



ANTH 373: HUMAN EVOLUTION

SYLLABUS S2023

MON./WED. 2:00PM–3:15PM, CLARK C249

INSTRUCTOR INFORMATION

Instructor: Andrew Du, Ph.D.

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Office Hours: Tues. 2:00–5:00pm,
or by appointment

Communication is very important to me. I am available to you during office hours, immediately before, and after class. If that is not convenient for you, you can either set up an alternative meeting time with me or post general class-related questions to our Canvas discussion board. If you need to contact me for more specific or personal questions, please email me. I will respond to you within 36 hours during the week and within 72 hours over the weekends. Please remember that email to faculty members should be conducted in a *professional manner* and is not the same as emailing/texting to family or friends. When utilizing email for course communications and to ensure that I receive your email, please include:

- 1) A subject line with the following: *ANTH373_your LAST name_a short description of your question*. Otherwise, you run the risk of not receiving a reply as it may be deleted or sent to spam.
- 2) Sign your name to the email (do not rely on the email address to identify you).

COPYRIGHT & DISSEMINATION OF MATERIALS

Do not share material from this course in online, print, or other media. Course material is the property of the instructor (Prof. Du) who developed the course. Materials authored by third parties and used in this course are also subject to copyright protections. Posting course material on external sites (commercial or not) violates both copyright law and the CSU student conduct code. Students who share course content without the instructor's express permission, including with online sites that post material to sell to other students, could face appropriate disciplinary or legal action.

THIS COURSE WILL FOLLOW THE PRINCIPLES OF COMMUNITY

The Principles of Community support the Colorado State University mission and vision of access, research, teaching, service, and engagement. A collaborative and vibrant community is a foundation for learning, critical inquiry, and discovery. Therefore, each member of the CSU community has a responsibility to uphold these principles when engaging with one another and acting on behalf of the University.

Inclusion: We create and nurture inclusive environments and welcome, value, and affirm all members of our community, including their various identities, skills, ideas, talents, and contributions.

Integrity: We are accountable for our actions and will act ethically and honestly in all our interactions.

Respect: We honor the inherent dignity of all people within an environment where we are committed to freedom of expression, critical discourse, and the advancement of knowledge.

Service: We are responsible, individually and collectively, to give of our time, talents, and resources to promote the well-being of each other and the development of our local, regional, and global communities.

Social Justice: We have the right to be treated and the responsibility to treat others with fairness and equity, the duty to challenge prejudice, and to uphold the laws, policies, and procedures that promote justice in all respects.

COURSE DESCRIPTION

The purpose of this course is to provide insight into human evolutionary history and the sequence of events, both biological and cultural, that have led to the origin of modern humans and the present range of biological diversity that our species exhibits.

In this course, we will explore the biological evolution of humans, as viewed from the fossil record, beginning with our earliest ancestors and continuing to the dispersal of modern humans. We will focus on the biocultural adaptations of the fossil hominin groups and their phylogenetic relationships. We will examine the major trends in human evolutionary history: the advent of bipedalism, the reduction of the size of the dentition, encephalization, and technological innovations will be addressed through an examination of detailed case studies and regionally focused primary research.

COURSE GOALS

Upon completion of this course, students will be able to develop and demonstrate literacy in evolutionary theory and the human evolutionary timeline by:

- Understanding how paleoanthropology fits within the broader field of anthropology by defining and describing paleoanthropology and giving examples of the types of questions asked by researchers in the field
- Comparing, contrasting, and defining methods used to date fossils
- Identifying and interpreting anatomical traits associated with primate and human locomotor behavior as it relates to the fossil record
- Defining and evaluating genus and species concepts and applying those definitions to the fossil record
- Demonstrating knowledge and comprehension of the human fossil record by visually identifying genera and species belonging to the tribe hominini and listing important details for each genus and species, including dates, site locations, anatomical traits, and significance of each taxon
- Using a cladogram or phylogeny to reconstruct relationships among living and fossil primates and fossil hominins
- Synthesizing and summarizing the data for the first hominin migration out of Africa
- Identifying and describing changes in tool technology and behavior
- Evaluating models for the origin(s) of modern human anatomy & behavior by comparing data and evidence for multiple models such as Out of Africa and Multiregional Continuity
- Critically evaluating and understanding competing arguments about major events within human evolution by developing a scientific essay (i.e., term paper)
- Synthesizing, analyzing, and evaluating human evolutionary research and presenting that research

REQUIRED TEXTS

- Cartmill, M. & Smith, F.H. (2022). *The Human Lineage*. 2nd Edition. Wiley-Blackwell. ISBN: 978-1119086703

There are also several required readings for the course (see *Course Schedule* below). These can all be found on the Canvas page.

