

# Course Syllabus

## IB 35 AC: Human Biological Variation

FALL 2015

Lecture is held on Tuesdays and Thursdays, 3:30-5pm in Stanley Hall Room 105.

Discussion sections are held on Monday, Tuesday, or Wednesday.

Discussion sections meet in Valley Life Sciences Bldg. Room 1007.

### Faculty Instructor:

**Leslea Hlusko**, Associate Professor, Department of Integrative Biology

Office: 5085 Valley Life Sciences Building

Office Hours: 10am-12pm Wednesday, or by appt.

### Graduate Student Instructors:

**Whitney Reiner**, PhD candidate, Dept of Integrative Biology

**Asha Choudhury**, MD/MS program, School of Public Health

**Katie LaBarbera**, PhD candidate, Dept of Integrative Biology

**Mackenzie Kirchner-Smith**, PhD candidate, Dept of Integrative Biology

**Alexander Stubbs**, PhD candidate, Dept of Integrative Biology

GSI Office Hours: M 4:30-5:30, Tu 5:30-6:30, Th 2-3 1007 VLSB

All GSIs are available for course content questions. If you need to meet with a specific GSI, or cannot make this time, please make an appointment through the course email (see below).

**Course email address:** [ib35ac@berkeley.edu](mailto: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:

- Exam 1\*                    50 points    Thursday, October 8, in-class
- Exam 2\*                    50 points    Thursday, November 19, in-class
- Exam 3\* (final)         50 points    Friday, December 18, 7-10pm (location TBD)
- Short essay                25 points    due Thursday, Oct 22, 2015, 3:40pm in-class
- Annotated biblio        25 points    due at start of your discussion section (Nov 2, 3, or 4)
- Paper 1                    25 points    due Thurs, Nov 12, 2015, 3:40pm in-class
- Paper 1, revised        50 points    due Tues, Nov 24, 2015, 3:40pm in-class
- Discussion section     100 points   (10 points earned each section meeting)
- Spot-assignments      25 points    unannounced assignments during lectures

Final grades will be calculated as the total number of points earned divided by the total possible (400). Final grades are determined as:

98-100% A+	83-87% B	78-79% C+	60-69% D
93-97% A	88-89% B+	73-77% C	<60% F
90-92% A-	80-82% B-	70-72% C-	

\*Exams will be entirely scantron graded.

### 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> <http://asuc.org/honorcode/index.php>

**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> (<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 or ideas or 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 bSpace site prior to writing your paper. See also the tutorial on the Biosciences Library website:

[http://www.lib.berkeley.edu/BIOS/media/bio1b\\_tutorial/module3.html](http://www.lib.berkeley.edu/BIOS/media/bio1b_tutorial/module3.html)

### **Required texts:**

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

Living Color, by Nina G. Jablonski, UC Press ISBN 978-0-520-25153-3

Salt, Sugar, Fat, by Michael Moss, ISBN 1400069807

**Course website:** There is a web site for the course available to enrolled students through bCourses at <https://bcourses.berkeley.edu/> (<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. 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 as 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 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](mailto:ib35ac@berkeley.edu) address. Given the vast amount of research and administrative-related email correspondence that Dr. Hlusko and the GSIs face on a daily basis, WE CANNOT GUARANTEE A REPLY IF YOU EMAIL DR. HLUSKO OR THE GSIs DIRECTLY.

Please keep in mind that any of the GSIs and/or Dr. Hlusko can read [ib35ac@berkeley.edu](mailto:ib35ac@berkeley.edu) email. **Please indicate your GSI in the subject line**, so that it reads something like this: "GSI Whitney: missed section." If you would like to discuss a confidential issue, please write to [ib35ac@berkeley.edu](mailto:ib35ac@berkeley.edu) (<mailto: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](http://academic-senate.berkeley.edu/sites/default/files/recommendations-reports/guidelines_acadschedconflicts_july2006.pdf) ([http://academic-senate.berkeley.edu/sites/default/files/recommendations-reports/guidelines\\_acadschedconflicts\\_july2006.pdf](http://academic-senate.berkeley.edu/sites/default/files/recommendations-reports/guidelines_acadschedconflicts_july2006.pdf)).

