

San José State University
Social Sciences/Anthropology Department
ANTH 152, Human Origins, Section 01 (47835)
Fall, 2015

Instructor:	Jonathan Karpf
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Office Hours:	M: 3-4:30 pm & by appointment
Class Days/Time:	MW 1:30 – 2:45 pm
Classroom:	WSQ 004
Prerequisites:	ANTH 12 or instructor consent

MYSJSU Messaging

You are responsible for regularly checking with the messaging system through MySJSU (or other communication system as indicated by the instructor).

Course Description

The study of human origins is fascinating and often controversial. Nearly all discoveries of hominin fossil remains are major news events, and are usually characterized by the claim “new find overturns all previous theories of human evolution!”. This course deals with the data, theories, and interpretation of our own evolutionary history, by considering the fossil evidence, the molecular evidence and the behavioral and ecological evidence of human evolution. The primary data set will be the paleontological record; this record is presently a large and complex one, and it has understandably generated a great number of interpretations. Also, the strong personalities frequently associated with paleoanthropologists are an interesting - and oftentimes complicating - aspect of the science of human origins. Consequently, it is not uncommon for paleoanthropological interpretations to generate a great deal of controversy *within* the field, and the explanation and resolution of these views will be a major orientation of this course. Comparative perspectives will be incorporated so as to provide a basis for understanding how humans are related to other primates, and what this implies morphologically, physiologically, and behaviorally. Furthermore, data provided directly by the fossil and molecular records will be comprehensively reviewed in tracing the major features of human evolution.

This course will focus on the fossil evidence for human evolution, with an emphasis on some of the most

recent controversies. Molecular data, dating the fossils, and comparative anatomy will also be discussed. Class lectures will be supplemented with lab demonstration of modern skeletal material and reproductions of fossil "hominids". In summary, this course attempts to place our species in a clear evolutionary context, and to ask some basic questions relating to human origins: 1) what kind of creature are we, and 2) how did we get to be this way?

Major topics will include:

- 1) Cladistics vs. Phenetics, and the molecular approach to reconstructing phylogeny
- 2) The phylogeny of the major vertebrate taxa, with an emphasis on the Cenozoic adaptive radiation of the primates
- 3) Finding, dating, and naming fossil Hominins
- 5) Evolution of bipedality and its importance for human evolution.
- 6) Encephalization quotients, brain size, and the emergence of *Homo sp.*
- 7) Out-of-Africa versus Multiregional theories on the origins of *Homo sapiens*
- 8) Molecular and fossil controversies surrounding Neanderthals.
- 9) Survey of the Fossils: Anatomy, Locomotion, Diet, Geography, Dates, and Phylogeny
 - A) Pliocene "possible" hominins
 - 1) *Sahelanthropus tchadensis*
 - 2) *Orrorin tugenensis*
 - B) **Ardipithecines**
 - 1) *Ardipithecus kadabba*
 - 2) *Ardipithecus ramidus*
 - C) **Australopithecines**
 - 1) *Australopithecus anamensis*
 - 2) *Australopithecus afarensis*
 - 3) *Australopithecus africanus*
 - 4) *Australopithecus garhi*
 - 5) *Australopithecus sediba*
 - D) **Paranthropines** ("Robust Australopithecines")
 - 1) *Paranthropus aethiopicus*
 - 2) *Paranthropus boisei*
 - 3) *Paranthropus robustus*
 - E) **Other**
 - 1) *Kenyanthropus platyops*
 - F) **Early *Homo* species**
 - 1) *Homo habilis*
 - 2) *Homo rudolfensis*
 - G) ***Homo erectus* and *Homo ergaster***
 - H) **Archaic *Homo* species**
 - 1) *Homo antecessor*
 - 2) *Homo heidelbergensis*
 - 3) *Homo neanderthalensis*
 - I) ***Homo sapiens***
 - 1) Archaic
 - 2) Modern

Course Goals and Student Learning Objectives

Paleoanthropology is a rapidly changing field; in just the last decade the fossil record has been pushed back 3 million additional years. Also, fossils have been discovered in Central Africa for the first time; over 8 new species have been discovered, and even two new genera have been proposed. Increasingly, molecular evidence has come to the fore, with replicable studies of Neanderthal DNA that has begun to answer many of paleoanthropology's most important questions. This course hopes to highlight the issues involved in paleoanthropology, focusing on the latest findings, and how these relate to humans. Most importantly, this course should enable you to understand the scientific literature and think critically about popular media's interpretation of the newest findings.

