

**From Ape to Madonna:
The Evolution of Humankind
IDIS 217**

Instructor: Dr. Frank T. Kuserk
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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 legal 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
Lecture Exam 3	100 points
Lecture Exam 4 (Final Exam)	100 points
Reflection Paper	150 points
Discussion Questions & Class Participation	150 points
Class Attendance	<u>100 points</u>
	800 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 (e.g. 100% attendance = 100 points; 90% attendance = 90 points; 80% attendance = 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 a physician, 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 2007-2008 Student Handbook. It is assumed that each of you has read and understands these policies and the consequences of violating them.

**Course Schedule
Spring 2008**

Week 1 (1/14 to 1/18): The Process of Evolution: The Rise of Darwinism

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

Readings: Larson, Chapters 1-4

Week 2 (1/23 to 1/25): The Process of Evolution: Darwinism, Neo-Darwinism, and Modern Evolutionary Thought

No class on 1/21—MLK Day

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

Readings: Larson, Chapters 5, 7, 10

Week 3 (1/28 to 2/1): The Scientific Background to Human Evolution: Fossils, Radiometric Dating & Biosystematics

- A. Fossils, Fossilization, and Radiometric Dating Methods
- B. Systematics and Phylogeny

Week 4 (2/4 to 2/6): The Scientific Background to Human Evolution: Molecular Biology

- A. Fundamentals of Molecular Biology

EXAM 1: FRIDAY, FEBRUARY 8

CHARLES DARWIN'S 199TH BIRTHDAY: TUESDAY, FEBRUARY 12

Week 5 (2/13 to 2/15): Hominid Beginnings: Walking Upright

- A. Our Primate Cousins
- B. Hominid Precursors

Week 6 (2/18 to 2/22): Hominid Beginnings: Walking Upright

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

Readings: Larson, Chapter 6

Week 7 (2/25 to 2/29): The Origin of Modern Humans-Out of Africa

- A. The Emergence of *Homo* and Early Tool Technologies
- B. *Homo erectus*: Out of Africa I
- C. New Technologies and New Worlds

EXAM 2: FRIDAY, FEBRUARY 29

Week 8 (3/3 to 3/7): No class-Spring Break

Week 9 (3/10 to 3/14): 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 (3/17 to 3/19): The Origin of Modern Humans-Who are the Neandertals?

No class on 3/21—Easter Break

- 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 3/28): The Origin of Modern Humans-Race, Sex, and Other Behaviors

No class on 3/24—Easter Break

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

EXAM 3: MONDAY, MARCH 31

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

- A. Social Darwinism & Eugenics

Readings: Larson, Chapters 8

Week 13 (4/7 to 4/11): The Social Impact of Evolutionary Ideas: The Scopes Trial

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

Readings: Larson, Chapter 9

Week 14 (4/14 to 4/18): The Social Impact of Evolutionary Ideas: After Scopes

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

Readings: Larson, Chapter 11

Week 15 (4/21 to 4/26): Science, Evolution, and Religious Faith

- 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

Readings: Larson, Chapter 12

FINAL EXAM: DATE, TIME AND PLACE TO BE ANNOUNCED