



## ASM 104: Bones, Stones, and Human Evolution

### Course and Faculty Information

**Course Description:** Humans and all living things are the products of evolution by natural selection. In this course, you will learn how evolution works, and how evolutionary processes have shaped the behavior and morphology of our closest living relatives, the monkeys and apes. You will also learn how this knowledge can be combined with fossil and archaeological evidence to reconstruct the history of our own lineage. Finally, you will see how natural selection and an increasing dependence on social learning, technology, and culture have shaped the bodies and behavior of contemporary humans.

**Credits:** 4

**Prerequisites:** none

**Instructor:** Joan Silk

**Contact Information:** email: [joan.silk@asu.edu](mailto:joan.silk@asu.edu)

**Office Hours:** Tu&Th 11-12:00, Wed 1:00-2:00, and by appointment on Zoom

### Course Learning Outcomes

At the completion of this course, students will be able to:

1. Explain how evolution by natural selection produces adaptation.
2. Explain the processes that give rise to the evolution of new species.
3. Discuss why natural selection does not always produce optimal traits.
4. Explain the way that natural selection shapes social organization, reproductive strategies, and social behavior of living primates.
5. Identify the temporal and geographic context of hominid evolution.
6. Identify when and why key derived features of modern humans arose.

7. Describe the importance of meat eating, cooperation, and sharing in shaping human life histories.
8. Illustrate how modern genetics contributes to our understanding of modern human emergence;
9. Critically evaluate common misunderstandings about racial categorization schemes.
10. Understand how the capacity for culture has transformed our species.

## ASU Sync

This course uses Sync. ASU Sync is a technology-enhanced approach designed to meet the dynamic needs of the class. During Sync classes, students learn remotely through live class lectures, discussions, study groups and/or tutoring. You can find out more information about ASU Sync for students here, <https://provost.asu.edu/sync/students>.

To access live sessions of this class go to myASU and click the Attend via Sync button next to this class on your schedule.

Each week, there will be two lectures and one lab session. Lectures will be taught remotely via Zoom. expect you to attend lectures at the regularly scheduled times (Tu/Th 9:00-10:15). If this presents a problem for you, please contact me as soon as possible.

***8/2/20: We have not yet decided whether labs will be held in person as well as online. A decision about this will be made as soon as possible. Please contact me if you need more information about this.***

## Textbooks

The text for this course is: *How Humans Evolved*, 8<sup>th</sup> edition. This book is available as a print book or an e-book. You can probably find used copies of the book online. You can order the e-book from the publisher, WW Norton <https://wwnorton.com/books/9780393603453>

If you buy the print book or e-book from Norton, you will have access to an online supplement called InQuizitive which provides a useful tool for reviewing material in the textbook. If you buy a used copy of the book, you can purchase InQuizitive separately for \$20. This is not required for the course and will not be part of your grade.

## Course Access

Your ASU courses can be accessed by both [my.asu.edu](http://my.asu.edu) and [myasucourses.asu.edu](http://myasucourses.asu.edu); bookmark both in the event that one site is down.

## Technology Requirements

ASU Sync classes can be live streamed anywhere with the proper technology. We encourage you to use a PC or Apple laptop or desktop equipped with a built-in or standalone webcam. You will need an internet connection that can effectively stream live broadcasts. It is recommended that your internet download speed is at least 5.0 mbps. You can use this [tool to test your current connection](#).

We do not recommend the use of iPads or Chromebooks for ASU Sync as these devices do not work for class exams that may be proctored remotely.

If you are not able to personally finance the equipment you need to attend class via ASU Sync, ASU has a laptop and WiFi hotspot checkout program available through [ASU Library](#).

### Who is eligible?

- Any currently enrolled ASU student is eligible to checkout a laptop. The current availability of laptops can be found [here](#).
- Borrowing and returning laptop rules
- Laptops are lent on a first-come, first-serve basis, and cannot be reserved in advance. They can be returned at any time, but will be due at the conclusion of the fall 2020 semester.
- Rentals are limited to one laptop per student.
- Laptops are available for checkout at the following libraries on all four campuses. ([Please check online for current library hours](#))
  - Downtown Phoenix campus Library
  - Polytechnic campus Library
  - Tempe: Hayden and Noble Libraries
  - West campus: Fletcher Library
- Return laptops to any ASU Library Information Desk (not at the drop box or other location)
- [Refer to ASU Library Computer Use Policy and ASU Computer, Internet, and Electronic Communications Policy](#).
- Borrowers are responsible for loss, damage, and theft of the laptop while in their possession. Borrowers should verify the condition of the laptop at the time of check-out and upon check-in.

### Additional Requirements: <Adjust as necessary>

This course requires the following technologies:

- Web browsers ([Chrome](#), [Mozilla Firefox](#), or [Safari](#))
- Microsoft Office ([Microsoft 365 is free](#) for all currently-enrolled ASU students)
- Reliable broadband internet connection (DSL or cable) to stream videos.

