

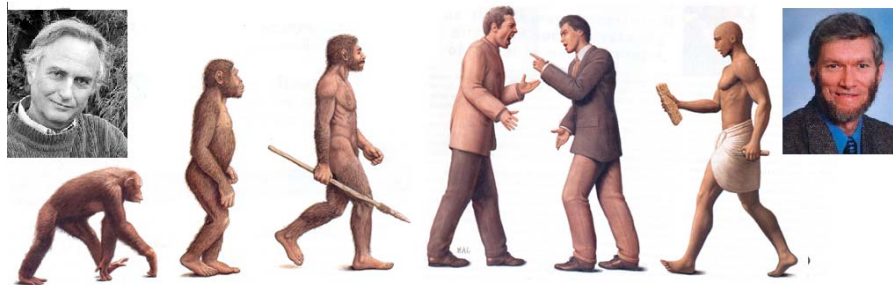
The Templeton Honors College at Eastern University Honors 203 - Theories of the Origin of Life - Spring 2010

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I can think of nothing more objectionable than the idea of science only for scientists.
It is almost as bad as art for the artists or religion for the priests. - Albert Einstein

Course Purpose:

The Neo-Atheist movement is obviously a prominent feature of the intellectual landscape of the 21 century. Central to their very public agenda is the assertion that modern science in general, and in particular the NeoDarwinian mechanisms of evolution, have invalidated “the God Hypothesis”. Further, they argue, these proven evolutionary mechanisms should henceforth shape the paradigms of all future studies in the humanities and social sciences. Such Neo-Atheist apologists use “Darwinism” to lay claim even to the human impulse to worship, in fact to explain all religious experience as ‘nothing but’ survival mechanisms. Their thesis is that undirected material mechanisms molded the human capacities for morality and compassion from the raw material of the selfish gene. They are also not shy about looking beyond our species. In Darwin’s name, they lay claim to all the order - or so-called ‘design’ - which humanity, through history, has perceived in the cosmos. Many Christian thinkers echo the same implications for evolutionary thought, likewise rejecting any possibility of rapprochement between science and religion. In the interest of retaining a coherent belief in the divine, the ‘orthodox’ theological strategy too often insists on denying any validity to “evolutionary” evidences – and instead, on clinging to the traditional understandings of the process of creation.



Between them, these two doctrinaire parties have laid out ‘the’ field of debate. Rational belief in the reality of God’s existence is to be dependent on the nature, strength and validity of the physical data of science. But it should be obvious to even the philosophically challenged that if God is thought to govern natural processes, arguments based on ‘evolutionary’ (nature’s) processes cannot exclude the real existence of universal and ultimate - Design, Beauty, Morality, Meaning, or Purpose. By logical necessity, if God governs nature’s processes, He is the inventor, artist, legislator, reference point and script writer of whatever nature produces.

The purpose of this course is to examine the common assumptions made by both sides in this debate and to reconcile the two. My thesis is that evolutionary mechanisms need bear no terrors for a consistently Biblical theist. Neither logic, nor doctrine, nor physical data need be transgressed or ignored within a concursus model of God's providential activity. The course will support this thesis of potential harmony through discussions in history, theology, and philosophy. Most critically, it will support the thesis through an analysis of the scientific data of current evolutionary biology.

Far from removing us from our transcendent roots, a theistic view of evolution can give significance meaning to the human struggle against evil, and to our search for significance in a spiritual cosmos. In this view termed concursus, "Evolution" becomes the arena in which the creature is enabled to become God's fellow workman, joining Him in the work of developing creation into the Kingdom of God. God has not created a world of clockwork, but a world of creatures which, by investigating the genetic gifts of God, work out their own destinies — a process otherwise known as random mutation and natural selection.

Acceptable Evolution: Statement from the Waterwheel: Nov. 2009

Can a Christian accept evolution? It depends on your definitions. Let's define a Christian as someone who believes that they are saved through the death on the cross of Jesus Christ, Son of the Most High God – the Creator. And let's define 'evolution' as the descent (with modification) of many diverse life forms from a common ancestor, caused by nature's mechanisms (such as genetic alterations and differences in survival). Whether a person can accept both propositions depends on whether they believe that God guides nature's mechanisms by His providential hand, or alternately whether they believe nature acts autonomously. If nature is assumed to be autonomous, either one must reject belief in God as Creator, or one must reject belief in the reality of nature. The first is the logical error of atheists like Richard Dawkins. In the second case, one must reject the reality of nature, because the physical data cannot possibly be reconciled with the predictions of the theories of special creation or a young earth. I am quite aware that lots of people disagree with that statement, but that is because they do not really know the shape of the data. Keep in mind that data is recorded, real observations – not their interpretation. Some data simply cannot be wished away, any more than cancer cells in a lymph node can be counted as unreal – just because cancer does not fit in with one's plans for the next five years. But the choice is not necessary. If one believes that nature is governed by God, nature's processes simply show God's providence at work. For such a person, therefore, evolution only describes how God chose to act in creation. Such a person can believe in the Savior and accept evolution. Rather than excluding God from nature, their view insists that He is always actively, imminently, intimately present – just as He is in their own lives. They can see God's hand at work in the evolutionary process, and praise His name for what He did. But there is no point in only bringing God in for the 'hard spots'. A doctrine of God's occasional presence is also a doctrine of His usual absence!