CREDIT HOURS

This course is three (3) credit hours per week. Thus, in accordance with the Federal Credit Hour Definition and the CSU credit hour assignments, **each credit hour in class** will require approximately **two to three hours** of effort per week to accomplish readings, out-of-class assignments, and memorization and learning of the materials in preparation for successful completion of the course requirements. Thus, for this three-credit hour course, according to CSU and Federal guidelines, you should study a minimum of 9 hours per week outside of class.

GRADING

As a student enrolled in this course, one of your responsibilities is to submit course work by the due dates listed in the Course Schedule. With that said, I take my role as your instructor very seriously, and I care about how well you do in this course and that you have a satisfying, rewarding experience. If you are having issues with any aspect of the class, do not hesitate to contact me as soon as possible, so we can discuss methods or strategies to improve or help your efforts in this course.

GRADE DESCRIPTION

I WILL NOT curve individual exam grades. If necessary, I may curve the final grades.

Excellent Performance:	A Grade = 90-100%
Very Good Performance:	B Grade = 80-89.9%
Average Performance:	C Grade = 70-79.9%
Poor Performance:	D Grade = 60-69.9%
Failed Performance:	F Grade < 60%

Course grades are based on the following required assignments and activities:

Assignments	Grade %
Labs	30%
Term Paper	25%
Midterm Exam	20%
Final Exam	20%
Fossil ID Quizzes	5%

ASSIGNMENT DETAILS

Students will demonstrate knowledge, comprehension, and application of materials presented in class and in in-class labs via quizzes, exams, written assignments, and visual identification.

LABS (30%):

We will have five labs over the course of the semester. The goals of the lab activities are to increase your knowledge and familiarity with fossil casts and practice skills such as proper biological anthropology techniques. Labs will be available on Canvas prior to class and can be found in the "Labs" assignments folder or under their weekly module. If you do not complete the lab in the allotted class time, it is your responsibility to finish the lab during your own time, and you are welcome to use the lab whenever it is free. Labs are **due in class one week after the scheduled lab date**.

TERM PAPER (25%)*

*All assignments should be uploaded to the appropriate Canvas page and labeled: **Your last name_assignment title.doc** (docx)

The purpose of your term paper is to demonstrate scientific knowledge and understanding of a topic related to human evolution. In the paper, students should analyze, compare, contrast, and critique **at least 10 peer-reviewed references** to bolster or refute a specific hypothesis or research question. Students should be able to appraise the data in each reference and determine its usefulness to their topic. Each paper should demonstrate logical progression of thought and conclude with statements evaluating the state of the topic and its broader implications for paleoanthropology. The paper should be written for a scientific audience (like your classmates).

Final term papers must adhere to the following criteria and format:

1. **9–11 pages.** This does not include the title page, abstract, bibliography, or any images that you choose to use.
2. **Minimum of 10 peer-reviewed references.** You can use more if necessary. Peer-reviewed references include journal articles or chapters from edited volumes. You **CANNOT** use newspaper articles, TV shows, websites, textbooks (including our own textbook), or lecture notes/slides. Do not just choose the first 10–15 sources you find. Capstone students should expect to turn in a slightly longer 12–15-page paper.
3. Cited literature should follow APA citation and bibliography style.
4. Double-spaced, 12-point, Times New Roman font, with 1-inch margins and page numbers.
5. For the abstract and bibliography, use single-spaced, 10-point, Times New Roman Font.

