

Course Syllabus

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Lecture is held on Tuesdays and Thursdays, 2-3:30pm in Li Ka Shing Room 245.
Discussion sections are held on Monday, Tuesday, or Wednesday.
Discussion sections meet in Valley Life Sciences Bldg. Room 1007.

Faculty Instructor:

Graduate Student Instructors:

GSIs will have individual offices hours; times and locations will be posted by the second week of classes.

Course email address: ib35ac@berkeley.edu

Course Description: This course addresses modern human biological variation from historical, comparative, evolutionary, biomedical, and cultural perspectives. It is designed to introduce students to the fundamentals of comparative biology, evolutionary theory, and genetics.

Prerequisites: There are no prerequisites for this course. All majors are welcome.

Course Format: This is a 4 unit lecture course with discussion section. Lectures will be held twice a week for a total of 3 hours, and students will participate in the one-hour discussion section each week in which they are enrolled.

Grading: Performance will be based on a total of 400 possible points earned as follows:

5 quizzes*, 20 points each	100 points
5 spot assignments**, 5 points each	25 points
Discussion sections, 100 points total	100 points
Wikipedia project, 75 points total	75 points
Final paper, 100 points total	100 points

**all quizzes will be administered through bCourses. There will be a 48-hour time window during which you will have 3 hours to take the quiz once you start it. Dates are noted on the syllabus. There will be 6 quizzes given; your best 5 scores out of 6 will be counted towards your final grade. Your lowest score will be dropped.*

***all spot assignments will be administered during class. These are unannounced in-class activities designed to help you engage with complicated material. There will be 6 spot assignments given; your best 5 scores out of 6 will be counted towards your final grade. Your lowest score will be dropped.*

Final grades will be calculated as the total number of points earned divided by the total possible (400). Final grades are determined following the default UC Berkeley categories established on bCourses, which are:

A	100%	to 94.0%
A-	< 94.0%	to 90.0%
B+	< 90.0%	to 87.0%
B	< 87.0%	to 84.0%
B-	< 84.0%	to 80.0%
C+	< 80.0%	to 77.0%
C	< 77.0%	to 74.0%
C-	< 74.0%	to 70.0%
D+	< 70.0%	to 67.0%
D	< 67.0%	to 64.0%
D-	< 64.0%	to 61.0%
F	< 61.0%	to 0.0%

The student community at UC Berkeley has adopted the following Honor Code:

“As a member of the UC Berkeley community,

I act with honesty, integrity, and respect for others.”

The expectation is that you will adhere to this code, as your instructors pledge to do as well. For more information, please visit this website: <http://asuc.org/honorcode/index.php> (Links to an external site.)
[Links to an external site.](#)

Policy on UC Berkeley’s Code of Student Conduct: All students are expected to follow the University of California at Berkeley’s Campus Code of Student Conduct, as is published at <http://sa.berkeley.edu/code-of-conduct>. Cheating, plagiarism, or any other form of academic dishonesty will not be tolerated (102.01).

Policy on plagiarism:

In academia ideas are our commodity. Taking direct text, ideas, data, or results from someone else’s work without properly giving credit is essentially stealing. Representing them as your own is unethical and disrespectful. This is unacceptable in a university and we take it very seriously here at UC Berkeley. We will pursue disciplinary action against students who plagiarize in this class. If you are unfamiliar with plagiarism you need to read the plagiarism information we have posted on the course bCourses site prior to writing your paper. Also, see the tutorial on the Biosciences Library website: http://www.lib.berkeley.edu/BIOS/media/bio1b_tutorial/module3.html

Required text:

Immortal Life of Henrietta Lacks, by Rebecca Skloot ISBN 978-1-4000-5218-9

Course website: There is a web site for the course available to enrolled students through bCourses at <https://bcourses.berkeley.edu/>. Abbreviated class slides will be posted by 8pm the night before each class meeting. Reading assignments and required readings outside of the required texts will be posted on bCourses (each lecture has it's own "page" with this information). Important announcements related to the course will be posted on the bCourses site. It is your responsibility to check this site. You can sign up to receive announcements by email or get in the habit of checking the site regularly.

Email policy: In order to keep class queries a priority, we have established a class-specific email address. The instructors will respond to emails within 24 hours from 8am on Monday through 5pm on Friday. You will not receive email replies in the evenings or over the weekend. Although email is available to you

24 hours a day 7 days a week, we unfortunately cannot be. Please keep this in mind.