Course Outcomes: By the end of this course, students should be able to:

- Explain the process of “scientific investigation”.
- Distinguish scientific information from assumptions arising from an author’s worldview.
- Show why the necessary assumptions of modern science reflect Christian roots.
- Explain why science is a legitimate and necessary activity for Christians.
- Be knowledgeable about the spectrum of interpretive frameworks by which Christians have sought to integrate science and the Scriptures.
- Evaluate the scientific and Scriptural evidence bearing on how God made the living creatures of the earth, including humanity.
- See the spiritual significance in God’s choice of methods to create the world of life and humanity.

Required Texts:

God and Evolution, A Faith Based Understanding **G&E**
by David L. Wilcox, Judson Press, ISBN 081701474-8

Evolution: The Remarkable History of a Scientific Theory **Lars**
by Edward J. Larson ISBN 0679642889

Life’s Solution: Inevitable Humans in a Lonely Universe **Mor**
by Simon Conway Morris ISBN 0521827043

When Science and Christianity Meet **L&N**
ed by. David C. Lindberg & Ronald L Numbers, The University of Chicago Press,
ISBN 022648214-6

The Language of God **Col**
by Francis S. Collins, Free Press, ISBN 0-7432-8639-1

Readings on Blackboard – Notably, selections from
Richard Wright’s *Biology Through the Eyes of Faith* & **RW**
David Wilcox’s *15 Theses on Theology’s Door.* **15T**

WEB:

History of Science - <http://www.unh.edu/history/golinski/file6.html>
The Controversy – <http://biologos.org/>

Grading:

The grading for this course will be based upon the in-class tests,
papers, and a readings and reactions on-line ‘question / journal’.

- 2 in-classes tests (inc final) - 30%
- 2 in-class quizzes - 10%
- 3 papers - 45%
- Submitted reaction questions - 15%

Papers:

There are three research papers (4-6 pages each) required for this course. Each will count 15% towards the final letter grade. I recommend scientific footnoting (all at the end of the paper).

The first paper is to focus on a person who made significant contributions in the development of modern science. Concentrate on people who pointed the way in biology. The paper should briefly recount their lives, what they contributed, and why it was vital to the development of biological science. You might pick one whose findings or theories intrigue you, and delve more deeply into their lives. You must obtain my approval for the people for whom you wish to research.

The second paper will be to evaluate some aspect of the evolution versus creation / intelligent design / blind watchmaker controversies. Evaluate the history of this controversy - analyze and critique the proposals made by one of the protagonists, etc. But you may not write this paper as an argument for one of the positions. Stand outside the argument; critique it as an 'outsider'.

The focus of the third paper is on current research involved with some particular problem related to human origins. In it you will discuss the issue, the data, and its ramifications at some length. As in the first paper, the professor must first clear the topics for the second and third papers.

The due dates for these two papers (see the @ symbol in the Outline of Topics) are: Paper I (Person): Feb. 15th; Paper II (E/C Controversy): Mar. 19th; Paper III (Human Research): Apr. 19th.

Question Submission:

To help you think through the material ahead of time - each day you must email me two thought provoking questions related to the next day's readings. A good question should be thought provoking and can difficult to answer — even for me. And there are no rewards for agreeing with me, so take whatever shots you like. Science lives and grows on debate. Look for key issues in the reading (including its thesis, if it has one), identify points worth remembering, and raise questions that would be interesting starting points for class discussion. Aim one question at me, and aim the other at your classmates. Or, rather than a question, you may write a response to the ideas from my previous lecture or to a question from a classmate. The questions will help to focus our discussion each day. I will compile these into a single file, respond to questions, and post the file each day on blackboard. (But this means I do need some 'prep' time, so your questions or responses are due the previous day - by email. In other words – submit your questions on Sunday, Tuesday and Thursday. You may not turn in questions late, nor will I count more than 2 on any given day. (You can't catch up in a great burst of activity). But I'll give you some leeway — I'll only count the questions for 32 days. If you only turn

in 24 days worth, (48 questions or responses) that's 75% of the points for 'questions'.