Course Content Learning Outcomes

Upon successful completion of this course, students should have increased:

1. Understanding of the theoretical background to the study of human evolution, including evolutionary theory, taxonomy, and systematics.
2. Understanding of the basics of skeletal anatomy, in order to interpret structural/functional relationships in the fossil record.
3. Ability to summarize the fossil evidence for human evolution, including: the major finds, their anatomies, their locations, when those hominids lived, how they lived (their ecology), how they are dated, and how they are interpreted and **why**.
4. Ability to critically evaluate the controversial and often conflicting scientific as well as popular literature concerning human evolution.
5. Understanding of culture as the distinguishing phenomenon of human life, and the relationships of human biology and cultural processes in human behavior and evolution.
6. Awareness of human diversity and the ways in which humans categorize diversity.
7. Knowledge of the history of anthropological thought and its place in modern intellectual history.
8. Ability to access various forms of anthropological data and literature.
9. Awareness of the importance and value of anthropological knowledge in contemporary society, and the ability to apply it to social issues.
10. Knowledge of the research methods of the sub-disciplines of anthropology, and ability to apply appropriate research methods in at least one sub-discipline.
11. Ability to present and communicate anthropological knowledge and the results of anthropological research to different audiences, and
12. Knowledge of political and ethical implications of social research.

Required Texts/Readings

Textbooks

Conroy, Glenn and Pontzer, Herman. *Reconstructing Human Origins: A Modern Synthesis*. 3rd Edition (2012). Norton

Whitehead, Sacco, and Hochgraph. 2005. *A Photographic Atlas for Physical Anthropology: Brief Edition*. Morton Press

Other Readings

Additional Readings may also be required from academic journals and will be provided at least one class period before the reading is due.

Lectures:

MW: 1:30 - 2:45 in Washington Square Hall, Room 4. There will also be an optional review session before each exam.

Office hours, phone and email:

M: 3-4:30 pm, **and by appointment in Clark 404J**. You may also leave messages for me in my mailbox in CLK 469 (the Anthro Dept) or on my cell phone (408-398-9449), or by texting me (408-398-9449) or by email: (jkarpf@calfac.org). Students are **encouraged** to attend office hours; if you are unable to attend, please let me know and we can arrange alternative times and days.

Course Requirements:

SJSU classes are designed such that in order to be successful, it is expected that students will spend a minimum of forty-five hours for each unit of credit (**normally three hours per unit per week**), including preparing for class, participating in course activities, completing assignments, and so on. More details about student workload can be found in [University Policy S12-3](http://www.sjsu.edu/senate/docs/S12-3.pdf) at <http://www.sjsu.edu/senate/docs/S12-3.pdf>.

Students will be asked to complete both in-class examinations as well as take-home assignments. Your final grade will be based on a possible **601 points**. The bulk of your final grade will be determined by your performance on **two** midterms worth 100 points each, and a minimally cumulative final exam worth 150 points. In addition, there will be a geography quiz worth 51 points, a take-home scantron quiz worth 50 points, a lab practicum (quiz) based on basic cranial, post-cranial and dental anatomy worth 100 points, as well as a lab practicum (quiz) on the fossil hominins casts worth 15 points. Finally, each student may be asked to read, summarize and critically evaluate 2-3 readings in the texts supplemented by at least two peer-reviewed primary journal articles. This summary will be turned in for evaluation and will also be discussed in class, with the student author leading the discussion. All exams except the final and the take-home quiz will consist of a mixture of objective questions (multiple choice, matching, and true false) and subjective questions (short answer and short essay). You will need neither blue books nor scantron forms for any of these exams. Your take-home quiz and final exam will consist of 5-option multiple choice, for which you will need to purchase a T&E 0200 scantron form for a

total of two (2) T&E 0200 scantron forms. To summarize, your final semester grade in this course will be based on the following:

- Africa Geography Quiz: 51 pts. (8.2%)
- Midterm exams: 2 X 100 pts. = 200 pts. (32.2%)
- Reading summary and critical analysis, report & presentation = 50 pts. (8.0%) Optional
- Take-home quiz = 50 pts. (8.0%)
- Lab (practicum) quiz on the human skeleton = 100 pts. (16.1%)
- Lab (practicum) quiz on the fossil hominin casts = 20 pts. (3.2%)
- Final exam: 150 pts. (24.2%)