All email related to the class must go through the IB35AC@BERKELEY.EDU address. Given the vast amount of research and administrative-related email correspondence that Dr. Monson and the GSIs face on a daily basis, WE CANNOT GUARANTEE A TIMELY REPLY IF YOU EMAIL DR. MONSON OR THE GSIs DIRECTLY.

Please keep in mind that any of the GSIs and/or Dr. Monson can read email sent to ib35ac@berkeley.edu. **Please indicate your GSI in the subject line**, so that it reads something like this: "GSI Matt: missed section." If you would like to discuss a confidential issue, please write to ib35ac@berkeley.edu to request a meeting or set up a meeting in person.

You must sign your email with the official name you use with the University and/or use your email address registered with the University. If we cannot tell that you are officially a student at Berkeley and enrolled in IB35ac this semester, we will not reply to your email. THIS INCLUDES MESSAGES SENT FROM CELL PHONES.

Please use proper grammar and complete sentences so that your request is clearly understandable.

Policy on accommodation of religious holidays and other scheduling conflicts: In compliance with Education code, Section 92640(a), it is the official policy of the University of California at Berkeley to permit any student to undergo a test or examination, without penalty, at a time when that activity would not violate the student's religious creed, unless administering the examination at an alternative time would impose an undue hardship which could not reasonably have been avoided.

All deadlines and exam dates are noted on this syllabus. It is your responsibility to note any conflicts with exams and due dates and let the instructor or GSIs know. If you have other scheduling conflicts, please see the guidelines at: http://academic-senate.berkeley.edu/sites/default/files/recommendations-reports/guidelines_acadschedconflicts_july2006.pdf.

Policy on make-ups: We will not administer make-up quizzes or other assignments. There are 6 quizzes and only 5 will count towards your final grade. Your lowest score will be dropped. This policy is designed to easily absorb the unexpected illnesses or other events that may stand in your way of taking one of the quizzes. Do not just "take a break" and miss one of the quizzes intentionally.

Policy on turning in assignments late: Only a documented illness or some other unforeseeable emergency will allow us to grant you a later due date than what is posted on this syllabus for any of the assignments. Anticipated events

do not count as acceptable reasons for turning in assignments late (even if it is a University-approved one), as you can and should plan ahead and turn in assignments early.

Policy on attendance for lecture: We do not enforce attendance, but do note that 25 points of your final grade will derive from unannounced in-lecture activities (“spot assignments”). In addition, quiz content will primarily derive from lectures and discussion sections. The reading material is additional information that supplements but does not repeat what is presented in class. You are responsible for both. It is *strongly* recommended that you do not skip lecture.

Policy on attendance for discussion section: Again, we do not enforce attendance. However, there will be an activity in each section worth 10 points of your final grade. There are 11 formal discussion section meetings noted on this syllabus. We will only count your 10 best scores. Your lowest section score will be dropped, for a maximum total discussion section score of 100. Another way to think of it is that each section meeting is worth about 2.5% of your final grade, outside of the pedagogical value. Material presented in section will be included on the quizzes. It is *strongly* recommended that you do not skip your discussion section.

Keep in mind that the Wikipedia project is almost 20% of your grade and involves a considerable amount of effort and planning during discussion section. Attendance is essential.

Policy on laptop use in class: Laptops and other electronic devices are not to be used in lecture or in discussion sections. Research continually shows that multi-tasking is detrimental to the cognitive work required in college. For an overview of this research, see: <http://www.washingtonpost.com/blogs/answer-sheet/wp/2014/09/25/why-a-leading-professor-of-new-media-just-banned-technology-use-in-class/> (Links to an external site.)Links to an external site. Disengage from the virtual world for the short amount of time that you are in the IB35ac environment.

Policy on cell phones: All cell phones need to be silenced during class. We understand that there may be occasional situations in which you need to receive or send an emergency text, but keep in mind that excessive texting or other use of your phones is distracting to other people in the class. If your cell phone activity becomes disruptive, you will be asked to leave the class.

Policy on students with learning disabilities: In order to adequately accommodate students with learning disabilities that require additional services, we need to know who you are and what your needs are by **September 14**. If you delay processing your paperwork, we will not be able to accommodate you for the semester. The Disabled Student Program (DSP) requires a significant amount of lead-time from us prior to each exam, and therefore we cannot

accommodate last-minute or late paperwork. Do not delay in finalizing and confirming your accommodations.