Grading Scale:

The following scale will be used to determine your course grade.

98% and up	A+ ;	83%-87%	B;	68%-69%	D+
93%-97%	A;	80%-82%	B;	63%-67%	D
90%-92%	A-;	78%-79%	C+;	60%-62%	D-
88%-89%	B+;	73%-77%	C;	Below 60%	F
		70%-72%	C-		

Course Policies:

In general, late work will not be accepted!! (Assignments will be docked 10% for each day late). You are expected to attend class regularly, *on time and prepared-* to enter into a discussion of the assigned reading or activities.

If a student misses more than two weeks' worth of class (6 classes), regardless of reasons, his/her grade will be lowered one full letter grade. If you are absent, you are expected to get notes, announcements, etc. from a classmate. If you are absent for an exam or a quiz, you will only be allowed a make-up if you have contacted the instructor in advance and received permission to take the exam on an alternative date.

Essays and papers will either be typed or done on a word processor / computer. In all cases, papers are to be double spaced, font size 12, margins no more than an inch (all sides). At my discretion, a paper may be returned to you for reworking and resubmission by a stated deadline. Such papers must be resubmitted to be graded.

All University policies pertaining to academic dishonesty, drop/add procedures, and grade appeal should be followed by students enrolled in this course. Please consult the undergraduate catalog regarding these policies.

If you have any documented special educational needs, you are encouraged to work with the Cushing Center for Counseling and Academic Support to prepare a written request for the accommodations you need in this course. In order to receive a request for this course, the professor must receive a written request from CCAS at the beginning of the course, or as soon as the disability is diagnosed.

Outline of Topics

Part 1: The Nature of Science – Authority and Method

Jan 11: General Introduction to the course

Jan 13: Intro: The problem of Evolution
Read – Syllabus; G&E-1; Col-1;

Jan 15: Intro: Science – a way of knowing - reality versus world-view –
common sense or transcendent knowledge?
Read – RW-2; G&E-2

Jan 20: The methods of science (1) – observation, finding data, identifying
patterns, statistical verification
Read – RW-3

Jan 22: The methods of science (2) – explanation, prediction and testing
Read – RW-3

Jan 25: The methods of science (3) – paradigms, research programmes and
epistemes
Read – 15T-1

Jan 27: The limits of science (4) - questions of perceptions, interpretations
and values. Methods of pseudoscience versus those of true science
Read – Col-2

Jan 29: The limits of science (5) - Theology and science - Interpreting nature
versus interpreting scripture -- Literalism & interpretation – gut feeling /
original context? –
Read – G&E-3

---Part 2: The History of Science?--- From Babylon to Boston

Feb 1: Ancient roots – Was the knowledge of the ‘ancients’ science? What
about astronomy? Technologies vs. cosmologies – what versus why.
Read – Blackboard – Web- <http://www.unh.edu/history/golinski/file6.html>

Feb 3: The Path from Chaos: Thales & Plato – Did science start in ancient
Greece? Reason, Law, Matter & Chaos - logic vs. method
Read – Blackboard

Feb 5: The Path from Chaos: The Hellenistic world encounters / embraces
Christianity. The Augustinian consensus, Ptolemy & the medieval cosmos
Read – L&N-1

Feb 8: The path to modern science – late medieval philosophy & theology – Thomism versus Nominalism; Renaissance versus Reformation
Read - L&N-3 ; Lars-1

Feb 10: The path to modern science - New Science -- in the church or versus the church? The “traditional” (mis)understanding – The Galileo case
Read – L&N-2; Col-3; Mor-5

Feb 12: Conflict or consensus? – new geology, ancient earth –science or religion? Changing views in theology -- 19th century to today.
Read – L&N-5,6; Lars-2

Feb 15: Enlightenment & the Naturalism movement. Natural theology versus Positivism - Science versus scientism
Read – Lar-4; L&N-4
@ Paper 1 due

Part 3: Enter Darwin: Controversy in Science – Origins and Essences?