TOTAL POINTS: 621 (100%)

Grading:

Grading will be based on percent mastery, with 88-100% = A, 78-87% = B, 65-77% = C, 50-64% = D, and lower than 50% = F. However, should the performance of the class fall below these arbitrary grade cutoffs, then students will be ranked according to the total points accrued and the course grade will be assigned according to a normal distribution with the average performance given a middle "C". Therefore, only A's and B's will be awarded if no class member receives less than 78% of the total points, and students will not be competing with each other. However, should no one receive 88% of the total possible points, the highest ~10-15% will still receive A's.

Exams:

African Geography Quiz is on **Monday, September 28 at 1:30 pm sharp**. Please do not be late!

Midterm #1 (take-home) will cover sessions 1 through 11, will be passed on **Wed. 9/30** and **DUE** on Mon. 10/5 at **1:30 pm sharp**. Please do not be late!

The 100-point **osteology lab practicum** will take place in class on **Monday, October 19 at 1:30 pm sharp!** Please do not be late!

Midterm #2 will cover sessions 12 through 21, and is on **Monday, November 9 at 1:30 pm sharp!** Please do not be late!

The 50-point **Take-home quiz** will cover sessions 12-24, and will be passed out on **Wed. November 18, and is due Mon. 11/23 at 1:30 pm sharp**. Please do not be late!

The 20-point **fossil cast lab practicum** will take place in class on our last day, **Wednesday, December 7, at 1:30 pm sharp!** Please do not be late!

The **final exam** will be minimally cumulative, with an emphasis on the last 9 sessions, and will be held on **Wednesday, December 16 from 12:15-2:30 pm**. Note the time difference.

You will need to memorize a fair amount of specialized vocabulary, and to think through biological ideas which are unfamiliar to you; both of these activities require time and effort. You

are expected to take notes in class and to do the reading on time, so that you can follow the development of ideas and information, and so that you can bring questions and comments to class and to the instructor's office hours in a timely fashion.

Make-up Policy:

Make-up exams will **not** be given unless 1) a phone message is left at 924-5721 and either an email or a text is sent to me before the scheduled time of the exam, and 2) the reason for missing the exam is **important, beyond your control and verifiable by a reliable source**. In the case of illness, an official note from a physician or nurse-practitioner is required. There will only be **one** make-up exam given, and it will be different than the original exam. If you are going to hand written work in late, you must also notify the instructor before the due date of the written assignment. There will be a penalty for written work handed in late if the reason is not important, beyond your control and verifiable by a reliable source. **All assigned work must be completed in order to pass the course.**

Attendance:

After the first three weeks, roll will not be called. Dropping the course is **your** responsibility, and I will not do it for you should you vanish during the semester. Pay attention to the **Drop** deadline: **Tues. 9/1/15**, as well as the **Add** deadline: **Wed. 9/9/15**. Attendance is both necessary and expected, and it is exceedingly unlikely that you will get anything out of the class - including a passing grade - should you miss many class sessions. Class will begin on time and tardiness should be avoided, although you are strongly encouraged to attend class even if quite late: if unavoidable, come in quietly and take a seat towards the rear; don't just blow off class if you're late. I also have no problem with you audio recording class sessions, but you'll probably want to sit up front.

Caveats and Notes:

If you ever feel lost, confused or bewildered with the details or concepts in this course, please let me know. While I will not lower the course standards, I am more than happy to spend as much time as it takes to help you meet them. Additionally, if you need course adaptations or accommodations because of a disability, or if you have emergency medical information to share with me, or if you need special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours.

Library Liaison

Silke Higgins; Librarian; (408) 808-2118; <mailto:silke.higgins@sjsu.edu>

Classroom Protocol

- Students are responsible for being aware of assignment due dates, midterm date, and the final exam schedule. Note that important logistical announcements - such as due dates, review session polls, votes on moving back a quiz or exam - are made at the start of class, so if you arrive late it is your responsibility to check with me at the end of class to find out what you missed.
- Students who miss classes should keep up with course readings, obtain missing notes from a classmate. and then make an appointment to see me in office hours to go over the class you missed.