## Student Success

To be successful:

- check the course website regularly
- read announcements
- read and respond to course email messages as needed
- complete assignments by the due dates specified
- communicate regularly with your instructor and peers
- create a study and/or assignment schedule to stay on track
- access [ASU Student Resources](#)

## Grading

Your grade will be based on exams and lab assignments. There will be 4 exams and 8 required lab assignments.

10 Sep 2020	1	Evolutionary Processes
8 Oct 2020	2	Primate taxonomy, ecology, and behavior
5 Nov 2020	3	The hominin fossil record
3 Dec 2020	4	Modern human

The exams will be a mixture of short answer and objective questions. The exams will be administered online during the normal lecture period.

Each exam will be worth 15% of your grade ( $15 \times 4 = 60$ ). There will be assignments for each lab, and each will be worth 5% of your final grade ( $5 \times 8 = 40$ ). So, the exams will account for 60% of your grade and the labs will account for 40% of your grade. There will not be any extra credit.

## Taking Exams Submitting Assignments

All exams assignments, unless otherwise announced, MUST be submitted to the designated area of Canvas. Do not submit an assignment via email.

Directions for how to access and complete the exams will be provided.

Assignment due dates follow Arizona Standard time. Click the following link to access the [Time Converter](#) to ensure you account for the difference in Time Zones. Note: Arizona does not observe daylight savings time.

## Late or Missed Assignments

Notify the instructor **BEFORE** an assignment is due if an urgent situation arises and you are unable to submit the assignment on time.

Follow the appropriate University policies to request an [accommodation for religious practices](#) or to accommodate a missed assignment [due to University-sanctioned activities](#).

## Chat

The Chat tool in Canvas allows students and teachers to interact in real-time. Use Chat only for informal course-related conversations unless your instructor informs you otherwise. Chat is not ideal for questions about assignments; instructors are not required to monitor it and conversations may be buried or lost.

## Email

ASU email is an [official means of communication](#) among students, faculty, and staff. Students are expected to read and act upon email in a timely fashion. Students bear the responsibility of missed messages and should check their ASU-assigned email regularly.

***All instructor correspondence will be sent to your ASU email account.***

## Syllabus Disclaimer

The syllabus is a statement of intent and serves as an implicit agreement between the instructor and the student. Every effort will be made to avoid changing the course schedule but the possibility exists that unforeseen events will make syllabus changes necessary. Remember to check your ASU email and the course site often.

## Academic Integrity

Academic honesty is expected of all students in all examinations, papers, and laboratory work, academic transactions and records. The possible sanctions include, but are not limited to, appropriate grade penalties, course failure (indicated on the transcript as a grade of E), course failure due to academic dishonesty (indicated on the transcript as a grade of XE), loss of registration privileges, disqualification and dismissal. For more information, see <http://provost.asu.edu/academicintegrity>

## Disability Resources

Students who feel they will need disability accommodations in this class but have not registered with the Disability Resource Center (DRC) should contact DRC immediately. The DRC Tempe office is located

on the first floor of the Matthews Center Building. DRC staff can also be reached at: (480) 965-1234 (V) or (480) 965-9000 (TTY). For additional information, visit: [www.asu.edu/studentaffairs/ed/drc](http://www.asu.edu/studentaffairs/ed/drc).

## **Expected Classroom Behavior - Campus Courses**

Zoom classes require certain new forms of etiquette. For lectures, please mute your microphone to avoid feedback and distracting noises. You can unmute your microphone to ask questions or make comments. Although being online gives you the freedom to attend lecture from any place that you like, please use this freedom wisely and remember that you are visible to others while you are on Zoom.

## **Policy Against Threatening Behavior**

All incidents and allegations of violent or threatening conduct by an ASU student (whether on-or off campus) must be reported to the ASU Police Department (ASU PD) and the Office of the Dean of Students. If either office determines that the behavior poses or has posed a serious threat to personal safety or to the welfare of the campus, the student will not be permitted to return to campus or reside in any ASU residence hall until an appropriate threat assessment has been completed and, if necessary, conditions for return are imposed. ASU PD, the Office of the Dean of Students, and other appropriate offices will coordinate the assessment in light of the relevant circumstances. For more information please visit <https://eoss.asu.edu/dos/srr/PoliciesAndProcedures> and <https://eoss.asu.edu/dos/safety/ThreateningBehavior>.

## **Reporting Title IX Violations**

Title IX is a federal law that provides that no person be excluded on the basis of sex from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity. Both Title IX and university policy make clear that sexual violence and harassment based on sex is prohibited. An individual who believes they have been subjected to sexual violence or harassed on the basis of sex can seek support, including counseling and academic support, from the university. If you or someone you know has been harassed on the basis of sex or sexually assaulted, you can find information and resources at <https://sexualviolenceprevention.asu.edu/faqs>.

