfully completing the course, the student will be able to:

- Articulate ways that science and religion relate and describe examples of those relationships.
- Read and summarize general scientific claims the way they are presented in very good newspaper articles, *Scientific American* articles, or undergraduate science textbooks in one's major; and relate those to religion, as appropriate.
- Apply critical methods and insights from religious studies to evaluate discussions of scientific claims about nature and the human person.
- Critically examine proposed relationships between science and religion and identify philosophical, religious, and cultural presuppositions that may bias the interpretation of those relationships.

Required Texts

Barbour, Ian G. *When Science Meets Religion: Enemies, Strangers, or Partners?* (New York: Harper San Francisco, 2000).

Polkinghorne, John. *Science and Theology: An Introduction* (Minneapolis: Fortress Press, 1998)

For articles not in one of the texts, a reader is available at Copy Craft Printing, 341 Lafayette Street #103, Santa Clara, CA. (408) 247-4692.

Course Requirements and Evaluation

Attendance & Participation	10%
Midterm Exam	25%
Final Exam	20%
Personal reflection paper	5%
Five brief written "check-ins"	5%
Essay 1	10%
Proposal for Essay 2	-0-
Essay 2	25%

Exams

The midterm and final examinations will include a combination of true-false, multiple-choice, short answer and essay questions and will cover the lectures and the assigned readings. (Midterm: Monday, May 4; Final: TBA.)

Personal Reflection Paper

The personal reflection paper should be 1-2 pages in length and describe your personal background and initial opinions of the relationship between science and religion. The course challenges you to consider scientific findings and religious insights in your thinking. From where are you starting? In your experience, how do science and religion relate? All complete, clear, and carefully written papers will receive full credit. (Due at beginning of class: Mon Apr 13)

You may use the paper to reflect upon your thoughts on science and religion and how they relate, as you feel comfortable sharing with the instructor. The paper does not need to reveal anything personal, though the instructor will treat it in confidence. Later essays will require you to use the tools covered in the course to relate science and religion in a critical and academic way. This assignment helps you to begin organizing your thoughts and beliefs on the topics before focusing on learning the academic material.

Check-ins

The five brief written "check-ins" consist of one question and one brief comment on the assigned readings, and are submitted at the beginning of class. Legible handwritten submissions are okay. (Due Wed Apr 8; Wed Apr 15; Mon Apr 20; Wed Apr 22; Wed May 13; makeup for excused absences Mon May 18)

Essays

Both essays should be typed double-spaced with page numbers in standard word processing format: 12-point New Times Roman font (or equivalent) and margins of 1 inch to 1.5 inches. They are due as a hardcopy at the beginning of class.

The **first essay** is 3-5 pages, and the possible topic options for the essay will be given in class in mid-April. (Due at beginning of class: Wed Apr 28)

The **second essay** is 5-10 pages plus references. It has four components:

- a. Scientific finding (2-3 pages)
- b. Religious position (2-3 pages)
- c. How they might relate (1-3 pages)
- d. Your reflection on the relationship (*optional*) (1-2 pages)

Many examples will be given in class from which to draw. Examples include: big bang cosmology and *creatio ex nihilo* (creation from nothing), evolution and *imago dei* (human created in the image of God), psychology and *anatta* (no-self/soul), ecology and stewardship, neuroscience and soul/consciousness/free will, etc.

Note that the relationship between science and religion and the optional reflection component occurs *after* academic engagement of both science and religious studies and should be informed by those disciplines. As the first two sections should stand on their own, and the last two sections require reflecting upon the prior sections, the paper will likely be much better and easier to write if treated as three or four very short papers written throughout the semester rather than one longer paper written in one setting. (Due at beginning of class Wed May 20.)

A **one-page proposal** of the second essay with brief description and bibliography is due at the beginning of class Mon May 11. Although the proposal is not graded, I will give feedback whether your paper is appropriate in topic and scope. I am also available and happy to discuss your topic with you prior to then.

The **grading** for the second essay will depend upon five basic criteria for the grade of "B":

1. Following the assignment including use of references. (Wikipedia does not count.)
2. Clear and complete description of scientific material. How well is the science understood?
3. Clear and complete description of religious material. Is the position presented from a balanced, scholarly perspective of its values?
4. Clear and complete description of relation between scientific and religious material. How well is the relationship described and characterized?
5. Demonstration of your overall understanding and your ability to synthesize the material.