IntegBio 35ac Course Outline and Due Dates for Fall 2017:

Online quiz dates are highlighted in orange.

Discussion section topics are in *italics*.

*** Reading assignments will be posted on the bCourses website. ***

IntegBio 35ac Course Outline and Due Dates:

Reading assignments are posted on the bCourses website.

WEEK 1: Introducing the game plan

Introduction

Aug 24 Lecture 1 No reading assignment.
Start reading the Henrietta Lacks book. You'll need to have this cor

WEEK 2: What is evolution and how do we talk about it?

Aug 28, 29, 30 ***Discussion Section 1: Concepts of evolution***
This is specimen based and runs like a biology lab practical.

Evolution

Aug 29 Lecture 2 [Sulloway FJ. Why Darwin rejected intelligent design. In: Intelligent T edited by J Brockman. pp. 107 – 125.](#)

Scopes & the Skeleton

Aug 31 Lecture 3 [Gibbons A. 2009. Civilization's cost: the decline and fall of human h 324:588.](#)

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WEEK 3: Placing humans within an evolutionary context, part 1

Sep 4, 5, 6 ***No discussion section this week – holiday on Monday***

Sep 5 Lecture 4 **Our place in nature**
[Pontzer, H. 2012. Overview of Hominin Evolution. *Nature Education Knowledge* 3\(10\):8.](#)

Sep 7 Lecture 5 **The human diaspora as recorded in rocks**
[Bae, C. J. \(2013\) *Nature Education Knowledge* 4\(8\):4](#)
[Harvati, K. \(2012\) What Happened to the Neanderthals? *Nature Education Knowledge* 3\(10\):13](#)
[Guo, J. \(2016\) The sinister, secret history of a food that everybody loves. *Washington Post*, April 25.](#)

WEEK 4: Placing humans within an evolutionary context, part 2

Sep 11, 12, 13 **Discussion Section 2: Human cranial variation**
This is specimen based and runs like a biology lab practical.

Sep 12 Lecture 6 **Genetics**
If these basics of genetics are new to you, please check out DNA Forensics at: <http://www.dnaftb.org/>

Sep 14 Lecture 7 **The human diaspora as recorded in our DNA**
[Fisher SE, Ridley M. 2013. Culture, Genes, and the Human Revolution. *Science* 340:929-930.](#)

Sep 16-17 **Online quiz 1** (20 questions based on material presented in weeks 1-4)
(You have three hours to take the quiz once you start. It is available 12:01am on Saturday and closes at 11:59pm on Sunday.)

WEEK 5: What do we mean by “variation”?

Sep 18, 19, 20 **Discussion Section 3: Genetics**
This is a biology lab with practical genetics activity.

Variation, speciation, & heritability

Sep 19 Lecture 8 Mayr E. 1976. *Evolution and the Diversity of Life*. Cambridge, MA. Harvard University Press. Chapter 3: Typological versus Population 29.

Comparing variation

Sep 21 Lecture 9 No reading assignment.

WEEK 6: Human phenotypic variation 1

Sep 25, 26, 27 ***Discussion Section 4: Topic 1 related to King Corn***
Students will have a facilitated discussion of the book

Skin color

Sep 26 Lecture 10 Jablonski NG, Chaplin G. 2010. Human skin pigmentation as an adaptive radiation. *Proceedings of the National Academy of Sciences USA* 107: 1502-1507.

Gene-Culture coevolution

Sep 28 Lecture 11 Curry A. 2013. The milk revolution. *Nature* 500: 20-22.

Sep 30 - Oct 1 **Online quiz 2** (20 questions based on material presented in weeks 5-6)
(You have three hours to take the quiz once you start. It is available 12:01am on Saturday and closes at 11:59pm on Sunday.)

WEEK 7: Human phenotypic variation 2

Discussion Section 5: Topic 1 related to Immortal Life of Henrietta Lacks

Oct 2, 3, 4 Students will have a facilitated discussion of the book and then work on human subjects research protocols. They learn about the history of the Institutional Review Board and do preparatory work for a debate that will take place in the discussion section.

What we look like

Oct 3 Lecture 12 Pritchard, JK. 2010. How we are evolving. *Scientific American* 302: 99-101.

2010).

