

**From Ape to Madonna:
The Evolution of Humankind
IDIS 294**

Instructor: Dr. Frank T. Kuserk
305 Collier Hall of Science
Office: (610) 861-1429; Home (215) 368-2593
e-mail: kuserk@moravian.edu
Office Hours: MWF 10:00 AM-11:00 AM or by appointment

Classroom: 335 Pricilla Payne Hurd Academic Complex
MWF 4 (11:30 AM-12:20 PM)

Course Description: One of the most profound questions that humans beings can ask of themselves has to be, "Where do we come from?" This course will deal with the historical and comparative bio-anthropology of our species, looking at humans as members of the animal kingdom, focusing on the attributes shared with our primate relatives, and exploring the origins of uniquely human attributes. Using the approaches of evolutionary biology, physical anthropology, and archaeology, this course traces human physical evolution and cultural development from its earliest beginning, more than five million years ago, to about 15,000 years ago, just before the beginnings of plant and animal domestication and the rise of complex societies. In addition, this course will pay special attention to the impact that evolutionary ideas have had on social, political, and educational issues in American life. *This course satisfies the Social Impact of Science (U1) requirement within the LinC curriculum.*

Course Objectives: Upon completion of this course students will be able to demonstrate:

- 1) Knowledge of basic concepts of evolutionary biology, including the processes of genetic change, natural selection, and speciation
- 2) Awareness of the historical development of evolutionary ideas, including Darwinism, the Modern Evolutionary Synthesis, and contemporary evolutionary theory
- 3) Understanding of the major scenarios of human evolution from origins to the present
- 4) Awareness of the impact that evolutionary ideas have had on the social, political, and legal history of the United States
- 5) Ability to make a distinction between scientific and nonscientific theories, generate scientific arguments, and support them with appropriate examples or scientific justifications
- 6) Knowledge of and ability to apply the scientific process
- 7) Competence in writing and oral communication of scientific issues

- 8) Ability to integrate concepts within and among science and non-science disciplines
- 9) Understanding of the relevance of evolutionary biology to modern society

Required Texts: Baker, Catherine and James B. Miller (eds.). 2006. *The Evolution Dialogues: Science, Christianity, and the Quest for Understanding*. American Association for the Advancement of Science, Washington, DC.

Larson, Edward J. 2004. *Evolution: The Remarkable History of a Scientific Theory*. The Modern Library, NY.

Zimmer, Carl. 2005. *Smithsonian Intimate Guide to Human Origins*. HarperCollins Publishers, NY.

Grading: The grading system is as follows:

A	=	93-100	C	=	73-76
A-	=	90-92	C-	=	70-72
B+	=	87-89	D+	=	67-69
B	=	83-86	D	=	63-66
B-	=	80-82	D-	=	60-62
C+	=	77-79	F	=	59 and below

Lecture Exam 1	100 points
Lecture Exam 2	100 points
Final Exam	100 points
Research Paper	100 points
Reflection Essay	100 points
Discussion & Questions	150 points
Class Attendance	<u>100 points</u>
	750 points

Class Attendance: It is my experience that students who do poorly in this course are those who miss an excessive number of class meetings. Therefore, I will keep a record of class attendance that will be worth 100 points toward your final grade. **Your first two class absences will not count against you.** After that each absence will reduce your attendance grade by a proportional amount. For example, if you complete the term with no more than two absences you will earn all 100 points. If after that you miss 10% of the classes you will earn 90 points; miss 20% and you will earn only 80 points, etc. It is in your best interest, therefore, to attend and participate in class. **An absence on an examination day will require either prior permission or a suitable excuse from the Health Center or Dean of Students Office before a make-up is given.**

Academic Honesty: Moravian College's policies on academic honesty and disruptive course-related student behavior can be found in the 2006-2007 Student Handbook. It is assumed that each of you has read and understands these policies and the consequences of violating them.

**Course Schedule
Spring 2007**

Week 1 (1/17 to 1/19): The Process of Evolution: The Rise of Darwinism

- A. Pre-Darwinian Views of Nature
- B. Charles Darwin (1809-1882)

Week 2 (1/22 to 1/26): The Process of Evolution: Darwinism, Neo-Darwinism, and Modern Evolutionary Thought

- A. Darwinian Evolution
- B. Mechanisms of Inheritance and the Eclipse of Darwinism
- C. The Modern Evolutionary Synthesis (Neo-Darwinism)

Week 3 (1/29 to 2/2): The Scientific Background to Human Evolution: Fossils, Species & Molecules

- A. Fossils, Fossilization, and Radiometric Dating Methods
- B. Systematics and Phylogeny
- C. Fundamentals of Molecular Biology

Week 4 (2/5 to 2/9): The Scientific Background to Human Evolution: Primates

- A. Our Primate Heritage

EXAM 1: MONDAY, FEBRUARY 12 (Charles Darwin's 198th Birthday!)

Week 5 (2/14 to 2/16): Hominid Beginnings: Walking Upright

- A. Hominid Precursors
- B. The First Hominids and the Origin of Bipedalism

Week 6 (2/19 to 2/23): Hominid Beginnings: Using Tools

- A. The Australopithecines
- B. The Emergence of *Homo* and Early Tool Technologies

Week 7 (2/26 to 3/2): The Origin of Modern Humans-Out of Africa

- A. *Homo erectus*: Out of Africa I
- B. New Technologies and New Worlds

Week 8 (3/5 to 3/9): No class-Spring Break

Week 9 (3/12 to 3/16): The Origin of Modern Humans-The Rise of *Homo sapiens*

- A. Origin of Modern Humans: Multiregionalism vs. Mitochondrial Eve
- B. *Homo sapiens*: Out of Africa II

Week 10 (3/19 to 3/23): The Origin of Modern Humans-Who are the Neandertals?

- A. Neanderthals: Cousins or Not?
- B. The Archeology of Modern Humans
- C. Language and Modern Human Origins
- D. Symbolism and Images: Art in Prehistory

Week 11 (3/26 to 3/30): The Origin of Modern Humans-Race, Sex, and Other Behaviors

- A. Are Human Races for Real?
- B. Males, Females and Sex
- C. Hunters, Scavengers...or Cannibals?

EXAM 2: FRIDAY, MARCH 30

Week 12 (4/2 TO 4/4): The Social Impact of Evolutionary Ideas: The Rise of Fundamentalism

No Class on Friday, April 6 – Easter Break

- A. Religion, Evolution, and American Life in the Early 20th Century
- B. Scientific Creationism, The Scopes Trial, and Public Education

Week 13 (4/11 to 4/13): The Social Impact of Evolutionary Ideas: The Scopes Trial
No Class on Monday, April 9 – Easter Break

- A. The Legacy of the Scopes Trial
- View and Discuss: *Inherit the Wind* (1960)

Week 14 (4/16 to 4/20): The Social Impact of Evolutionary Ideas: After Scopes

- A. New Science Standards
- B. The Rise of Scientific Creationism
- C. The Challenge of Intelligent Design

Week 15 (4/23 to 4/27): Science, Evolution, and Religious Faith: The Two Magisteria

- A. What Religion Says About Science
- B. What Science Says About Religion
- C. Can Science and Religion Be Reconciled?
- D. Personal Reflections on Science, Faith, and Human Origins

FINAL EXAM: DATE, TIME AND PLACE TO BE ANNOUNCED