Paper Deadlines: To keep you on track with your term paper, there are several deadlines that must be met over the course of the semester. To receive full credit for the paper, all deadlines must be met with files uploaded to the appropriate Canvas page on the due date. Late assignments will be deducted points: 10% within the first 24 hours, 20% within 24–48 hours, after 48 hours you will not receive credit. Term Paper deadlines are as follows:

- FEB 5: Topic description & at least 5 peer-reviewed references properly cited in APA format.
- MAR 5: Thesis statement/hypothesis, abstract, and annotated bibliography with at least 10 citations/references that are all in APA format.
- APR 2: Partial rough draft with 5 pages minimum.
- APR 23: Final paper due.

Paper References and Style Guide; please use the APA style guide on Canvas:

- All information presented must be **properly cited**, or it will be considered plagiarism.
- All references MUST come from **peer-reviewed journals** (like *American Journal of Physical/Biological Anthropology*, *Journal of Human Evolution*, *Journal of Archaeological Science*, *International Journal of Primatology*...) or peer-reviewed book chapters.
- You may **NOT** cite your textbook, lectures, or websites.
- When in doubt, just ASK!

Some possible topics include but are not limited to:

- Specific analysis of a fossil site
- Specific analysis of a fossil specimen
- Methods review
- Diet in *Paranthropus*
- Earliest stone tools
- Diversity of Miocene apes
- *Gigantopithecus*
- Who were the first primates, monkeys, or apes
- Variation in *Proconsul*
- Competing theories for the rise of bipedalism
- Bipedal walking in humans versus other primates
- Locomotor variation in *Australopithecus*
- Sexual dimorphism in *Australopithecus*
- The last common ancestor between *Homo* and *Paranthropus*
- Dispersal of *H. erectus* out of Africa
- Hunting versus scavenging in early *Homo*
- Large and small forms of *Homo habilis* (*H. rudolfensis*?)^[1]_[SEP]
- Who were the first Europeans?
- Asian and African forms of *Homo erectus* (*H. ergaster*?)^[1]_[SEP]
- *Homo floresiensis*: pygmy or microcephalic
- Art and symbolism in early modern humans
- Genetic and cultural dispersal of modern humans
- Out of Africa & Multiregional hypotheses for modern human origins

MIDTERM & FINAL EXAMS (20% EACH):

The **midterm** and **final** exams are each a mixture of multiple choice, matching, short answers, and essays. Exams are **NOT cumulative** and are derived from lectures, labs, and any assigned readings. The exams will be done **at home** and will open at least one week before the due date (**11:59pm on March 20 for midterm; 11:59pm on May 12 for final**). You **MUST** do the exam on your own. Collaborating with a classmate will result in punitive measures (see *Academic Integrity Policy* below). You will be able to use your notes, textbook, and any other sources available to you. Exams will be done and completed on Canvas.

FOSSIL HOMININ ID QUIZZES (5% TOTAL):

These are **practical quizzes**, where you are expected to visually identify the fossil hominin casts that we have studied in class and in lab. For each cast, you will be expected to identify its genus, species, and two species-specific traits. The first quiz will be during class on **April 5**, and the second will be during our finals period on **May 9**. You will be expected to be familiar with ALL casts in our collection from taxa that we have covered up to the quiz date. You will have access to our classroom outside of class time, as long as there are no active classes inside. The quizzes are **NOT cumulative**.

PARTICIPATION EXPECTATIONS & COURSE PROCEDURES

The **Announcements** area of the Canvas classroom will be used to post updates and comments on class matters. I will also post announcements to remind students of important due dates. In addition to the Announcements, there are two general discussion forums:

- 1) a forum labeled "Human Evolution Lounge" for casual questions/conversations about human evolution
- 2) a "General Course Q&A" forum where questions about class requirements may be asked

The **Modules** area houses the content for the course and is arranged by week. Here is where each week's readings, lecture slides, and assignments (if due) will be posted. Remember that our classroom server is set to **Mountain Time (MT)**, so all due dates are in MT. Use the World Time Clock link available under **Settings** on the left-hand tool bar to convert all times and dates to MT. We will proceed through each module chronologically. All assignments should be labeled as: ***Your last name_assignment title.doc (docx)***

NETiquette (Classroom and/or Online): Online class time will be spent sharing opinions and sharing information. Therefore, it is of utmost importance to communicate with courtesy and professionalism. Professional courtesy includes respecting others' opinions, being courteous and respectful, and working together in the spirit of cooperation. Sexist, heterosexist, and racist language should not be used when communicating in the course. Discussions and assignments will be graded on quality and professionalism.

