

Attached is Biology's syllabus for our Capstone course (BIOL497 Seminar). This course was already approved by the UGEC in Spring 2012 (chaired by Dr. Ken Cukrowski) as an expanded 3 hour course specifically in response to the university's desire to have a senior-level integrative capstone as part of our general education program prior to the development of the CCIT recommendation. This is a single capstone for all our majors.

I. With respect to the learning outcomes, this course accomplishes the following:

1. "Habits of mind that foster integrative thinking between the liberal arts core curriculum and their major field of study."

This is accomplished using all fifteen Competencies/Objectives listed on p.3-4 of the attached syllabus, but in particular this is accomplished via competencies 3, 4-7, 8-12, and 14-15.

2. "Achievement and demonstration through advanced research and/or creative projects the ability to frame questions, carry out critical analysis, and produce work of substantial complexity and quality related to their chosen field of study." And.....
3. "Reflect and demonstrate their ability to think critically, globally, and missionally about their discipline."

Both of these outcomes are accomplished again via the various Measurement Instruments and Standards listed on pages 3-4 of the syllabus but in particular these are accomplished via oral presentations and writing assignments described further below.

II. With respect to the assignments/projects ("products") to demonstrate these outcomes, this course accomplishes the following:

1. A required paper with a minimum length of 2000 words (approximately 7 pages) and worth a minimum of 10% of the assessment for the course in which it is included. This paper provides an opportunity for a summative assessment of the student's information literacy skills, including the proper citation of a minimum of 5 appropriate sources that support their research. Options to satisfy this prompt include, but are not limited to, a traditional research paper; a evaluative/reflective essay that accompanies a creative or scholarly work (such as a senior art show or recital), describing elements of the creative process; or a business plan that incorporates market research and analysis with the proposal of a specific entrepreneurial venture.

This requirement is met via the Term Paper assignment detailed (and highlighted) on p.8 of the syllabus.

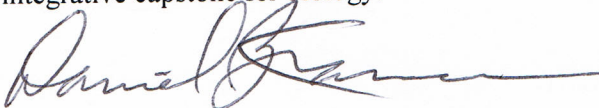
2. An assignment that demonstrates the student's ability to think critically about faith and vocation as it is expressed in a particular discipline met by a course or experience in the students' degree plan or major.

This is accomplished by the Reflection Paper assignment detailed (and highlighted) on p.8 of the syllabus. The specific assignment is also attached and is part of the Writing Across the Curriculum requirement.

3. A comprehensive skills and accomplishments inventory reflecting the student's scholarship (research and creative activities), accomplishments, co-curricular activities, service, leadership, internships, integrative thinking, knowledge, etc.

This requirement is met with the Inventory of Skills and Accomplishments assignment described (and highlighted) on p.9 of the syllabus.

I hope this communication is sufficient to meet the needs of the CCIT with respect to the senior-year integrative capstone for biology.



Daniel K. Brannan

Approval Chart for Curriculum Changes

A = Approval I = Information*

Course Number Biol 497 or Degree Plan(s) _____

State the requested change and reason. A memo may be attached if more space is necessary.

See attached memo requesting approval of this course for the Capstone experience.

Circle the number that corresponds to the requested change. Degree plan changes are on the second page. N/A

COUNCIL**

	Change to a Course	Dept./School	College Academic	Deans	TEC	UGEC	UUAC	GRAD	Provost	President
1.	Title (description unchanged)	A	A	A		I			I	I
2.	Description (not affecting content)	A	A	A		I			I	I
3.	Content (substantive change)	A	A	A		I			A	A
4.	Number of hours (lecture, lab, contact)	A	A	A		A			A	A
5.	Course number within the hundred	A	A	I		I			I	I
6.	Course number beyond the hundred	A	A	A		A			A	A
7.	Prerequisites	A	A	A		I			I	I
8.	Course fee(s)	A	--	A		--			A	I
9.	From U to G or G to U	A	A	A		A			A	A
10.	Cross list with another dept: U or G level	A	A	A		A			A	A
11.	Department of record	A	A	A		A			A	A
12.	Open or close a course	A	A	A		A			A	A
13.	New course — See Adams Center for packet. This change includes combining or splitting a course(s).	A	A	A		A			A	A

* Councils may request additional information about "Information" items. These items are approved as "Consent Agenda."

**Courses offered only to students seeking teacher certification must go through the Teacher Education Council.

Note: When an academic unit does not have a council, the UGEC and/or UUAC will serve as its academic council, depending on the nature of the issue.

