# Introduction to Human Evolution- 4 credits

## LECTURES – ASYNCHRONOUS REMOTE (AR)

**Core Curriculum Goals: NS and HST**

**Instructor**
Hylke de Jong
Office Hours: Monday and Wednesday 12.30-2.30 PM or by appointment
Room: BIO 204b
Email: hd189@anthropology.rutgers.edu

## LABORATORY SECTIONS – SYNCHRONOUS REMOTE (SR) AND ASYNCHRONOUS REMOTE (AR)

**Teaching Assistants**

**Elizabeth Ballare**
SR Sections: 01 and 02
AR Section: 03
Drop-In Hours: By appointment
Email: Please e-mail me via Canvas Inbox

**Anissa Speakman**
SR Sections: 6 & 7
AR Section: 4
Drop-In Hours: By appointment
Email: Please email me via Canvas inbox

**Rebecca DeCamp**
SR Sections: 8&9
AR Section: 5
Drop-in Hours: By Appointment
Email: Please Email me by Canvas inbox

SECTION 1 Monday 3.55-5.15 pm Ballare

SECTION 2 Monday 5.35-6.55 pm Ballare

SECTION 3 AR Monday Ballare

SECTION 4 AR Wednesday Speakman

SECTION 5 AR Thursday DeCamp

SECTION 6 Wednesday 10.55 am-12.15 pm Speakman

SECTION 7 Wednesday 5.35-6.55 pm Speakman

SECTION 8 Thursday 9.15 am-10.35 pm DeCamp

SECTION 9 Thursday 5.35-6.55 pm DeCamp

CATALOG DESCRIPTION
Evolutionary processes, including adaptation and speciation; fossil and archaeological records of human morphological and social-behavioral evolution

## COURSE OBJECTIVES

- Understand the biology, ecology and behavior of a number of living primate species, including humans.
- Understand the application of the scientific method (*i.e.*, how to construct and test a hypothesis). [EA1]
- Be able to summarize and describe simple quantitative and qualitative observations and react to such observations critically. [EA2]
- Understand the theory of evolution at both the molecular and organismal levels. [EA1]
- Understand the nature of the fossil record and the geologic context of fossils.
- Understand the evidence for primate and human evolution.
- Understand how the biology, ecology and behavior of extinct human species is reconstructed.
- Be able to discuss critical events and ongoing issues in human evolution.
- Begin to develop skills needed to be a critical consumer and ultimately user of the primary scientific literature (e.g., access and use Web of Science, critical consumption of online information). [EA3]

## DETAILED COURSE DESCRIPTION

This course examines patterns of anatomical, behavioral, and genetic similarities and differences among living primates and humans, and the evidence for human evolution as reconstructed from the fossil record. We will survey the origin and evolution of the human species. As we attempt to pinpoint the timing and circumstances of the origins of human distinctiveness, and to trace its evolution through the fossil record, evolutionary theory will be an important guide. We will explore a wide range of evidence from the natural and social sciences relevant to understanding our origins. Our goal is to understand the place of humans in the natural world and contemplate why and when we became human. Along the way, we will address questions such as:

- Does the popular conception of race have a real biological basis?
- What were the circumstances under which humans began to walk on two legs and developed large brains?
- Is warfare an inevitable expression of genes acquired from a predatory, "killer-ape" past?
- Who were the "ape-men", the "cave-men", the Neanderthals?
- Who started the first campfire, first spoke of an event in the past or a plan for the future, and painted the first artwork?
- What might the future hold for the human species?

## MATERIALS REQUIRED FOR THE COURSE

### Required

1. Jones, S; Martin, R; Pilbeam, D 1994: *The Cambridge Encyclopedia of Human Evolution*, Cambridge University Press, Cambridge etc. ISBN: 9780521467865. **Try to get secondhand.**

2. Reich, David 2018: *Who We Are and How We Got Here,* Oxford University Press, Oxford etc. ISBN: 9780198821267. **Available through Rutgers Library and Reading List on Canvas.**

## ASSESSMENT

Grading will be based on:

- Lab work and attendance (50%)
- Midterm 1 (5%)
- Midterm 2 (10%)
- Final exam (10%)
- Book assignments (25%) Who We Are and How We Got Here

## EXAM SCHEDULE-

| Midterm 1 | Midterm 2 | **Final-cumulative** |
|---|---|---|
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## COURSE POLICIES

*Academic Integrity*: Cheating lowers the value of a Rutgers degree and the learning experience for all students. No form of cheating, including plagiarism, will be tolerated. One commits plagiarism when one represents the text or ideas of others as one's own creation. Please visit the website of the Rutgers Office of Academic Integrity (http://academicintegrity.rutgers.edu) for a fuller explanation of plagiarism and of the penalties for it. Convicted plagiarists may receive a disciplinary F in the course and possibly face expulsion from the University.

*Student Absences*: Students are expected to attend all classes; if you expect to miss one or two classes, please use the University absence reporting website https://sims.rutgers.edu/ssra/ to indicate the date and reason for your absence. An email is automatically sent to me.

Schedule
**Week 1: Scientific Method**

**Week 2: Evolutionary Theories**

**Week 3: Natural Selection and Classification**
Cambridge Encyclopedia of Human Evolution (CEHE) 1.1, 1.2, 1.3
**Week 4: Lives of Primates, Morphology**
CEHE 2.1, 2.2, 2.4, 2.5, 2.8
**Week 5: Lives of Primates continued, Communication and the Brain**
CEHE 3.1-3.4
**Week 6: Primate Social organization**
CEHE 2.3, 2.12, 4.1-4.3
**Week 7: Time and Geology and Fossil Primates**
CEHE 5.1-5.5, 6.1, 6.3-6.4
**Week 8 *Australopithecus* and *Early Homo***
CEHE 6.5-6.6

**Week 9 Spring Recess-No class March 13-21**

**Week 10** Class resumes ***Homo erectus* and *heidelbergensis***
CEHE 9.1-9.8
**Week 11 Neandertals**
CEHE 9.7-9.10

**Week 12 *Homo sapiens***

**Week 13 Genetics: Mendel, DNA, and populations**
CEHE 7.1-7.7

**Week 15 Genetic clues of relatedness**
CEHE 8.1-8.6
**Week 16 Last class**