## **Policy on Sexual Discrimination**

Arizona State University is committed to providing an environment free of discrimination, harassment, or retaliation for the entire university community, including all students, faculty members, staff employees, and guests. ASU expressly prohibits [discrimination](#), [harassment](#), and [retaliation](#) by employees, students, contractors, or agents of the university based on any protected status: race, color,

religion, sex, national origin, age, disability, veteran status, sexual orientation, gender identity, and genetic information.

As a mandated reporter, I am obligated to report any information I become aware of regarding alleged acts of sexual discrimination, including sexual violence and dating violence. ASU Counseling Services, <https://eoss.asu.edu/counseling>, is available if you wish discuss any concerns confidentially and privately.

## Copyrighted Materials

Students must refrain from uploading to any course shell, discussion board, or website used by the course instructor or other course forum, material that is not the student's original work, unless the students first comply with all applicable copyright laws; faculty members reserve the right to delete materials on the grounds of suspected copyright infringement.

## Schedule of Lectures

Date	Topic	Reading <sup>1</sup>
08/20/20	<b>Natural Selection 1:</b> Why the study of human evolution is interesting and important. How natural selection causes adaptive change.	HHE 3-11
08/25/20	<b>Natural Selection 2:</b> How natural selection gives rise to complex adaptations like the human eye. Why evolution is sometimes fast and other times slow.	HHE 12-22
08/27/20	<b>Mendelian Genetics:</b> How genetic inheritance works.	HHE 25-50
09/01/20	<b>Population Genetics and the Modern Synthesis:</b> How genetic transmission creates evolutionary forces and how these forces maintain variation.	HHE 53-65
09/03/20	<b>Constraints on adaptation:</b> How learned behavior is shaped by natural selection, and why adaptation is always imperfect.	HHE 65-77
09/08/20	<b>Speciation and Systematics:</b> How new species are formed. How patterns of similarity and differences among living species can be used to reconstruct evolutionary history	HHE 81-105

09/10/20	Test #1	
09/15/20	<b>Primate taxonomy:</b> What are primates? Basic introduction to the order.	HHE 109-125
09/17/20	<b>Primate Ecology and Sociality:</b> Costs and benefits of sociality for primates	HHE 125-140
09/22/20	<b>Female reproductive strategies:</b> How mammalian biology shapes female reproductive strategies, and why some females reproduce more successfully than others	HHE 143-155
09/24/20	<b>Male reproductive strategies 1:</b> Male strategies in low skew societies	HHE 155-160
09/29/20	<b>Male reproductive strategies 2:</b> Male strategies in high skew societies	HHE 160-166
10/01/20	<b>Altruism:</b> How evolution shapes social behavior and the puzzle of cooperation	HHE 169-186
10/06/20	<b>Primate life histories and the evolution of large brains:</b> how evolution shapes timing of life events	HHE 189-202
10/08/20	Test #2	
10/13/20	<b>The earliest hominins 1.</b> The earliest hominins. How forest apes were transformed into bipedal savanna dwelling apes	HHE 223-243
10/15/20	<b>The australopithecines:</b> The australopithecines and their contemporaries..	HHE 244-258
10/20/20	<b>Early Homo:</b> More modern bodies and behavior evolve, and hominids leave Africa. Brains reach modern sizes and behavior becomes more complex	HHE 261-269
10/22/20	<b>Hominin paleoecology:</b> How early hominids made a living and why it led to big changes in behavior and life history.	HHE 269-294
10/27/20	<b>The Neanderthals.</b> Large brained hominins, more complex technology.	HHE 297-320
10/29/20	<b>The moderns:</b> The evolution of modern human morphology and behavior in Africa. Paleontological and archaeological evidence.	HHE 323-331,341-351
11/03/20	<b>The moderns:</b> what genes tells us about the past and present	HHE 331-341
11/05/20	Test #3	
11/10/20	<b>Modern human variation:</b> understanding the sources of variation within and between	HHE 355-384



	populations; the problems with racial categorization schemes	
11/12/20	<b>Evolution and modern minds:</b> how evolution shapes the minds and psychology of modern humans	HHE 387-394
11/17/20	<b>Human mating, marriage, and kinship systems:</b> evolutionary perspectives on human mate choice	HHE 395-404
11/19/20	<b>Culture and the evolutionary process:</b> Culture in other animals. Why human culture is different and why it has made humans a spectacular success.	HHE 407-416
11/24/20	<b>Human cooperation:</b> form and patterns of cooperation in human societies	HHE 417-424
11/26/20	HOLIDAY	
12/01/20	<b>Psychological foundations of human cooperation:</b> development of social preferences	No reading
12/03/20	Test #4	

<sup>1</sup> All readings are from How Humans Evolved, 8<sup>th</sup> Edition