Approval Chart for Curriculum Changes

A = Approval I = Information

N/A

	Change to a Degree Plan	Dept./School	College Academic	Deans	TEC	COUNCIL			Provost	Faculty	President
						UGEC	UUAC	GRAD			
1.	University Requirements — Change in approved course content**	A	A	A			A		A	--	A
2.	University Requirements — Add or drop a required course from the University Requirements chart**	A	A	A			A		A	A	A
3.	University Requirements — Add or drop a course from a menu within the University Requirements**	A	A	A			A		A	--	A
4.	University Requirements — Change hours within a menu on the University Requirements chart**	A	A	A			A		A	A	A
4.	Major — Revision of major ♦ ‡	A	A	A			A		A	--	A
5.	Major — Adopt or change admission requirements	A	A	A			A		A	--	A
6.	Major — Add or discontinue	A	A	A			A		A	A	A
7.	GPA — Revise major or cumulative requirement	A	A	A			A		A	A	A
8.	Minor — Revise course selection	A	A	A			I		I	--	I
	Minor — Add or discontinue	A	A	A			A		A	--	A
9.	Degree — Add or discontinue	A	A	A			A		A	A	A
10.	Any change to a graduate degree program*	A	A	A			A		A	--	A

♦ A minimum of 30 hours is required for a major. A maximum is specified for each degree (e.g., BA, BS). The university minimum for elective hours is 6, unless the requirements of external accrediting bodies make it impossible.

‡ Program or course changes applying to any major that includes Teacher Certification will be reviewed by the college, the Teacher Education Council (TEC), and then the UUAC.

* All graduate degree plan changes must go through the Graduate Council.

** Courses that satisfy ACU's University Requirements (General Education) will normally have lower-level numbering, be free of prerequisites and corequisites, appeal to more than one or two majors, and "not narrowly focus on those skills, techniques, and procedures specific to a particular occupation or profession" (SACS 2.7.3). Departments may request exceptions to the first three criteria.

Note: The Board of Trustees is informed when a major or degree is added or discontinued.

Revised 4-18-12

Approval Chart for Academic Information Changes

N/A

	Change to the Catalog	Dept./School	College Academic	Deans	UGEC	UUAC	GRAD	Provost	Faculty	President	Board of Trustees
1.	General requirements for graduation including course requirements that are common to all majors for all degrees*	--	--	--		A		A	A	A	--
2.	Admission requirements	--	--	--		A		A	A	A	--
3.	Policies governing academic probation and suspension	--	--	--		A		A	A	A	--
4.	Requirements for graduating with honors	--	--	--		A		A	A	A	--
5.	Other academic policy changes	--	--	--		A		A	--	A	

* The UUAC approved the clarification that "general requirements for graduation" means the seventeen items in the "General Requirements for Bachelor's Degrees" section of the catalog.

Revised 3-2-11

Curriculum/Catalog Changes Signature Page

Department/School Chair(s)	
<u>James R. Nichols</u>	<u>Jun. 10, 2013</u>
Signature	Approval date
_____ Signature	_____ Approval date



College Academic Council(s)	
_____ Signature	_____ Approval date
_____ Signature	_____ Approval date



Dean(s)	
_____ Signature	_____ Approval date
_____ Signature	_____ Approval date

Teacher Education Council	
_____ Chair's signature	_____ Approval date

General Education Council	
_____ Chair's signature	_____ Approval date

Undergraduate Academic Council	
_____ Chair's signature	_____ Approval date

Graduate Council	
_____ Chair's signature	_____ Approval date

Provost	
_____ Signature	_____ Approval date

Faculty	
_____ Chair of faculty senate	_____ Approval date

President	
_____ Signature	_____ Approval date

Abilene Christian University Biology Department
Dr. Dan Brannan, Professor of Biology

For University Mission see: <http://www.acu.edu/aboutacu/mission.html>

For College Mission see: <http://www.acu.edu/academics/cas/aboutus.html>

Biology department mission: To educate students for Christian service and leadership throughout the world by preparing them to become biological scientists, pre-college teachers, and health-care professionals.

BIOL 497 Biology Seminar (3-3). Discussions where students critically analyze, reflect, and write about biology from the perspective of a Christian Worldview. A Writing-Intensive course. Prerequisite: senior year biology major or health professions concentration.

Meeting time and Place: Refer to the Schedule of Classes for the appropriate term.

