

Semester at Sea, Course Syllabus  
Colorado State University, Academic Partner

**Voyage:** Fall 2016

**Discipline:** Physical Anthropology

**Course Number and Title:** ANTH 120: Human Origins and Variation

**Division:** Lower

**Faculty Name:** Alexander J. Martín

**Semester Credit Hours:** 3

## **COURSE DESCRIPTION**

This course examines the evolutionary history of humans by evaluating three lines of evidence; comparative primate anatomy and behavior, the human fossil record, and the paleolithic archaeological record. In addition, human adaptation and variation will be examined from the perspective of today. Of critical importance to these themes is an understanding of the biological basis of human culture. We first learn about the general mechanisms of evolution and genetics. We then use that as the basis to understand primate biology, behavior, and evolutionary history. We then examine the hominin fossil record to identify the first appearance of traits, biological and behavioral, that are important to the eventual appearance of our species, homo sapiens. Finally, we explore human biological variation around the world, and the ways by which humans have adapted to various environmental contexts. To this end we will be aided by our port visits, which will give us the opportunity to see examples of many of these processes first-hand and enrich our understanding of how our daily lives are influenced by our own unique evolutionary history and biology.

## **LEARNING OBJECTIVES**

Throughout the semester we will be working towards achieving various goals. By the end of this course, you will be able to:

1. Discuss evolutionary theory from a biological perspective.
2. Apply the principles of evolutionary theory to describe the natural world.
3. Identify the morphological and behavioral similarities and differences of each primate group including hominids and humans.
4. Outline the past seven million years of hominid evolution.
5. Evaluate the progression of human evolution through the examination of modern human variation and adaptation.
6. Evaluate the degree to which biology or culture play a role in how humans behave.
7. Evaluate whether or not humans are still evolving, and how.

## **REQUIRED TEXTBOOKS**

**AUTHOR:** Boyd, Robert and Joan B. Silk

**TITLE:** *How Humans Evolved*

**PUBLISHER:** W.W. Norton & Company, New York.

**ISBN #:** 978-0393936773

**DATE/EDITION:** Seventh Edition

## TOPICAL OUTLINE OF COURSE

Depart Hamburg—September 10

### **A1—September 12:**

TOPIC: Adaptation by natural selection.

READING: Chapter 1

### **A2—September 14:**

TOPIC: Genetics. How do the mechanics of evolution work?

READING: Chapter 2

### **A3—September 17:**

DOCUMENTARY: “Dogs Decoded” (NOVA).

ASSIGNMENTS: Microevolution exercise handed out.

Piraeus—September 19-23

### **A4—September 24:**

TOPIC: The modern synthesis.

READING: Chapter 3

ASSIGNMENTS: Microevolution exercise due.

Civitavecchia - September 26-28

Livorno - September 29-30

### **A5—October 1:**

DOCUMENTARY: “Decoding Immortality” (SMITHSONIAN CHANNEL).

Barcelona—October 3-7

### **A6—October 8:**

TOPIC: Speciation and Phylogeny. How are new species created? How are they defined?

READING: Chapter 4

ASSIGNMENTS: Speciation exercise handed out.

Casablanca—October 10-14

### **A7—October 15:**

TOPIC: Section I class discussion and review.

ASSIGNMENTS: Speciation exercise due.

### **A8—October 17:**

TOPIC: Primate Diversity and Ecology

READING: Chapter 5

**A9—October 19:**

TOPIC: Primate Mating Systems. What is “sexual selection” and how does it differ from “natural selection”?

READING: Chapter 6

Dakar—October 21-24

**October 21, Field Class:** Reserve de Bandia

**A10—October 25:**

TOPIC: The Evolution of Cooperation. Why do we do good things for others? Are there altruists in the animal kingdom?

READING: Chapter 7

**A11—October 27:**

TOPIC: Primate Life Histories and the Evolution of Intelligence. How does our brain fit into our own unique evolution?

READING: Chapter 8

No Classes—October 28

**A12—October 30:**

TOPIC: Field class and section II discussion.