In addition to the basic criteria necessary to earn a "B", additional criteria that may increase your grade include: creativity on the topic; critical thinking in personal reflection drawing upon relevant sources; additional effort indicated by deeper, relevant use of resources; and indication of insight gained through reflection.

Course Policies

Attendance: I presume that you can and will attend most classes but may have a legitimate reason to miss a class or two during the quarter (very sick, family emergency, athletic event, etc.). Please notify me via email if you must miss a class. In most circumstances, every absence after two will lower your overall grade. In addition, three or more absences without permission of instructor will constitute a withdrawal from the class.

Participation: Please come prepared for each class so that you can engage in constructive, focused conversation. Some of the topics covered in the course are challenging, and together we will work through the material. That can only occur when we are all prepared. The exams and critical essay also require that you demonstrate your engagement with the readings, lectures, and discussions.

Assignments: All assignments—reading and writing—are due the day presented in the syllabus. Extensions are rare but possible, depending on justifiable circumstances and consultation with me, preferably in advance. In most circumstances, late material will result in a lower grade.

Academic Integrity: Research and discussion of course material and themes with others is encouraged, but you are reminded that all work submitted should constitute your own work. Any immediate or significant academic debt of the student to others should be acknowledged in the work submitted. If you have any questions about this or other requirements, ask me in advance.

Plagiarism sometimes occurs from not understanding the expectations of academic scholarship and writing. If you have any question about expectations or about whether something is allowed, ask. If you have hesitations about asking, perhaps you already know the answer.

For University policies regarding academic honesty and plagiarism, please consult the Undergraduate Student Handbook. Plagiarism in any form will result in certain failure of the project in question and will likely result in a failing grade for the entire course.

Disability Accommodation: To request academic accommodation for a disability, students should contact Disability Resources located in the Drahnann Center in Benson, room 216. Students must provide documentation of a disability to Disability Resources prior to receiving accommodations, and you should notify me during the first week of class.

Course Schedule and Readings

Mon, Mar 30 – Introduction to Course

I. Foundations

Wed Apr 1 – Survey of Religion and Science

- Partridge 2005. *Introduction to World Religions*, chap 1.
- Trefil and Hazen 2000. *The Sciences: An Integrated Approach*, chap 1.
- Barbour, pp. 1-6, “Intro”.

Mon Apr 6 – Introduction to Science and Religion Discussion

- Clayton and Schaal 2007. *Practicing Science, Living Faith*, pp. 2-11.
- Barbour, chap 1.
- Hesse, Mary 1998. “Is Science the New Religion?” In Watts.

Wed Apr 8 – Organizing Science and Religion Discussion

- **Due:** Check-in 1
- Barbour, chap 1.
- Watts 1998. *Science Meets Faith*, chap 1.
- Toolan 2001. *At Home in the Cosmos*, pp. 41-58.

Due: Personal Reflection paper (Beginning of class Apr 13).

Mon Apr 13 – Naturalism

- Griffin, David Ray 2004. *Two Great Truths*, chap 1.
- Toolan 2001, chap 10.

Wed Apr 15– Philosophical and Historical Context

- **Due:** Check-in 2
- Polkinghorne 1998. *Science and Theology: An Introduction*, chap 1.
- Hess 2002. “God’s Two Books: Special Revelation and Natural Science in the Christian West” In Peters and Bennet, *Bridging Science and Religion*, chap 7.
- Muzaffar Iqbal 2002. “Traditional Islam and Modern Science” In Peters and Bennet, chap 8.

II. Science and Religion Resources

Mon Apr 20 – Cosmology and Creation – Anthropic Principle

- **Due:** Check-in 3
- Barbour, chap 2.
- Ward 2006. *Pascal’s Fire*, chap 1.
- Southgate 2005. *God, Humanity, Cosmos*, chap 5, sect E.
- Davies 2006. “Glimpsing the Mind of God” In Staune, *Science and the search for meaning*, pp. 27-37.

Wed Apr 22 – Cosmology and Creation – Quantum Mechanics and Complexity

- **Due:** Check-in 4
- Polkinghorne, chap 2.
- Barbour, chap 3.
- Ward 2006. *Pascal’s Fire*, chap 2.
- Mayr, Ernst 1985. “How Biology Differs from the Physical Sciences” In Depew and Weber *Evolution at a Crossroads*.