Technical Support: To help you mitigate the online learning environment, please read over the CSU Online Web tutorial. If you need help getting started with Canvas, you can check out the CSU Canvas Information and Resources page <http://info.canvas.colostate.edu/student-resources.aspx>. If you have specific questions about Canvas, you can email CanvasHelp@colostate.edu.

ATTENDANCE & MAKE UP POLICY

Students should attend all classes for which they are registered to obtain maximum educational benefits. Absence or lateness does not excuse students from required course work. I do not take attendance. However, as an adult, it is your choice to attend the class that you and/or your family are paying for. Your exams will be based on both the assigned readings and the **lecture material, with a focus on the material that I cover in lecture**. You are strongly encouraged to attend class as all lecture slides ARE NOT always available, and you are unlikely to do well in this course by relying on the textbook alone. If you miss class, it is your responsibility to collect the work that you missed.

Missed exams can ONLY be made up for **University-sanctioned activities** or **emergencies of a personal or health nature**. Exams cannot be made up for personal reasons such as early summer or spring break. University-sanctioned activities include competitions, events, and professional meetings in which students are officially representing the institution. Appropriate sanctioned activities include:

- Intercollegiate athletics
- Collegiate club sports and competitions
- Conferences and workshops recognized by CSU not related to academics
- Commitments on behalf of CSU (ASCSU, band, etc.)
- Professional activities recognized by CSU related to academics

Sanctioned activities must be approved by the appropriate program director on record with the Division of Student Affairs offices or the Department of Athletics. <http://catalog.colostate.edu/general-catalog/academic-standards/academic-policies/>

If you meet those criteria, you may make up a missed exam following these guidelines:

1. For University-sponsored events, you **MUST** inform me at least 2 weeks **PRIOR** to the exam/quiz date
2. For an unexpected health related issue, you **MUST** have a letter from health services or a private physician stating that you were unable to attend the exam for health-related reasons
3. Exams must be made up **within one week of the test date** (regardless of vacation or break schedules)

Late work & Educational Responsibility: All assignments for the week/module/unit must be completed by the listed due date. It is the student's responsibility to communicate with the instructor about extreme circumstances or questions concerning the assignments and their due dates. All late assignments will be deducted 10% within the first 24 hours and 20% within 24–48 hours; after 48 hours, you will not receive credit.

ACADEMIC INTEGRITY POLICY

This course will adhere to the CSU Academic Integrity [Policies and Guiding Principles](http://catalog.colostate.edu/general-catalog/policies/students-responsibilities/) as found in the General Catalog and the [Student Conduct Code](http://catalog.colostate.edu/general-catalog/policies/students-responsibilities/). <http://catalog.colostate.edu/general-catalog/policies/students-responsibilities/>

Academic integrity is defined as doing and taking credit for one's own work. Violations of the university's academic integrity standards include, but are not limited to:

- Cheating—includes using unauthorized sources of information and providing or receiving unauthorized assistance on any form of academic work or engaging in any behavior specifically prohibited by the faculty member
- Plagiarism—includes the copying of language, structure, ideas, or thoughts of another, and representing them as one's own without proper acknowledgment
- Unauthorized Possession or Disposition of Academic Materials—includes the unauthorized selling or purchasing of examinations or other academic work, stealing another student's work, unauthorized entry to or use of material in a computer file, and using information from or possessing exams that an instructor did not authorize for release to students
- Falsification—includes any untruth, either verbal or written, in one's academic work
- Facilitation—includes knowingly assisting another to commit an act of academic misconduct

At a minimum, violations will result in a grading penalty in this course and a report to the Office of Conflict Resolution and Student Conduct Services. <http://tilt.colostate.edu/integrity/pledge/>

CSU HONOR PLEDGE

Academic integrity lies at the core of our common goal: to create an intellectually honest and rigorous community. Because academic integrity, and the personal and social integrity of which academic integrity is an integral part, is so central to our mission as students, teachers, scholars, and citizens, I will ask that you affirm the CSU Honor Pledge as part of completing your work in this course. *While you will not be required to affirm the honor pledge*, you will be asked to affirm the following statement at the start of your exams:

"I have not given, received, or used any unauthorized assistance."

