

## Religion, Evolution, and Human Biology

Anthropology 494RI  
Spring 2019  
M,W,F 11:15-12:05  
Machmer W26

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**Course Description:** This course will apply a bio-cultural evolutionary perspective to understand the human capacity for belief in the supernatural. We will begin with a broad survey of the anthropology of religion, then look in depth at the evolutionary origins of religious thought. We will examine the evolution of religion from the perspective of cultural anthropology, primatology, archaeology, evolutionary biology, and neurology. We will also examine religion and spirituality in relation to physical and mental health.

**Integrative Experience:** This course has been revised to fulfill requirements of an Integrative Experience for Anthropology majors. According to the General Education Council:

The Integrative Experience (IE) requirement provides students with a structured opportunity to look back on their early college learning experiences, reflect upon and make connections between those earlier experiences and the more advanced work in their major, and use their integrated learning to prepare for the demands of the world beyond the University.

<http://www.umass.edu/gened/teachingAdvising/integrativeExperience/ie.html>

This course fulfills the requirements in several ways. First, the course asks students to reflect on Gen Ed courses they have taken, how those courses relate to the topics of evolution and religion, and how the material, perspectives, and skills learned in those courses contribute to their current academic work.

Second, the course asks students to integrate ideas from across the biological sciences, social sciences, and humanities with an emphasis on cross-cultural research. The primary goal of the class is to apply the concept of natural selection to the question of why belief in the supernatural is a human universal. Over the course of the class, we shift away from thinking about natural selection and religion as an abstract theory and come to realize how the questions we are asking apply to our everyday lives. We will end the semester with a detailed evaluation of how religion is associated with mortality and fertility, as well as mental and physical health.

Third, the course promotes active, collaborative learning. The class is small, so we will work together to clarify and refine research questions. The input of the group at the very beginning of the process promotes a community of learning and, when students present their work at the end of the semester, we will all be invested in the answers.

Fourth, the course encourages self-reflection about the role of religion in our personal, cultural, political, and global worlds. Students reflect upon course content in their book review, review of readings, presentation, and final paper.

**Commented [A1]:** It is clear *how* students will **reflect** on their previous Gen Ed courses and experiences, and make connections between these experiences, their major courses, and this course specifically.

**Commented [A2]:** This section explains to students *how* they will **integrate** their prior learning experiences throughout the course.

**Commented [A3]:** Beyond criterion 1, this portion demonstrates *how* students will achieve criterion 3 and participate in a **shared learning environment**.

**Commented [A4]:** While brief, this statement offers students a glimpse of the kinds of assignments that will support and facilitate reflection and integration in their IE course.

Course Readings:

Required:

Boyer, Pascal (2002) *Religion Explained: The Evolutionary Origins of Religious Thought*. Basic Books. [At Amherst Books]

Recommended:

Rossano, Matt (2010) *Supernatural Selection: How Religion Evolved*. Oxford U. Press.

Steadman, Lyle and Palmer, Craig (2010) *The Supernatural and Natural Selection*. Paradigm Publishers.

Lewis-Williams, David (2010) *Conceiving God: The Cognitive Origin and Evolution*. Thames & Hudson.

Additional readings available on Moodle.

Course Requirements: The final grade will be based on:

(5%) Work in pairs to pick a religion. One person fills in the worksheet, and the other finds a reading, poem, story, or song that gives us a feeling for the religion. Worksheet due 1/28 and 1/30, when you present (10 minute presentations).

**IE** (10%) Two reflections about the content of Gen Ed courses (5% each). An outline of your thoughts, prepared beforehand, must be turned in after the discussion. Due 2/1 and 3/6.

(1) Thinking back on **the course that met the BS requirement**: what was the course? How was the theory of evolution taught? Can you imagine where the topic of religion would fit into that course?

(2) Thinking back on **the course that met your SB or AL/AT requirement**: what was the course? How was religion (or a related topic) taught? Can you imagine how the theory of evolution would fit into that course?

(20%) 1000-word book review of *Religion Explained: The Evolutionary Origins of Religious Thought*. The book review should reflect a balance of content and critique (positive and negative). Write the review as if it's for someone who has not read the book. This fictitious person is trying to decide whether the book is worth buying and reading. Situate yourself (so the reader knows your bias). What is the book's audience? Due 2/22 by 4:00 in my box, Machmer 201.

**IE** (15%) Three 2 to 3 paragraph reviews of readings (5% each). The paragraphs should provide both a review of content and a personal response to the material. Choose any three days of readings AFTER February 22<sup>nd</sup>. If two chapters or articles are assigned for a day, then review both chapters in your paragraphs.

**IE** (10%) Presentation on term paper. (10 minutes) Term paper can be about any particular aspect of the evolution of religion (beliefs, behaviors, rituals, relationships) or about religion and human biology (mortality, fertility, sexuality, mental or physical health). **DO NOT** summarize the studies that we will all read for that day. You are providing something new. Graded for content, clarity, organization, and enthusiasm of presentation, April 3-26.