ASSIGNMENTS: Field class assignment due.

Salvador—November 1-6

**A13—November 7:**

MIDTERM EXAM

**A14—November 9:**

TOPIC: From tree shrew to ape.

READING: Chapter 9

**A15—November 11:**

TOPIC: From Hominoid to Hominin.

READING: Chapter 10

Port of Spain—November 13-14

**A16—November 15:**

TOPIC: Oldowan Toolmaker and the origin of the human life history.

READING: Chapter 11

**A17—November 17:**

TOPIC: From Hominin to *Homo*.

READING: Chapter 12

No Classes—November 18

**A18—November 20:**

TOPIC: Section III class discussion and review.

Callao—November 22-26

**A19—November 27:**

TOPIC: *Homo sapiens* and the evolution of human behavior.

READING: Chapter 13

**A20—November 29:**

TOPIC: Human genetic variation and diversity.

READING: Chapter 14

Guayaquil—December 1-4

**A21—December 5:**

DOCUMENTARY: “Journey of Man: A Genetic Odyssey” (PBS).

ASSIGNMENTS: Diversity exercise handed out.

**A22—December 7:**

TOPIC: The evolution of human behavior.

READING: Chapter 15

ASSIGNMENTS: Diversity exercise due.

Puntarenas—December 9-13

**A23—December 14:**

TOPIC: Human mate choice and parenting.

READING: Chapter 16

**A24—December 16:**

TOPIC: Section IV class discussion and review.

Study Day—December 18

**A25—December 19; A Day Finals**

FINAL EXAM

San Diego—December 22

## FIELD WORK

**Remember that Field Class attendance is mandatory for all students enrolled in this course. Do not book individual travel plans or a Semester at Sea sponsored trip on the day of your field class.** Field Classes constitute at least 20% of the contact hours for each course, and will be developed and led by the instructor.

### *Exercises and class discussions*

Several class exercises will ask students to use experiences from port visits to illustrate specific evolutionary concepts through short essay format. Likewise, periods of class discussion have been designated so that we can talk about the different places we visit and how they relate to particular behavioral and evolutionary processes learned in class.

### *Field class and assignment (Reserve de Bandia, October 21<sup>st</sup>- Dakar, Senegal)*

Additionally, we will have the opportunity to visit the Reserve de Bandia in Senegal to see primates in their natural habitat. During this trip, we will review specific details about primate group structure and behavior, as well as learn how researchers document those behaviors in the field. The information gathered during this trip will be used to put together a field class assignment that uses actual field information to support several of the theories discussed in class.

## METHODS OF EVALUATION

1) Exams.....	60%
Mid-Term 30%	
Final Exam 30%	
2) Exercises (10% each).....	30%
3) Field Class Assignment.....	10%

### *Exams*

Two exams will be given during the course of the semester that will test students on the information provided in readings, class discussions, and lectures. Each exam will be a combination of multiple choice, short answer, and fill-in-the-blank. Exams will be non-cumulative.

### *Exercises*

Together, three short essays that draw upon each student's port visits constitute 30% of the grade.

### *Field Class Assignment*

One field class assignment in which students will have the opportunity to describe a behavioral or evolutionary process learned in class for a primate species visited on port will constitute 10% of the grade.

## GRADING SCALE

The following Grading Scale is utilized for student evaluation:

A+	97% and above	Excellent
A	93-96%	Excellent
A-	90-92%	Good
B+	87-89%	Good
B	83-86%	Good
B-	80-82%	Satisfactory
C+	77-79%	Satisfactory
C*	70-76%	Satisfactory
D*	60-69%	Poor, but passing
F	59% and below	Failure

\*C-, D+ and D- grades are not assigned at CSU. Pass/Fail is not an option for Semester at Sea coursework.

Handing in exercises late will result in losing 10% for each day.

## ATTENDANCE/ENGAGEMENT IN THE ACADEMIC PROGRAM

Attendance in all Semester at Sea classes is mandatory. Students must inform their instructors prior to any unanticipated absence and take the initiative to make up missed work in a timely fashion.