Thrifty genotypes & natural selection

Oct 5 Lecture 13

Watch the video *Lecture 1: Deconstructing Obesity* from the Howard Hughes Medical Institute: <http://www.hhmi.org/biointeractive/obesity/lectures.html> (Links to an external site.)

Strongly suggested listening: *This American Life #589 Tell Me I'm Fat* (Links to an external site.) (Links to an external site.)

WEEK 8: Human phenotypic variation 3

Oct 9, 10, 11

Discussion Section 6: Topic 2 related to Immortal Life of Henrietta Lacks

Students participate in a mock IRB review panel.

Oct 10 Lecture 14

Blood

Dunavan CP. 2005. Tackling Malaria. *Scientific American* 293(6):76-81.

Oct 12 Lecture 15

Engaged Scholarship – what the Wikipedia Project is all about

No reading assignment.

WEEK 9: Human phenotypic variation 4

Oct 16, 17, 18

Discussion Section 7: Introduction to the Wikipedia Project, We

Oct 17 Lecture 16

Immunity

Kasten E. 2015. Can infection give you the blues? *Scientific American* 313(5):48-49.

Oct 19 Lecture 17

Case Study: High Altitude Living

[High altitude adaptations: the work of Emilia Huerta-Sanchez](#)

Oct 21-22

Online quiz 3 (20 questions based on material presented in weeks 8 and 9)

(You have three hours to take the quiz once you start. It is available from 12:01am on Saturday and closes at 11:59pm on Sunday.)

WEEK 10: Human phenotypic variation 5

Oct 23, 24, 25

Discussion Section 8: Wikipedia Project, Week 2

Oct 24 Lecture 18

Fertility I: Biology

No reading assignment.

Oct 26 Lecture 19

Fertility II: The interface with culture

Students are assigned to read one of five articles from *Psychology*.

WEEK 11: Human phenotypic variation 6

Oct 30, 31, Nov 1

Discussion Section 9: Wikipedia Project, Week 3

Paper topics handed out

Oct 31 Lecture 20

Sex & Gender

Ridley, M. 1999. *Genome: The Autobiography of a Species in 23 Chromosomes*. New York:HarperCollins, pp. 107-121.

Nov 2 Lecture 21

Sociobiology (genetics of behavior)

No reading assignment.

Nov 4-5

Online quiz 4 (20 questions based on material presented in weeks

4-5. You have three hours to take the quiz once you start. It is available from 12:01am on Saturday and closes at 11:59pm on Sunday.)

WEEK 12: Human phenotypic variation 7

Nov 6, 7, 8

Discussion Section 10: Wikipedia Project, Week 4

Nov 7 Lecture 22

Wikipedia Project team meetings

No reading assignment.

Nov 9 Lecture 23 **Wikipedia Project team meetings**
No reading assignment.

WEEK 13: Historical context

Nov 13, 14, 15 **Discussion Section 11: Wikipedia Project, Wrap-up (Week 5)**

Nov 14 Lecture 24 **The science of race, Part 1 (before 1900)**
No reading assignment.

Nov 16 Lecture 25 **The science of race, Part 2 (1900-1960s)**
No reading assignment.

Nov 18-19 | **Online quiz 5** (20 questions based on material presented in weeks
(You have three hours to take the quiz once you start. It is available
12:01am on Saturday and closes at 11:59pm on Sunday.)

WEEK 14: Contemporary context 1

Nov 20, 21, 22 *No discussion sections this week due to the holiday*

Nov 21 Lecture 26 **Why race matters in America today**
No reading assignment.

Nov 23 No class Thanksgiving holiday

WEEK 15: Contemporary context 2

Nov 27, 28, 29 **Discussion Section: Paper critique workshop**

Nov 28 Lecture 27 **Human biological variation in the news & social media**
No reading assignment.

Nov 30 Lecture 28 **The future**
No reading assignment.

Dec 2-3 | **Online quiz 6** (20 questions based on material presented in weeks
(You have three hours to take the quiz once you start. It is available
12:01am on Saturday and closes at 11:59pm on Sunday.)

WEEKS 16 & 17: The Final Exam

There is no final exam. Instead, you will write a final paper in which you “*write about human variation like a biologist.*” Assignment posted in early November in discussion section.

Dec 4 **Final Paper** **Papers will be turned in online through bCourses. They are due**
Due **on Monday, December 4.**