Office Hours: Each semester, I will verbally provide my office hours. There will be at least 7 office hours per week. I am also available by appointment if my office hours do not fit your schedule.

Office Location/Phone/e-mail: Foster Science Building, Room 413; 674-2186; brannan@biology.acu.edu
Please leave a message on my voice mail if I do not pick up the phone and talk to you directly. I will be in my office during office hours but may not answer if someone is with me in my office.

Purpose/Objective of Course: This course is designed to enable you to make connections between your scientific knowledge and your faith. Many of your courses in biology here have modeled the dialogue between science and Christian thought (theology); this course is dedicated solely to the interactions of the two. It will allow you to compare and contrast what you have learned and are learning about science with your own basic Christian perspective and that of others in the class. So, what *is* a “Christian perspective?”

The Christian perspective for biology is succinctly summarized by St. Augustine:

“Usually, even a non-Christian knows something about the earth . . . about the kinds of animals, shrubs, stones . . . from reason and experience. Now, it is a disgraceful and dangerous thing for an infidel to hear a Christian, presumably giving the meaning of Holy Scripture, talking nonsense on these topics; and we should take all means to prevent such an embarrassing situation, in which people show up vast ignorance in a Christian and laugh it to scorn. . . . **If they find a Christian mistaken in a field which they themselves know well and hear him maintaining his foolish opinions about our books**, how are they going to believe those books in matters concerning the resurrection of the dead, the hope of eternal life, and the kingdom of heaven? **Reckless and incompetent expounders of Holy Scripture bring untold trouble and sorrow on their wiser brethren when they are caught in one of their mischievous false opinions** and are taken to task by those who are not bound by the authority of our sacred books.”
Saint Augustine (AD 354-430) *De Genesi ad litteram libri duodecim* (The Literal Meaning of Genesis)

Anticipated Outcomes: My hope is that you will ultimately realize that faith and science are not necessarily at odds with one another. For example, both science and religion propose life arising as a special and mysterious outcome of a vast and mostly inhospitable universe. Between the two, there are plenty of opportunities for dialogue. One field explores *how* this mystery of life came to be (the physical); the other explores reasons of *why* it came to be and what concepts of a Creator can be derived from the dialogue (the metaphysical). Of course one can ignore the dialogue entirely and stick to antiquated ideas of literalist interpretations of ancient texts or they can refuse to acknowledge anything outside of pure physicalism. To do either requires a very provincial attitude and a dim view of epistemology. In this class, we will explore the dialogue in a quest for telos (purpose and meaning).

In this class, the reading is advanced and you will encounter topics and arguments to which you have not been exposed. Your interest in the reading will possibly vary depending on the topic covered. You may even ask, “What does this have to do with *real* life?” What you are being exposed to will move you beyond opinions and

force you to develop a valid rationale for a position; it will also allow you to see others' rationale in a new light and understand why they hold to a certain view based on presuppositions which may or may not be sound given certain tacit assumptions. Throughout, you will be expected to show a considerate spirit of Christian inquiry. As a result, you are expected to demonstrate *wisdom* in this class. So far in your career, you've demonstrated knowledge. Now, you must demonstrate wisdom:

Wisdom is the ability to exercise good judgment about important but uncertain matters in life. President Jimmy Carter in *The Virtues of Aging*

To wisdom belongs the intellectual apprehension of things eternal; to knowledge, the rational apprehension of things temporal. St. Augustine

In seeking wisdom thou are wise; in imagining that thou hast attained it, thou are a fool. Rabbi Ben-Azai

The beginning of wisdom is found in doubting; by doubting we come to the question, and by seeking we may come upon the truth. Pierre Abelard

Science is organized knowledge. Wisdom is organized life. Immanuel Kant

Shallow understanding accompanies poor compassion; great understanding goes with great compassion. Unknown

Clever people master life; the wise illuminate it and create fresh difficulties. Unknown

Virtue appears from good deeds; wisdom appears from a pure and peaceful mind. To walk safely through the maze of human life, one needs the light of wisdom and the guidance of virtue. Buddha

Course Conduct and Format: Our consideration of faith/science issues will center on discussions of a series of readings. In general, these readings focus on three aspects of integration (what I call the three E's): Evolution, Environment, and Ethics. In addition, a helpful perspective is found in the historical dealings of science and religion and the philosophy of biology. A section of the reading material will be assigned for each week and we will work through the material and discuss points of interest.