Further information about Academic Integrity is available at CSU's [Practicing Academic Integrity](http://learning.colostate.edu/integrity/index.cfm). <http://learning.colostate.edu/integrity/index.cfm>

UNIVERSAL DESIGN FOR LEARNING

I am committed to the principle of universal learning. This means that our classroom, our virtual spaces, our practices, and our interactions be as inclusive as possible. Mutual respect, civility, and the ability to listen and observe others carefully are crucial to universal learning. If you are a student who will need accommodations in this class, please contact me to discuss your individual needs. Any accommodation must be discussed in a timely manner prior to implementation. A verifying memo from the Student Disability Center (<https://disabilitycenter.colostate.edu>) may be required before any accommodation is provided.

SYSTEM, MULTIMEDIA, AND SOFTWARE REQUIREMENTS

Having trouble with the multimedia in this course? See the solutions below. Also, it is highly recommended that you access your course via a **high-speed Internet connection**.

- Problems with opening PDFs?
 - Download [Adobe Reader \(https://get.adobe.com/reader/\)](https://get.adobe.com/reader/)
- Canvas acting funny?
 - Review Canvas guide for [Supported Browsers \(http://guides.instructure.com/m/4214//41056-which-browsers-does-canvas-support\)](http://guides.instructure.com/m/4214//41056-which-browsers-does-canvas-support).
- YouTube videos not playing?
 - Download [Flash Player http://get.adobe.com/flashplayer/](http://get.adobe.com/flashplayer/)
- Videos not opening or playing on your Mac?
 - Download [Windows Media Components for QuickTime. http://windows.microsoft.com/en-US/windows/products/windows-media-player/wmcomponents](http://windows.microsoft.com/en-US/windows/products/windows-media-player/wmcomponents)
- Still having issues:
 - Call the **CSU Help Desk at 970-491-7276** or [Email Help Desk Support mailto:help@colostate.edu](mailto:help@colostate.edu)

You must have speakers installed and working properly on your computer before beginning the course. You may need access to Microsoft Word, PowerPoint, and/or Excel to complete assignments. If you do not have access to the Microsoft Office applications, you may use one of the following free resources that allow you to save your files with Microsoft Office file extensions (.doc, .docs, .ppt, .xls.):

- [Google Apps for CSU](#)—a free, outsourced communications suite endorsed by The University Technology Fee Advisory Board (UTFAB)
- [Office 365](#)—the full version of Microsoft Office free of charge for CSU students.

SUGGESTED STUDY METHODS

In order to be successful in your course you will need:

- Space—Establish a comfortable and well-organized physical workplace.
- Time management skills—Set personal study and "classroom" time.
- Organization skills—Print out all class material (modules, PowerPoints, assignments, additional resources, and any work you generate) and keep everything in a single location. Maintain electronic backups of all class materials.
- Communication skills—Demonstrate a willingness to interact with your instructor and classmates through email, discussion boards, and active participation in all class activities.
- Initiative—Seek help from your instructor and classmates, and ask questions as they arise.
- Discipline—Pace yourself, complete all activities and assignments before the due date, and follow through on all class requirements to completion.

The more closely you adhere to the recommendations above, the greater your chances of having a successful semester and a rewarding experience.

COURSE SCHEDULE

The schedule is subject to change, but the exam dates are not.

UNIT 1: THEORY IN PALEOANTHROPOLOGY

WEEK 1: JAN 16 & 18 INTRODUCTION TO PALEOANTHROPOLOGY

Monday: No lecture (Martin Luther King Jr. Day)

Wednesday Lecture: *Course Overview & Introduction to Paleoanthropology*

- Su, D. F. (2012). *What is it like to be a biological anthropologist? A field paleontologist's point of view*. Nature Education Knowledge 3(10): 22

WEEK 2: JAN 23 & 25 EVOLUTIONARY THEORY & SYSTEMATICS

Monday Lecture: *Micro- & Macroevolution*

- Cartmill & Smith: 23–37, 40–42
- Sesink Clee, P. & Gonder, M. K. (2012). *Macroevolution: examples from the primate world*. Nature Education Knowledge 3(12): 2