**Commented [A5]:** In these assignments, students are asked to parse out their various GenEd courses, drawing from specific (prompted) designations. The questions provided allow students to consider the relationship between their major, this specific course content, and what they learned from very specific Gen Ed experiences.

Note the bold "**IE**" before the assignments, signaling to students that this particular assignment is helping them to achieve those outcomes.

**Commented [A6]:** While not referencing Gen Ed courses explicitly, the prompt provided echoes the language and key terms of the earlier reflection papers. Students are asked to write about the evolution of religion or religion and human biology. The earlier reflection papers asked students similar questions, but tied them directly to prior Gen Ed courses taken.

(30%) Final paper related to religion and evolution or religion and human biology. Demonstrate a bio-cultural perspective and be explicit about how you integrate biology and culture. The paper should be double-spaced, 10-15 pages long, with APA style. Due 5/3 by 4:00, my box, Machmer 201.

(10%) Attendance and participation. This is a seminar. It does not work if you don't do the readings and participate. Please stay off phones for the duration of the class.

Syllabus:

PART ONE: Religion as a human universal

January 23 Introduction  
Define religion  
Bio-cultural perspective

January 25 Experiential perspective  
Read: James W. 1902. Lecture II: Circumscription of the Topic (pp 19-37) and Lecture III: The Reality of the Unseen (pp.39-57). In *Varieties of Religious Experience: A Study in Human Nature*. Renaissance Classics, 2012. **Moodle**

January 28 A brief survey of five world religions  
WORKSHEET AND EXAMPLE DUE

January 30 A brief survey of five world religions  
WORKSHEET AND EXAMPLE DUE

PART TWO: Evolution of the capacity for religious belief

February 1  
Review of the forces of evolution  
DUE: REFLECTION ON BS GEN ED CLASS

February 4 Pascal Boyer and *Religion Explained*  
Read: Boyer, Chapter 1

February 6 Serious religion  
Read: Boyer, Chapter 2

February 8 Inference systems  
Read: Boyer, Chapter 3

February 11 What do the gods know?  
Read: Boyer, Chapter 4

- February 13 Moral choices  
Read: Boyer, Chapters 5
- February 15 NO CLASS →
- February 18 NO CLASS (President's Day)
- February 19 Religion and Death (Monday schedule)  
Read: Boyer, Chapter 6
- February 20 Rituals  
Read: Boyer, Chapter 7
- February 22 Violence and belief  
Read: Boyer, Chapters 8 and 9  
HARD COPY OF BOOK REVIEW DUE by 4:00 in my box, Machmer 201.
- February 25 Caves  
Read: Lewis-Williams, D. Chapter 8 "Stone Age Religion" *Conceiving God: The Cognitive Origin and Evolution*. [**Moodle**; the whole book is recommended]
- February 27 Hallucinations?  
Read: Lewis-Williams, D. Chapter 9 "Hildegard on the African Veld" *Conceiving God: The Cognitive Origin and Evolution*. [**Moodle**; the whole book is recommended]
- March 1 Music  
Read: Mithen, S. Chapter 7 "Music hath charms and can heal" (pp. 85-101) and Chapter 14 "Making music together" (pp.205-220) *The Singing Neanderthals: The Origins of Music, Language, Mind, and Body*, Harvard University Press, 2006. [**Moodle**]
- March 4 Religion and non-human primates  
Read: King, B. Chapters 1 and 2 (pp.1-60) *Evolving God*, Doubleday, 2007 [**Moodle**]  
Also: Turner JH, Maryanski A, Petersen AK, Geertz AW. Chapter 5 "Darwinian selection on the Hominin Brain II: Selection on behavioral propensities and capacities" (pp. 106-125) *The Emergence and Evolution of Religion: By Means of Natural Selection* Routledge, 2018. [**Moodle**]
- March 6 Religion as communicated acceptance of supernatural claims leading to cooperation and reproductive success  
Read: Steadman, L and Palmer, C. Chapter 3 "Changing the question" (pp. 37-54) *The Supernatural and Natural Selection*. [**Moodle**; the whole book is recommended]  
DUE: REFLECTIONS ON SB or AL/AT GEN ED CLASS
- March 8 Ancestor worship  
Read: Steadman, L and Palmer, C. Chapter 4 "In the beginning: Ancestor worship" (pp. 55-70) *The Supernatural and Natural Selection*. [**Moodle**; whole book recommended]

## Spring Break

March 18 Religion as behavior

Read: Steadman, L and Palmer, C. Chapter 10 “Sacrifice: Voluntary suffering” (pp.149-161) and Chapter 11 “The killing of witches” (pp.163-184) *The Supernatural and Natural Selection*. [Moodle; the whole book is recommended]

March 20 Religion as relationships

Read: Rossano, Chapter 1 “Natural relationships and supernatural relationships” (pp.16-36), *Supernatural Selection: How Religion Evolved*. Oxford, 2010 [Moodle; the whole book is recommended]

March 22 Why be nice?