In some cases, *you* will be responsible for presenting the topic to the class. In the process you will develop questions to be handed out the week before which guides your fellow students in the assigned readings. You will then give a 20-30 minute presentation on the topic and then spend the balance of the time with some activity, discussion, or question and answer period. Every effort should be made to get each student to participate in the activity and discussion.

Each student will be responsible for answering the questions proposed by the discussion leader (whether me or a student) due in writing on the day that topic is presented.

A variety of other formats including exams, case studies, and several essays will also be used (see below).

Competency/Objective	Measurement Instrument	Measurement Standard
Historical/philosophical Context 1. Compare and contrast the Draper/White warfare metaphor, the Merton harmony thesis, and Gould's non-overlapping magisteria worldview for the interaction of science and religion. 2. Explain Barbour's taxonomy for science/religion interaction. And how Peacocke and Polkinghorne build on that interaction 3. Discuss 'ways of knowing' and contrast methodological naturalism with metaphysical naturalism.	1. a. professor-led presentation/discussion with response to questions from readings 1. b. exam/term paper 2. a. professor-led presentation/discussion with response to questions from readings 2. b. exam/term paper 3. a. professor-led presentation/discussion with response to questions from readings 3. b. exam/term paper	1. Student can explain the historical & social influences that cause tacit worldviews to develop (e.g. warfare, harmony, NOMA) and articulate why such facile positions are inadequate. She can formulate a personal position in contrast to these. 2. Student can identify which model a person is taking in light of Barbour's taxonomy. . . . including her own. 3. Student can identify what counts as valid and how that assumption affects her decision-making and worldview of 'how the world really works.'
Evolution and Christian Thought 4. Explain how human anthropology (origins) affects our view of Western Christian ideas on the 'Fall' in contrast with Orthodox (Eastern) views. Critique the various atonement theories in light of this evolutionary explanation. 5. Critique the various views of the mind-body problem in light of modern neuroscience and how these affect dualistic concepts of the 'soul' and Christian doctrine regarding resurrection of the body. 6. Discuss how evolutionary explanation exacerbates or ameliorates the theodicy problem. Critique the position that evolution is a 'gift to theology.' 7. Explain the role of Divine Agency in an evolutionary world.	4. a. professor-led presentation/discussion with response to questions from readings 4. b. exam/term paper 5. a. Student-led presentation/discussion with response to student-leader questions from readings 5. b. exam/term paper 6. a. Student-led presentation/discussion with response to student-leader questions from readings 6. b. exam/term paper 7. a. Student-led presentation/discussion with response to student-leader questions from readings 7. b. exam/term paper	4. Student can critique traditional ideas of 'original sin' in light of the evolutionary account of a population of hominids out of Africa and St. Paul's use of 'Adam' in his letters. She can relate this information to the various atonement theories. 5. Student can explain the neuroscientific findings as they impact philosophical views of traditional dualism, emergent dualism, non-reductive and reductive physicalism, and constitution views and relate these to resurrection doctrine. 6. Student can distinguish between determinism and freedom in light of evolution and contrast theologies based on omnipotence/omniscience with those based on openness; she can define how these affect God's culpability in light of kenotic theology and a suffering savior. 7. Student can critique Russell's ideas of quantum indeterminacy as affecting mutations that lead to theistic evolution and whether a 'God who acts' or a 'God who shares suffering' is preferable.
Ethics: Evolutionary and Christian Perspectives 8. Explain the biological rationale for how altruism arises and contrast this evolutionary explanation with the	8. a. Student-led presentation/discussion with response to student-leader questions from readings 8. b. exam/term paper 8. c. 'acts of kindness' journal	8. Student can relate information read to her own life to analyze whether she ever performs biologically unselfish acts or acts in ultimately self-serving ways. Student can identify motivations