Wednesday Lecture: *Systematics & Species Concepts*

- Cartmill & Smith: 37–40, 47–50
- Mitchell, M. W. & Gonder, M. K. (2013). *Primate speciation: a case study of African apes*. Nature Education Knowledge 4(2): 1

WEEK 3: JAN 30 & FEB 1 LAB 1 & GEOLOGICAL CONTEXT

Monday Lab #1: *Inferring Evolutionary Relationships*

- Watch pre-lab videos on Canvas
- Cartmill & Smith: 42–47

Wednesday Lecture: *Geological Context & Dating*

- Cartmill & Smith: 1–12
- Peppe, D. J. & Deino, A. L. (2013). *Dating rocks and fossils using geologic methods*. Nature Education Knowledge 4(10): 1

DUE Sunday Feb 5 (11:59 pm): Term paper topic description & five references.

WEEK 4: FEB 6 & 8 HOW TO BECOME A FOSSIL, ECOLOGICAL CONTEXT, & LAB 2

Monday Lecture: *Taphonomy & Paleoecology*

- Campisano, C. J. (2012). *Milankovitch Cycles, paleoclimatic change, and hominin evolution*. Nature Education Knowledge 4(3): 5
- Dunsworth, H. (2015). *How to become a primate fossil*. Nature Education Knowledge 6(7): 1
- Kovarovic, K. (2012). *Paleoecology & paleoenvironment: a case study of Plio-Pleistocene mammals from Laetoli*. Nature Education Knowledge 4(4): 25

Wednesday Lab #2: *The Skeletal System*

- Watch pre-lab videos on Canvas

WEEK 5: FEB 13 & 15 PRIMATE TAXONOMY & EVOLUTION

Monday Lecture: *Overview of Primate Taxonomy & Anatomy*

- Cartmill & Smith: 66–88
- Kirk, E. C. (2013). *Characteristics of crown primates*. Nature Education Knowledge 4(8): 3
- Gebo, D. L. (2013). *Primate locomotion*. Nature Education Knowledge 4(8): 1

Wednesday Lecture: *Early Primate Evolution & Fossils*

- Cartmill & Smith: 88–108
- Slicox, M. T. (2014). *Primate origins and the Plesiadapiforms*. *Nature Education Knowledge* 5(3): 1
- Williams, B. A. (2016). *Effects of climate change on primate evolution in the Cenozoic*. *Nature Education Knowledge* 7(1): 1

UNIT 2: EARLY FOSSIL HOMININS

WEEK 6: FEB 20 & 22 RECOGNIZING EARLY HOMININS: DEFINITIONS & THE EARLIEST FOSSIL TAXA

Monday Lecture: *What is a Hominin: The Evolution of Walking*

- Cartmill & Smith: 109–127
- Lovejoy, C. O. (1988). *Evolution of human walking*. *Scientific American* 259(5): 118-125

Wednesday Lecture: *The Earliest Biped*

- Cartmill & Smith: 139–146
- Pontzer, H. (2012). *Overview of hominin evolution*. *Nature Education Knowledge* 3(10): 8
- Su, D. F. (2013). *The earliest hominins: Sahelanthropus, Orrorin, and Ardipithecus*. *Nature Education Knowledge* 4(4): 11

WEEK 7: FEB 27 & MAR 1 THE GRACILE AUSTRALOPITHS

Monday & Wednesday Lecture: *The Genus Australopithecus*

- Cartmill & Smith: 127–129, 146–156, 158–160, 167–195
- Schrein, C. M. (2015). *Lucy: a marvelous specimen*. *Nature Education Knowledge* 6(7): 2
- Ward, C. V. & Hammond, A. S. (2016). *Australopithecus and kin*. *Nature Education Knowledge* 7(3): 1
- **DUE Sunday Mar 5 (11:59 pm): Thesis statement, abstract, and annotated bibliography with 10 peer-reviewed references.**

WEEK 8: MAR 6 & 8 THE ROBUST AUSTRALOPITHS & LAB #3

Monday Lecture: *The Genus Paranthropus*

- Cartmill & Smith: 129–139, 156–158, 160–167
- Constantino, P. J. (2013). *The "robust" australopiths*. *Nature Education Knowledge* 4(1): 1

Wednesday Lab #3: *Early Fossil Hominins*

MARCH 11–19: SPRING BREAK!!!