Read: Rossano, Chapter 2 “Making a good impression” (pp.37-59, *Supernatural Selection: How Religion Evolved*. Oxford, 2010 [Moodle; the whole book is recommended]

March 25 Relationships and ritual

Read: Rossano, Chapter 4 “The African interregnum, Part I: Good rituals make good friends” (pp.79-102) *Supernatural Selection: How Religion Evolved*. Oxford, 2010 [Moodle; the whole book is recommended]

March 27 NO CLASS →

HBA/AAPA meetings

March 29 NO CLASS →

HBA/AAPA meetings

April 1 Constraints

Read: Harris E, McNamara P. 2009. Neurologic constraints on evolutionary theories of religion. In: Voland E, Schiefenhovel W (eds.) *The Biological Evolution of Religious Mind and Behavior* Berlin: Springer-Verlag, pp. 205-215. [Moodle]  
Fetchenhauer D. 2009. Evolutionary perspectives on religion – what they can and what they cannot explain (yet). In: Voland E, Schiefenhovel W (eds.) *The Biological Evolution of Religious Mind and Behavior* Berlin: Springer-Verlag, pp. 275-291 [Moodle]

April 3 Recap: The evolution of religion

Discussion of the most compelling perspective, in your opinion, for the study of the evolution of religion.

THREE PRESENTATIONS (10 minutes each) by whoever is writing their term paper on an aspect of the evolution of religion.

PART THREE: Religion and human biology/health

April 5 Religion and mortality

Read: Van Poppel F, Schellekens J, Liefbroer A. Religious differentials in infant and child mortality in Holland, 1855-1912. *Population Studies* 2002 56:277-89.

Gillum RF, et al. Frequency of attendance at religious services and mortality in a U.S. national cohort. *Ann Epid* 2008; 18(2):124-9.

Enstrom JE, Breslow L. Lifestyle and reduced mortality among active California Mormons, 1980-2004. *Preventive Medicine* 2008; 46:133-136.

ONE PRESENTATION of term paper topic, not necessarily related to religion and mortality. (10 minutes)

April 8 Religion and the “good citizen” hypothesis

Read: McCullough ME, Willoughby BLB. Religion, self-regulation, and self-control: associations, explanations, and implications. *Psychological Bulletin* 2009; 135:69-93.

TWO PRESENTATIONS of term paper topic, not necessarily related to religion and the “good citizen” hypothesis (10 minutes)

April 10 Religion, hypertension, and stress

Read: King DE, et al. C-reactive protein, diabetes, and attendance at religious services *Diabetes Care* 2002; 25:1172-1176.

Seeman et al. Religiosity/spirituality and health: a critical review of the evidence for biological pathways. *Am Psychol* 2003;58(1):53-63.

ONE PRESENTATION of term paper topic, not necessarily related to religion and hypertension or stress (10 minutes)

April 12 Religion and depression

Read: King DE, et al. Attendance at religious services and subsequent mental health in midlife women *Int J Psychiatry Med* 2005; 35:1287-297.

TWO PRESENTATIONS of term paper topic, not necessarily related to religion and depression (10 minutes each)

April 15 NO CLASS

Patriot's Day

April 17 NO CLASS →

External reviewer at SUNY Oneonta

April 19 Sexuality and religion

Read: Kalbian, A. H. 2013. Sexuality in Religions. *The International Encyclopedia of Ethics*.

TWO PRESENTATIONS of term paper topic, not necessarily related to sexuality and religion (10 minutes each)

April 22 Religion and fertility

Read: Kemkes-Grottenthaler A. More than a leap of faith: the impact of biological and religious correlates on reproductive behavior. *Human Biology* 2003; 75(5):705-27.

Gavrus-Ion A. Religion and biological fitness: comparison of life history traits in Catholics and Protestants. *American Journal of Human Biology*

ONE PRESENTATION of term paper topic, not necessarily related to religion and fertility (10 minutes)

April 24 Religion and healing

Read: Stoller, P. 2013. Religion and the truth of being. (pp. 154-168) *A Companion to the Anthropology of Religion*. John Wiley and Sons, Inc.

TWO PRESENTATIONS of term paper topics, not necessarily related to religion and healing (10 minutes)

April 26 Religion and human biology

Lynn CD, Paris J, Frye CA, Schell LM. Salivary alpha-amylase and cortisol among Pentecostals on a worship and nonworship day. *Am J Hum Biol*. 2010; 22(6):819-22.

TWO PRESENTATION of term paper topic, not necessarily related to religion and hypertension or stress (10 minutes)

April 29

THREE PRESENTATIONS of term paper topic (10 minutes each)

May 1 Conclusions: The proximate (human biology) and the ultimate (natural selection)

FINAL PAPER DUE May 3 by 4:00, my box, Machmer 201

## **Worksheet**

Pick a religion

What is the geographical distribution of this religion?

How many people share these religious beliefs?

Describe the relationship between humans and supernatural entities.

Describe rituals involved in this religion.

Describe sacred objects.

Describe implications for moral behavior associated with this religion.

Describe beliefs about death and dying.