Christian love command 9. Critique the position that evolution is without purpose and thus one cannot develop appropriate ethical positions with an evolutionary worldview. 10. Critique the Humean claim that one cannot derive ought from is and the naturalistic fallacy of Moore (<i>Principia Ethica</i> 1903) which people cite as warrants against evolutionary ethics. 11. Critique the position that the message of Christ's kenotic gospel is centered on social justice. Contrast this message with the evolutionary position of maximizing human flourishing. 12. Compare various ethical theories: Kantian, evolutionary, utilitarian, and virtue ethics positions in addressing end of life and beginning of life issues, genetic engineering, and reproductive technologies.	9. a. Student-led presentation/discussion with response to student-leader questions from readings 9. b. exam/term paper 10. a. Student-led presentation/discussion with response to student-leader questions from readings 10. b. exam/term paper 11. a. Group oral presentations from web-search of Amnesty International, Doctors Without Borders, Heifer International and Children's Fund to understand motivation of participants and donors. 12. a. professor-led in-class discussion of case studies and video scenarios 12. b. exam/term paper	based in empathy versus motivations based on payoffs. 9. Student can argue whether or not evolutionary philosophy <i>requires</i> non-purposeful language (dysteleology). If so, she can explain from where purpose arises and if such a view can generate ethical positions. 10. Student can argue if evolutionary processes have shaped human behavior and beliefs about right and wrong and if it is determined by those origins or if ethics is completely independent of <i>all</i> natural processes. 11. Student can articulate whether social justice is best done with a Christian perspective, if Christianity today is modeling a kenotic gospel and if non-Christian motivations are adequate and appropriate for delivering justice. 12. Student can articulate which ethical theory she prefers in addressing each case; but she can also explain the rationale for other outcomes in light of theories not her own.
Environment, Ecology and Care of Creation 13. Describe the attitude toward creation that a common reading of Apocalyptic literature provides and contrast this with views of God's people being co-creators. 14. Contrast traditional patriarchal/triumphalist models of God's relationship to creation with kenotic/suffering/redeeming/caring models. 15. Connect conservation of the environment with social justice considerations: limiting one's footprint in terms of reproductive priorities, resource use, service to others including the non-human arena in vocation or other activities.	13. a. Student-led presentation/discussion with response to student-leader questions from readings 13. b. exam/term paper 14. a. Student-led presentation/discussion with response to student-leader questions from readings 14. b. exam/term paper 15. a. professor-led in-class discussion of case studies and video scenarios 15. b. reflection paper 15.c. oral exam with professor	13. Student can critique the views captured in common readings of Apocalyptic scenarios with those of bona fide theologians like Phil Hefner and John Haught: <i>creatio continua</i> and creation as a sacrament. 14. Student can articulate the arguments of Sallie McFague for a model of God as mother/lover/friend of nature. 15. Articulation of a faith statement put into praxis of how student will conduct her life in light of what has been learned.

Course Outline

Historical/philosophical Context	Evolution and Christian Thought
Week 1 – Introduction; Competency 1 Week 2 – Competency 2 & 3	Week 3 – Competency 4 Week 4 - Competency 5 (student led) Week 5 – Competency 6 & 7 (student led)
Ethics: Evolutionary and Christian Perspectives	Environment, Ecology and Care of Creation
Weeks 6 & 7 – Competency 8, 9, & 10 (student led) Week 8 – Competency 11 Weeks 9 & 10 – Competency 12	Week 11 – Competency 13 (student led) Week 12 – Competency 14 (student led) Weeks 13 & 14 – Competency 15 Week 15 – Oral exam

Reading Materials and Course Resources

Course Reading Packet

There will be no textbook simply because no textbook in the field of science and theology interface has been developed. Consequently, I will draw upon the eclectic literature in the field to develop a set of reading each semester. The course reading packet will be selected from various chapters in the books (listed below) and will be on-line as PDF files. All the texts listed will be on reserve (or are available from the library). Not every book listed will be used in a given semester; they are all listed, however, to give you an idea of the variety of resources (arranged in context) for further developing your own papers. In addition, I will draw on papers from the primary literature (*Zygon, Perspectives on Science and Christian Faith, Science and Christian Belief, and Theology and Science*). Finally, I will place a number of books critical of science and theology interfaces on reserve from authors such as Dennett, Dawkins and Harris.

Historical/philosophical Context

General:

Bowler, *Reconciling Science and Religion*
 Ferngren, *Science and Religion: A Historical Introduction*
 Lindberg and Numbers, *When Science and Christianity Meet*
 Lindberg, *The Beginnings of Western Science*
 Plantinga, *Warranted Belief*
 Ruse, *Mystery of Mysteries: Is Evolution a Social Construction?*
 Toumey, *God's Own Scientists*

Competency 1: The historical perspective

Bowler, *Evolution, The history of an idea*
 Brooke, *Science and Religion*
 Lindberg and Numbers, *God & Nature*
 Wildiers, *The Theologian and His Universe*