Mon Apr 27 – Philosophical Perspectives

- Southgate, chap 4, sects 1, 2, 7-12.
- Peacocke 1993, *Theology for a Scientific Age*, pp 61-71.
- Trinh Xuan Thuan 2006. “Science and Buddhism,” In Staune, pp. 174-189.

Due: Essay 1 (Beginning of class Apr 28)

Wed Apr 28 – Review

Mon May 4 – Midterm Exam 1

Wed May 6 – Human Nature

- Barbour, chap 5.
- Odhiambo, Thomas 2006. “Essence and Continuity of Life in the African Society” In Staune, chap 4.
- Peacocke, Arthur 1993. *Theology for a Scientific Age*, chap 4.
- Polkinghorne, chap 3.

Due: Essay 2 Proposal (Beginning of class May 11)

Mon May 11 – Genetics and Evolution

- Barbour, chap 4.
- Genetics primers:
 - <http://www.dnafb.org/dnafb/>
 - http://www.ornl.gov/sci/techresources/Human_Genome/publicat/primer/index.shtml
 - <http://www.ncbi.nlm.nih.gov/About/primer/genetics.html>
- Peters, Ted 2003. *Playing god? : Genetic determinism and human freedom*, chap 1.
- Goodenough, Ursula 1998. *The Sacred Depths of Nature*, chap 3, 4.
- Grassie, William 2005. “Towards a Constructive Theology of Evolution”. In Bagir *Science and Religion in a Post-colonial World*.

Wed May 13 – Human Soul

- **Due:** Check-in 5
- Murphy, Nancy 1998. “Human Nature: Historical, Scientific, and Religious Issues” In Brown, Murphy, and Malony, *Whatever Happened to the Soul?*, pp. 1-24.
- Watts, Fraser 1998. “Brain, Mind and Soul.” In Watts, *Science Meets Faith*, chap 5.
- Brown, Warren 1998. “Cognitive Contributions to Soul” In Brown, Murphy, and Malony, *Whatever Happened to the Soul?*, chap 5.

Mon May 18 – Neuroscience

- LeDoux, Joseph 2002. *The Synaptic Self*, chap 2.
- Neuroscience primers
 - <http://www.pbs.org/wnet/brain/>
 - <http://www.pbs.org/wnet/brain/3d/>
 - <http://www.ifisiol.unam.mx/Brain/segunda.htm>
 - <http://thalamus.wustl.edu/course/>
 - <http://www.emc.maricopa.edu/faculty/farabee/BIOBK/BioBookNERV.html>
 - <http://braininfo.rprc.washington.edu/enumain.html>
- Hamilton, Craig 2005. “Neuroscience, consciousness, and the soul” In *Science and Religion: Global Perspectives*.
- Cole, David 1996. “The Molecular Biology of Transcending the Gene” In Richardson & Wildman, *Religion and Science: History, Method, Dialogue*, 343-350.

Due: Essay 2 (Beginning of class Wed May 20).

Wed May 20 – Religious Experience

- Edwards, Denis. 1983. *Human Experience of God*, pp. 6-12
- Peterson, chap 5.
- Beauregard, Mario 2007. *The Spiritual Brain*, chap 1 and pp. 181-202.

Mon May 25 – Memorial Day

Wed May 27 – Buddhism

- Polkinghorne, John 1998. *Science and Theology: An Introduction*, chap 7 “The World Faiths”
- Rahula, Walpola 1959. *What the Buddha Taught*, chap 1, 2.
- Harvey, Peter 1990. *An Introduction to Buddhism*, chap 2.
- Thich Nhat Hanh 1995. *Living Buddha, Living Christ*, chap 1.
- Raman, Varadaraja 2002. “Traditional Hinduism and Modern Science” In Peters and Bennett, *Bridging Science and Religion*, chap 11.

Mon June 1 – To Be Determined

Wed June 3 – Discussion, Review & Conclusion

June ?? – Final Exam

Student Information Sheet

Name:

Major/Year:

Email:

Phone:

High School/Location:

Religious Affiliation:

Do You Work? _____ How Many Hours? _____ Where? _____

Are You Engaged in Activities at SCU (Sports, etc.)? _____ If so, which ones:

Pre-college religion study:

Coursework in religion at SCU or other colleges: (Dept and Course name, and if SCU, also course number)

Pre-college science study:

Coursework in science at SCU or other colleges: (Dept and Course name, and if SCU, also course number)

Prior high school or college coursework in philosophy:

Questions continued on back of sheet

What do you hope to gain from the course? What questions would you like answered?

Anything else you would like me to know?