## UNION SEMINARS

Faculty members on the Fall 2016 Voyage will present on various academic topics during the evening Union Seminars, held during sea days. These topics will present relevant cultural information in various disciplines, depending on the location on the itinerary. Students are encouraged to attend at least one of these sessions, relevant to the academic topic of this course.

## LEARNING ACCOMMODATIONS

Semester at Sea provides academic accommodations for students with diagnosed learning disabilities, in accordance with ADA guidelines. Students who will need accommodations in a class, should contact ISE to discuss their individual needs. Any accommodation must be discussed in a timely manner prior to implementation. A memo from the student's home institution verifying the accommodations received on their home campus is required before any accommodation is provided on the ship. Students must submit this verification of accommodations pre-voyage as soon as possible, but no later than July 19, 2016 to [academic@isevoyages.org](mailto:academic@isevoyages.org).

## STUDENT CONDUCT CODE

The foundation of a university is truth and knowledge, each of which relies in a fundamental manner upon academic integrity and is diminished significantly by academic misconduct. Academic integrity is conceptualized as doing and taking credit for one's own work. A pervasive attitude promoting academic integrity enhances the sense of community and adds value to the educational process. All within the University are affected by the cooperative commitment to academic integrity. All Semester at Sea courses adhere to this Academic Integrity Policy and Student Conduct Code.

Depending on the nature of the assignment or exam, the faculty member may require a written declaration of the following honor pledge: "I have not given, received, or used any unauthorized assistance on this exam/assignment."

## **RESERVE BOOKS AND FILMS FOR THE LIBRARY**

### *Documentaries:*

TITLE: Dogs Decoded  
AUTHOR: NOVA

TITLE: Decoding Immortality  
AUTHOR: Smithsonian Channel

TITLE: Journey of Man: A Genetic Odyssey  
AUTHOR: PBS

Read an academic text about how humans evolved language to practise and improve your reading skills. Do the preparation task first. Then read the text and do the exercises. Preparation. Reading text. A. Thanks to the field of linguistics we know much about the development of the 5,000 plus languages in existence today. We can describe their grammar and pronunciation and see how their spoken and written forms have changed over time. Wanting to understand who we are, where we come from and how we evolved is part of what makes us human. This an exciting time to be examining human evolution. Intriguing fossil and archaeological discoveries, combined with innovative techniques and DNA research, are transforming scientists' understanding of our ancient past. We now know of more than 20 hominin species that are part of our family tree. At least half of these species are based on fossils unearthed in the last 30 years. Human evolution is about the origin of human beings. All humans belong to the same species, which has spread from its birthplace in Africa to almost all parts of the world. Its origin in Africa is proved by the fossils which have been found there. The term 'human' in this context means the genus Homo. However, studies of human evolution usually include other hominids, such as the Australopithecines, from which the genus Homo had diverged (split) by about 2.3 to 2.4 million years ago in Africa. The



Since about 4 million years ago, humans have evolved from early hominids to modern humans. Here are 14 species examples from human evolution now extinct. From early hominids to modern humans, we are in the process of evolving at this very moment. Mammals existed during the era of dinosaurs. But they kept a low profile and remained small and furry like a hamster. After the extinction of the dinosaurs, this marked the Age of Mammals. Wanting to understand who we are, where we come from and how we evolved is part of what makes us human. This is an exciting time to be examining human evolution. Intriguing fossil and archaeological discoveries, combined with innovative techniques and DNA research, are transforming scientists' understanding of our ancient past. We now know of more than 20 hominin species that are part of our family tree. At least half of these species are based on fossils unearthed in the last 30 years. Human evolution is the evolutionary process that led to the emergence of anatomically modern humans, beginning with the evolutionary history of primates—in particular genus *Homo*—and leading to the emergence of *Homo sapiens* as a distinct species of the hominid family, which includes the great apes. This process involved the gradual development of traits such as human bipedalism and language, as well as interbreeding with other hominins, which indicate that human evolution was not linear but a web.