Competency 2: Science/religion interaction models

Barbour, *Religion in an Age of Science* or Barbour, *Religion and Science* (expanded version of same)
 Barbour, *When Science Meets Religion*
 Gregersen & van Huystein, *Rethinking Theology and Science*
 Peacocke, *Theology for a Scientific Age*
 Polkinghorne, *Belief in God in an Age of Science*

Competency 3: Philosophy of Biology

Goldberg, *Seduced by Science: How American Religion Has Lost Its Way*
 Grene & Depew, *The Philosophy of Biology*
 Ratzsch, *Science and its Limits*
 Ruse, *Philosophy of Biology*

Evolution and Christian Thought

General:

Keith Miller (ed.), *Perspectives on an Evolving Creation*
 Kenneth Miller, *Finding Darwin's God*
 Haught, *God after Darwin*
 Haught, *Deeper than Darwin*
 Lamoureux, *Evolutionary Creation*
 Wiseman, *Theology and Modern Science*
 Ward, *Religion and Creation*
 Giberson, *Saving Darwin*
 Giberson and Yerxa, *Species of Origins*
 Samson, *God and Evolution?*
 Alexander, *Creation or Evolution*; idem, *Rebuilding the Matrix*
 Falk, *Coming to Peace with Science*
 Peters and Hewett, *Evolution from Creation to new Creation*
 Harrison, *Cambridge Companion to Science and Religion*
 Barton and Wilkinson, *Reading Genesis after Darwin*

Competency 4: Christian anthropology

Edwards, *The God of Evolution*
 Korsmeyer, *Evolution and Eden: Balancing Original Sin and Contemporary Science*
 Williams, *Doing Without Adam*
 Domning and Hellwig, *Original Selfishness*
 Berry and Noble, *Darwin, Creation, and the Fall*
 Brannan, "Darwinism and Original Sin" *Journal for Interdisciplinary Research in Science & Religion*
 Wiley, *Original Sin*

Competency 5: Neuroscience and the Soul

Newberg and Waldman, *How God Changes Your Brain*
 Corcoran, *Rethinking Human Nature*
 Brown and Murphy, *Whatever Happened to the Soul?*
 d'Aquili and Newberg, *The Mystical Mind*
 Newberg, d'Aquili and Rause, *Why God Won't Go away: Brain Science & the Biology of Belief*
 Russell et. al. (ed.), *Neuroscience and the Person*
 Peterson, *Minding God*
 Jeeves, *From Cells to Souls – and Beyond*

Competency 6: Evolution and Theodicy

Peterson, (ed.), *The Problem of Evil*
 Geivett, *Evil and the Evidence for God*
 Drees, *Is Nature Ever Evil?*
 Kreeft, *Making Sense out of Suffering*
 Myers, *The Problem of Evil and Suffering*
 Lewis, *The Problem of Pain*

Competency 7: Evolution and Divine Action

Ruse, *Darwin and Design*
 Russell, et al., *Quantum Cosmology and the Laws of Nature: Scientific Perspectives on Divine Action*
 Russell et al., *Evolutionary and Molecular Biology: Scientific Perspectives on Divine Action*
 Tracy, *The God Who Acts*
 Colling, *Random Designer*
 Manson (ed.), *God and Design*
 Haught, *Science and Religion in Search of Cosmic Purpose*

Ethics: Evolutionary and Christian Perspectives

General:

Degrazia, et. al. (eds.), *Biomedical Ethics* 7th edition
 Rolston, *Genes, Genesis, and God*

Competency 8: Reciprocity and cooperation vs. Christian Love Command

Clayton and Schloss, *Evolution and Ethics: Human Morality in Biological & Religious Perspective*
 Broom, *The Evolution of Morality and Religion*
 Brannan, "Evolutionary Explanation & the Ideal of Altruism" *European Journal of Science & Theology*

Competency 9: Ethics in a non-teleological world?

Penelhun, *Christian Ethics and Human Nature*
 Murphy and Ellis, *On the Moral Nature of the Universe*

Competency 10: Ought-is dichotomy and the Naturalistic Fallacy

Stamos, *Evolution and the Big Questions*
 Hume (on-line)
 Moore, *Principia Ethica*

Competency 11: Social Justice and Kenosis

Edwards, *The God of Evolution: A Trinitarian Theology*
 Murphy and Ellis, *On the Moral Nature of the Universe*
 Broom, *The Evolution of Morality and Religion*

Competency 12: Ethical Theories and Case Studies

Degrazia, et. al. (eds.), *Biomedical Ethics* 7th edition

Environment, Ecology and Care of Creation

General

General:
 Rolston, *Genes, Genesis, and God*

Competency 13: Created Co-creators & Stewards of Creation

Hefner, *The Human Factor: Evolution, Culture and Religion*
 García-Rivera, *The Garden of God: A Theological Cosmology*

Competency 14: Patriarchal Domination or Self-emptying Care-takers?