Feb 17: The Devil’s Chaplin? Darwin in situ – 19th century order and disorder, God and Darwin - Roots of the evolution creation controversy.
Read – Lar-3; G&E-5; Col-4

Feb 19: Understanding Darwin’s Theory. The logic and data of selection and species formation
Read – Lar-6,7; G&E-8; Col-4

Feb 22: Reactions to Darwin as Englishman & scientist - contemporaries in science and theology
Read – L&N-8; Lar-5

Feb 24: Darwinism as a club –Naturalism and the ongoing warfare myth – *The Blind Watchmaker* , for instance.
Read – Lar-8

Feb 26: Midterm

Spring Break

Part 4: Reacting to Darwin: Controversy between Theology & Science

Mar 8: History of Creationism - On the side of the angels’?
God’s own scientists?
Read – Lar-9,10

Mar 10: Analysis of the origins conflict - Getting it right & wrong on both sides
Read – Col-7-10

Mar 12: PBS Video -What about God? – What's a good Christian to do??
Read – Lar-11

Mar 15: Questions of Design: God did it, but how?? - Natural theology
and intelligent design
Read – Lar-12; G&E-6

Mar 17: Real science: Special creation vs. Neo-Darwinism—making predictions
Read – 15T-2

Mar 19: Real science: Special creation vs. Neo-Darwinism – evaluating
evidences, drawing conclusions
Read – G&E-10

@: Paper 2 due:

Part 5: Debating Darwinism: Contingence vs. Convergence

Mar 22: The nature of life itself
Read – Mor-1, 2

Mar 24: The genetic code – life encoded
Read – Col-4

Mar 26: The origin of life – life composed
Read – Mor-3,4

Mar 29: Convergence - life on the road(s)
Read - Mor-6,7

Mar 31: Evolution bound – life constrained
Read – Mor-8,10

Apr 7: Humanoids - life consummated
Read- Mor-9

Apr 9: Evolution and Theology - the meaning of life
Read- Mor-11

Part 6: Case Study and Application – Adam and / or the Cave Man

Apr 12: Cosmology, Paleoanthropology & Theology. Introductory questions.
Read – G&E – 13; 15T-2

Apr 14: Predicting the Bones - the hominid fossil record
A 'Lab' Exercise in Data, Patterns, Theories and Paradigms
Read – 15T-3

Apr 16: Predicting the Genes (and chromosomes) - connections to the apes
Read – 15T-4; Col-5

Apr 19: Predicting Eve - **Video**: Mitochondrial Eve –Tracing your ancestors
via the genetic time machine. Adam & Eve, where / when are you?
Read – 15T-5
@: Paper 3 due

Apr 21: Predicting rational minds - stones & beads and symbolic thought
Read – 15T-6

Apr 23: Resolution for theology & science - options for Adam & implications
Read – 15T-7?

Apr 26: Resolution - Doing Christian Scholarship. Connecting the pieces
from God's 2 books – Reconciling theology and science – Walking by faith,
finding truth.
Read – G&E-14

An intelligent Christian living in an era dominated by science should be able to:

- Distinguish between science and technology.
- Be able to define the relationship between facts and theories.
- Explain the concept of probability as it applies to scientific data and theories.
- Differentiate between a scientific question and a non-scientific one.
- Discuss how facts and theories are incorporated into scientific models.
- Describe how scientific disputes are adjudicated by scientists.
- Identify the presuppositional biases in selected scientific theories.
- Identify some of the sources of presuppositional biases among scientists.
- Recognize the need to understand your own world-view in relation to other person's interpretive frameworks.
- List and differentiate the different models of God's relationship with Creation (nature).
- Explain why it is legitimate for some Christians to study Nature/Creation.
- Compare the meanings of "scientific truth" and "revealed truth".
- Describe the appropriate relationship between Christian theology (theologies) and scientific theory (theories).
- Outline the history of the interaction between the institutional church and centers of scientific research.
- Identify the interrelationships between science and technology.
- Identify different types of values competing in science and in the application of technology.
- Describe examples of the influence of societal and cultural values on science and technology.
- Establish criteria to evaluate the impact of a particular scientific achievement or technological artifact.
- Show how the concept of creation dominion works itself out in terms of appropriate technological development.
- Apply evaluative criteria to a particular science/technology issue.
- Identify examples of science and technology in "everyday" life and discuss some of the values involved.
- Outline the values involved in the specific case study (human evolution)

Questions to put to readings about Science

- What is the relationship between "facts" (data) and theories in this reading?
 - What are the assumptions of the scientific theories in this reading?
 - Identify some of the sources of these assumptions.
- Describe the relationship shown in this reading between Christian theologies & scientific theories. Relate the data discussed -- to accepted "scientific truth" and to accepted "revealed truth".
- For historical discussions – relate answers to the era. :
 - What understandings of God's relationship to Creation (nature)?
 - Relationships - Institutional church & centers of scientific research?
 - New discoveries and new technologies?