- If you have any concerns about your class performance or comprehension, come by my office during office hours or schedule an appointment. I am always willing to help students and I care about whether students are grasping the material and enjoying the class.
- Newspaper reading is not allowed in class. If you read a newspaper in class, I will ask you to leave class.
- No electronics (which include: cell phones, iPods, Mp3 Players, Sidekicks, etc.) will be allowed out in class, with the exception of laptops on which you are only taking notes, unless I specifically ask the class to search for a topic online. Before class begins, you should turn off all electronics and put them out of sight. I will ask you to leave class if you have any cell phones out. Exception: you are allowed to use cell phone or iPad/tablet cameras to photograph the white board for any diagrams I draw during class.

Dropping and Adding

Students are responsible for understanding the policies and procedures about add/drops, academic renewal, etc. Information on adds/drops is available at: [ADD & DROP info](#) (see top link on this webpage) [<http://www.sjsu.edu/advising/faq/>] Additional advising information is available at: [Advising For Students](#) [http://www.sjsu.edu/advising/for_students/]. Students should be aware of the current deadlines and penalties for adding and dropping classes. The F'15 **DROP** deadline is T: 9/1/15 and the **ADD** deadline is T: 9/9/15.

University Policies

General Expectations, Rights and Responsibilities of the Student

As members of the academic community, students accept both the rights and responsibilities incumbent upon all members of the institution. Students are encouraged to familiarize themselves with SJSU's policies and practices pertaining to the procedures to follow if and when questions or concerns about a class arises. See [University Policy S90-5](#) at <http://www.sjsu.edu/senate/docs/S90-5.pdf>. More detailed information on a variety of related topics is available in the [SJSU catalog](#), at <http://info.sjsu.edu/web-dbgen/narr/catalog/rec-12234.12506.html>. In general, it is recommended that students begin by seeking clarification or discussing concerns with their instructor. If such conversation is not possible, or if it does not serve to address the issue, it is recommended that the student contact the Department Chair as a next step.

Academic integrity

Students should understand the University's Academic Integrity Policy, which is available at: [Academic Integrity statement](#): [<http://www.sjsu.edu/senate/docs/S07-2.pdf>] Please also see relevant policies at: [Student Conduct Policies](#) [<http://www.sjsu.edu/studentconduct/Policies/>]. Your own commitment to learning, as evidenced by your enrollment at San Jose State University and the University's integrity policy, require you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development.

Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person's ideas without giving proper credit) will result in a failing grade and sanctions by the University. For this class, all assignments are to be completed by the individual student unless otherwise specified. If you would like to include in your assignment any material you have submitted or plan to submit for another class, please note that SJSU's Academic Policy F06-1 requires approval of instructors.

Campus Policy in Compliance with the American Disabilities Act

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 requires that students with disabilities requesting accommodations must register with the DRC (Disability Resource Center) to establish a record of their disability. Please see the SJSU Disability Resource Center website at: [Accessible Education Center](http://www.sjsu.edu/aec/) [http://www.sjsu.edu/aec/]

ANTH 152: Human Origins, Fall 2015, Course Schedule

NOTE: The Conroy and Pontzer text is abbreviated: **CP**
 Whitehead, Sacco, and Hochgraph. 2005. A Photographic Atlas for Physical Anthropology: Brief Edition abbreviated as: **Atlas**.

Week	Date	Topics, Readings, Assignments, Deadlines
1	M: 8/24 W: 8/26	1) Introduction: Course logistics 2) Fossilization, taphonomy, the geological background and relative dating methods. CP: Ch. 2
2	M: 8/31 W: 9/2	3) How old are those things? Absolute dating methods: the theory CP: Ch. 3 [NOTE: Tuesday 9/1 is last day to DROP w/out a W!] 4) Absolute dating methods: the application
3	M: 9/7 W: 9/9	Labor Day (no class): Honor Labor! (Look for the union label) [NOTE: 9/9 is last day to ADD classes!] 5) Phenetics vs. cladistics: reconstructing phylogeny CP: Ch. 1 and pp. 89-115
4	M: 9/14 W: 9/16	6) The origin of the primates: trees and/or insects? Atlas: Chs. 1 & 2; CP: Ch. 4 7 A molecular approach to reconstructing phylogeny, or "no muss, no fuss, no dishpan hands..." CP: pp. 148-155; [Poll class re: timing of Midterm #1 Review session]
5	M: 9/21 W: 9/23	8)) The geological eras, periods and epochs, and 1st appearance of vertebrate taxa [Study for Africa Geography Quiz: M: 9/28] 9) Eocene prosimians and Oligocene monkeys; Atlas: pp. 31-45
6	M: 9/28 W: 9/30	10) African Geography Quiz (51 pts.) Miocene hominoids (apes); Atlas: pp. 46-54; CP: pp. 116-148 Midterm Review session: T: 9/29 or W: 9/30 11) The anatomy and ecology of bipedalism; CP: pp. 256-278; Atlas: pp. 58-59, 62 & 65; CP: pp. 270-315 Midterm #1 (take-home) passed out in class!