McFague, *Models of God*

Competency 15: Care of Creation as a Sacrament of Christian Praxis in Hope of the World to Come

des Jardins, *Environmental Ethics: An Introduction to Environmental Philosophy*
 Polkinghorne, *The God of Hope and the End of the World*

WEB-based materials:

Interviews with many of the authors listed:

<http://www.closetotruth.com/>

Rich resource sites:

<http://thankgodforevolution.net/>

<http://evolutionarytimes.org/>

<http://www.theclergyletterproject.org/>

<http://www.biologos.org/>

Science and Religion Groups:

<http://www.asa3.org/>

<http://www.cis.org.uk/>

<http://www.st-edmunds.cam.ac.uk/faraday/index.php>

<http://www.ianramseycentre.org/>

<http://www.aaas.org/spp/dser/>

REQUIRED ASSIGNMENTS AND GRADE WEIGHTS

Your grade in this class will be determined by:

- **Reading and Class Participation (10%)**
 - Read assigned materials for the topic prior to class and answer, in writing, the questions assigned by the discussion leader/presenter. Quizzes to assess your reading may be given as well.
 - Participate in the discussion (should be easy since you have already written answers to many, but not all, of the questions that could be asked!)
- **Presentation of Topic Assigned (you as Student-Professor!) (15%)**
 - The student will be Professor-of-the-Day! Teach the topic in whatever format you wish (lecture, PowerPoint, discussion, performance, group activity, and so on). Just be sure to cover points raised by your questions. There are eight competencies over 6 weeks with three slots per week to fill for at least 18 student presentations. You may have a partner if we have more than 18.
 - Develop questions for your assigned topic. Prepare at least two objective questions related to specific content and at least two that are more reflective (subjective or critical thinking). You may prepare up to six questions. Have these approved by me prior to handing them out.
- **Term Paper (25%)¹**
 - From the competencies listed and the reading related to that competency, form an idea you'd like to develop related to your own interests. Share that idea with me verbally within two weeks from the start of class.
 - Submit by mid-term, a 500-1000 word précis of your topic plus some key references and sources. Rely on primary literature and books (minimum of 5 sources). This will be critiqued, edited and returned to you for further work.
 - Submit by 2 weeks from end of term, a 2000-5000 word final paper. This will be accepted for 'publication' in the *ACU Journal of Theology and Science* (AJTS) depending on proper format (editing concerns, especially citation format) and content. Or, it will be returned to you for additional work. If you miss the deadline for publication, you will receive a grade but not have your paper in the journal.
- **Group Oral Presentation (10%)**
 - Twenty minute presentation can take any format needed to communicate what the group (3-4 students) has discovered about the biological origins of human motivations for giving which promotes social justice.
- **Exams (20%)**
 - Mid-term and final that asks straight-forward objective and knowledge-based questions over the material covered. Each exam is worth 10% of grade.
- **Reflection Paper (10%)**
 - 3 page (~1000 words) reflective paper where your growth and development as a writer from freshman to senior year is analyzed; topic is related to an issue which professionals in biology are currently debating. You are to examine the issue critically, take a position, and develop a reasoned argument in support of your position. Address your position paper to one or more members of a professional group who might also take a stand on the issue. This is assessed by an outside writing committee and me via a rubric developed by the Writing Across the Curriculum

¹ Obvious examples of topics will come from ethics arena: 'Feminist Views of Abortion Politics'; 'Utilitarian and Virtue Ethics Positions on End-of-Life Decisions'; 'Science and Ethics of Gender in Cryptic-gendered Neonates'; 'Physician-assisted Suicide in CVS Patients'.

Also the ecology area: 'Use of DDT in Malaria-infested Areas'; 'Family Planning as Christian Missions'; 'Sustainability or Recovery in Creation Care'; 'Compensation for New Resource Discovery in Native Lands'.

Other topics may be less obvious: 'The Doctrine of Atonement in Light of Evolution'; 'Is there a Christian Evolutionary Ethic?'; 'Is Nature Ever Evil?'; 'Concepts of the Soul in light of Neuroscience'.