UNIT 3: THE GENUS *HOMO*

WEEK 9: MAR 20 & 22 MIDTERM & EARLY *HOMO*

Monday: **Take-home MIDTERM due at 11:59pm on Mar 20**

Wednesday Lecture: *Getting to Know Early Homo: Morphology, Behavior, & Debates*

- Cartmill & Smith: 139, 198–216

WEEK 10: MAR 27 & 29 *HOMO ERECTUS*: HISTORY, MORPHOLOGY, & DISPERSAL

Monday Lecture: *Homo erectus History & Morphology*

- Cartmill & Smith: 197–198, 216–245, 248–250
- Van Arsdale, A. P. (2013). *Homo erectus - A bigger, smarter, faster hominin lineage*. *Nature Education Knowledge* 4(1): 2

Wednesday Lecture: *Homo erectus Dispersal & Behavior*

- Cartmill & Smith: 245–248, 250–262, 267–272, 311–314
- **DUE Sunday Apr 2 (11:59 pm): Partial rough draft of term paper.**

WEEK 11: APR 3 & 5 LAB #4 & FOSSIL ID QUIZ #1

Monday Lab #4: *Early Homo & Homo erectus*

Wednesday **Fossil Hominin ID Quiz #1** (and free lecture day if necessary)

WEEK 12: APR 10 & 12 THE MUDDLE IN THE MIDDLE PLEISTOCENE

Monday & Wednesday Lecture: *Middle Pleistocene Hominins*

- Cartmill & Smith: 262–267, 272–275, 279–284, 287–311, 322–326
- Bae, C. J. (2013). *Archaic Homo sapiens*. *Nature Education Knowledge* 4(8): 4
- Stringer, C. (2012). *The status of Homo heidelbergensis (Schoetensack 1908)*. *Evolutionary Anthropology* 21: 101–107

WEEK 13: APR 17 & 19 THE NEANDERTALS

Monday Lecture: *Neandertal History & Morphology*

- Cartmill & Smith: 333–376, 382–385, 395–406

Wednesday: *Neandertal Behavior*

- Cartmill & Smith: 385–394, 406–410
- Monnier, G. (2012). *Neanderthal behavior*. *Nature Education Knowledge* 3(10): 11
- Marris, E. (2018). *Neanderthal artists made oldest-known cave paintings*. *Nature*
- **DUE Sunday Apr 23 (11:59 pm): Final draft of term paper.**

WEEK 14: APR 24 & 26 MODERN HUMAN ORIGINS

Monday Lecture: *The First Anatomically Modern Humans*

- Cartmill & Smith: 316–321, 414–444

Wednesday Lecture: *Modern Human Origins: Genes, Archaeology, & Anatomy*

- Cartmill & Smith: 321–322, 376–380, 411–414, 444–452
- Wurz, S. (2012). *The transition to modern behavior*. *Nature Education Knowledge* 3(10): 15

WEEK 15: MAY 1 & 3 LAB #5 & MODERN HUMAN ORIGINS CONTINUED

Monday Lab #5: *Middle & Late Pleistocene Homo*

Wednesday: *Multiregionalism vs. Out-of-Africa*

- Cartmill & Smith: 282–285, 287–289, 326–331, 380–383, 452–458, 460–469
- Tryon, C. & Bailey, S. (2013). *Testing models of modern human origins with archaeology and anatomy*. *Nature Education Knowledge* 4(3): 4
- Galway-Witham, J. & Stringer, C. (2018). *How did Homo sapiens evolve?* *Science* 360(6395): 1296-1298

WEEK 16: MAY 9 & 12 FOSSIL ID QUIZ #2 & FINAL EXAM

Tuesday: **Fossil Hominin ID Quiz #2** at 11:50am–1:50pm on May 9 (our final exam period)

Friday: **Take-home FINAL due at 11:59pm on May 12**