Week	Date	Topics, Readings, Assignments, Deadlines
7	M: 10/5 W: 10/7	12) Midterm #1 DUE at the beginning of class! Cranial anatomy and dentition, & possible Miocene hominins: <i>Sahelanthropus tchadensis</i> and <i>Orrorin tugenensis</i> ; CP: pp. 119-122, Ch. 7 13) <i>Australopithecus anamensis</i> , <i>Ardipithecus ramidus</i> & <i>kadabba</i> ; CP: pp. 156-162 and Ch. 7; Atlas: pg. 54
8	M: 10/12 W: 10/14	14) <i>A. afarensis</i> , or: I love Lucy CP: 210-215; Atlas: pp. 58-59 Study for 100 pt. lab practicum quiz on M: 10/26 15) <i>A. africanus</i> and <i>A. sediba</i> , or: Taung firmly in cheek... CP: pp. 162-172, 185-192; Atlas: pp. 60-62
9	M: 10/19 W: 10/21	16) Skeletal anatomy Lab Practicum Quiz! The robust "Australopithecines": <i>Paranthropus aethiopicus</i> , <i>P. boisei</i> and <i>P. robustus</i> , also <i>Kenyanthropus platyops</i> ; CP: 172-185, 192-203, 205-216; Atlas: pp. 62-66 17) "Australopithecine" phylogeny, or: How are they related? CP: pp. 256- 270, pp. 316-325 [Poll class re: timing of Midterm #2 review session]
10	M: 10/26 W: 10/28	18) The transition to genus <i>Homo</i> and the emergence of culture CP: Ch. 9 19)) <i>Homo habilis</i> vs. <i>H. rudolphensis</i> , or: the bush becomes bushier. Atlas: pp. 66-67
11	M: 11/2 W: 11/4	20) Patterns of Plio-Pleistocene phylogeny, or: Connect the dots 21) <i>Homo ergaster</i> , or: Out of Africa, pt. 1 CP: Ch. 10; Atlas: pp. 69-77 Midterm #2 Review Session: W: 11/4, R: 11/5 or F: 11/6
12	M: 11/9 W: 11/11	22) Midterm #2 Veterans Day (No class): Honor Veterans!
13	M: 11/16 W: 11/18	23) <i>Homo erectus</i> , or Into Eurasia; CP: Ch. 10 24) Microevolutionary theory, or: just Drift with the (Gene) Flow CP: pp. 88-93. Take home quiz (50 pts!)

14	M: 11/23	25) Take home quiz DUE at beginning of class, 1:30 pm sharp! Archaic <i>Homo sapiens</i> CP: 11; Atlas: pp. 77-84
	W: 11/25	26) Neanderthals: ancestors or cousins? CP: Ch. 12; Atlas: pp. 84-90
15	M: 11/30	27) The origin of modern humans, or: mtDNA and All about "Eve" CP: Ch. 13; Atlas: pp. 90-96
	W: 12/2	[Poll class re: timing of Final Exam review session on W: 12/9] 28) The origin of modern humans, pt. 2: the concept of "race" CP: Epilogue (can you say Conroy is skeptical about molecular phylogeny? I knew that you could)
16	M: 12/7 Last Day!	29) Fossil hominin Lab Practicum quiz , and more on modern <i>H. sapiens</i>
--	W: 12/9	Review session for Final Exam: "Dead Day" W: 12/9 TBA
Final Exam	W: 12/16	WSQ 004 at 12:15 pm to 2:30 pm (NOTE the time difference!)