You can even get really creative: 'How Religious Themes in Visual or Performing Arts or Literature Have Interpreted Darwinian Concepts since the Mid-nineteenth Century'; 'How Psychology and Social Science Have Integrated Darwinian Thinking to Explain the Spiritual or Religious Nature of Humans'. The topics chosen are endless. Get creative.

committee.

- **Inventory of Skills and Accomplishments (5%)**

- Effectively prepare a Curriculum Vitae outlining your scholarship (research and creative activities), accomplishments, co-curricular activities, service, leadership and internships. You may also include a cover letter providing examples of integrative thinking and knowledge of biology.

- **Acts of Kindness Journal (5%)**

- Yes, this exercise seems silly. However, it will surprise you how meaningful it can be. You are simply to record everyday any kind thing you did for someone else regardless of its motivation. You need to keep a record for at least five weeks during the semester (longer, up to 13 weeks is preferred). Every day, you simply list what you recall as something kind done for another. If you did not do anything kind that day, you say so. I will collect these 2 weeks before end of term. I will then inform you why I asked you to do this assignment.

ACADEMIC INTEGRITY

Violations of academic integrity and other forms of cheating, as defined in ACU's Academic Integrity Policy, involve the intention to deceive or mislead or misrepresent, and therefore are a form of lying and represent actions contrary to the behavioral norms that flow from the nature of Christ. While the university enforces the Policy, the most powerful motive for integrity and truthfulness comes from one's desire to imitate Christ in our lives. The full policy is available for review at <http://www.acu.edu/campusoffices/provost>.

BEHAVIOR/DRESS CODE

ANY behavior or dress that distracts other students from learning or me from enabling you to learn (e.g. provocative dress, hats indoors, talking or whispering during a quiz/test or lecture, cell phones, annoying personal habits, etc) will be warned personally, followed by a public admonition, and then dismissed from class with an F.

LEARNING DISABILITIES

If you have a *documented* disability and wish for academic accommodations, you must contact the *ACU Student Disability Services Office* (part of *Alpha Academic Service*) at x2667 to make an appointment with the Director of Disability Services. To receive accommodations, you must be registered with them. They will make the necessary arrangements.

Here is the prompt for your paper due _____. It must be from 750-1000 words.

"Biology education professionals are continuously faced with legislation attempting to dictate how they are to teach evolution, a central theme in biology. One of those dictates is that they must teach alternatives to evolution such as Intelligent Design. Examine the issue critically, take a position, and develop a reasoned argument in support of your position. Address your position paper to one or more members of a professional group who might also take a stand on the issue."

In order to help you get started, below are examples of recent legislation under consideration. You will need to research the debate a bit more (e.g. how valid is the claim that Intelligent Design is a scientific position). A good website to pursue is the court case adjudicated by Judge Jones in Dover, PA. You can find his judgment at:

http://www.pamd.uscourts.gov/kitzmiller/kitzmiller_342.pdf

Starting with p. 64 "Whether ID is Science" and focusing on his conclusion at p. 136, you can learn the legal precedent that Judge Jones used to reach his conclusion.

Also for background here are links describing fairly recent Anti-Evolution Bills in Three states
Posted: 17 Jan 2012 05:46 AM PST

"Intelligent design" bill in Missouri

<http://ncse.com/news/2012/01/intelligent-design-bill-missouri-007092>

"A second antievolution bill in Missouri"

<http://ncse.com/news/2012/01/second-antievolution-bill-missouri-007097>

... in Indiana:

"Creationist legislation in Indiana"

<http://ncse.com/news/2011/12/creationist-legislation-indiana-007001>

"Opposition to Indiana's creationist bill"

<http://ncse.com/news/2012/01/opposition-to-indianas-creationist-bill-007042>

... and ... in New Hampshire.

"Antievolution legislation in New Hampshire"

<http://ncse.com/news/2011/12/antievolution-legislation-new-hampshire-006996>

"Monitoring antievolution bills in New Hampshire"

<http://ncse.com/news/2011/12/monitoring-antievolution-bills-new-hampshire-007000>

Finally, here is additional information you may find useful. Hopefully this will help you adjudicate your own decision by seeing both sides.

Neither pro or con Judge Jones decision:

http://en.wikipedia.org/wiki/Kitzmiller_v._Dover_Area_School_District

Against Judge Jones decision:

<http://www.opposingviews.com/arguments/id-is-constitutional-and-has-educational-and-legal-merit>