**Policy on exams:** We will not administer make-up exams. If you have to miss an exam for a valid, unforeseeable and urgent reason, one of your other exams will be counted twice. For example, if you have a valid family emergency and miss exam 1, you may choose either exam 2 or exam 3 to count twice. If you do find yourself facing an unforeseen emergency, please contact us as soon as possible to let us know. You need to designate which exam will count twice within a week of the missed exam. **Documentation will be required.** Please note: this policy is for valid emergencies (i.e., illness, death in the family, need to attend a legal proceeding, your apartment burned down, etc.). Students are otherwise expected to take all three exams.

While we will remind you about exam logistics, you are responsible for making sure that you complete every question and turn in the exam before you leave the room in which it is administered. We will not accept your exam after you have left the classroom.

If you decide to enroll in two courses that meet at the same time (which we strongly advise against), be aware that you will have two final exams scheduled for the exact same time. You will be expected to take the final exam for IB35ac.

**Policy on the paper assignment:** Only a documented illness or some other unforeseeable emergency will allow us to grant you a later due date for any of the writing assignments than what is posted on this syllabus. Anticipated events do not count as acceptable reasons for turning in your paper late (even if it is a University-approved one), as you can and should plan ahead and turn your paper in 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. There will be six spot-assignments, each worth five points. We will only count your 5 highest spot assignment scores in determining your final grade (i.e., you have one "freebie"). Exam 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 12 formal discussion section meetings noted on this syllabus. Your lowest section score will be dropped, for a maximum discussion section score of 110 out of 110. 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 exams. It is *strongly* recommended that you do not skip your discussion section.

**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/> (<http://www.washingtonpost.com/blogs/answer-sheet/wp/2014/09/25/why-a-leading-professor-of-new-media-just-banned-technology-use-in-class/>) 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 a 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.

Cell phones must be turned off and put away during all exams. If you use your phone (even if it just rings) during an exam you will be asked to leave and you will receive a zero on the exam.

**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 15<sup>th</sup>**. 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.

### **Course Outline and Due Dates for Fall 2015**

Exams and the assignment due dates are highlighted in orange. Discussion section topics are in *italics*.

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

#### **WEEK 1: Introducing the game plan**

Aug 27 Lecture 1 Introduction

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

Aug 31, Sep 1, 2 *No discussion section this week*

Sep 1 Lecture 2 Evolution

Sep 3 Lecture 3 Scopes & the Skeleton

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

Sep 7, 8, 9 *No discussion section this week – holiday on Monday*

Sep 8 Lecture 4 Our place in nature

Sep 10 Lecture 5 The human diaspora as recorded in rocks

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

Sep 14, 15, 16 *Discussion Section 1: Concepts of evolution*

Sep 15 Lecture 6 Genetics

Sep 17 Lecture 7 The human diaspora as recorded in our DNA

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

Sep 21, 22, 23 *Discussion Section 2: Human cranial variation*

Sep 22 Lecture 8 Variation, speciation, & heritability

Sep 24 Lecture 9 Comparing variation

#### **WEEK 6: Human phenotypic variation 1**

Sep 28, 29, 30 *Discussion Section 3: Genetics*

Sep 29 Lecture 10 Skin color

Oct 1 Lecture 11 Gene-Culture evolution

#### **WEEK 7: Human phenotypic variation 2**

Oct 5, 6, 7 *Discussion Section 4: Review for Exam 1*

Oct 6 Lecture 12 What we look like

Oct 8 Lecture 13 **EXAM 1**

### **WEEK 8: Human phenotypic variation 3**

Oct 12, 13, 14      *Discussion Section 5: Topic 1 related to Living Color*

Oct 13    Lecture 14    Thrifty genotypes & natural selection

Oct 15    Lecture 15    Blood

### **WEEK 9: Human phenotypic variation 4 and Writing in Biology**

Oct 19, 20, 21      *Discussion Section 6: Topic 2 related to Living Color*

Oct 20    Lecture 16    Fertility I: Biology

Oct 22    Lecture 17    Fertility II: The interface with culture

**Fertility essay due at start of class, 3:40pm**

### **WEEK 10: Writing in Biology, Human phenotypic variation 5**

Oct 26, 27, 28      *Discussion Section 7: Topic 1 related to Salt, Sugar, Fat*

Paper topics handed out

Oct 27    Lecture 18    Sex & Gender

Oct 29    Lecture 19    discuss what plagiarism is, writing like a scientist, practice critiquing with fake paper, graded essays returned

### **WEEK 11: Writing in Biology, Human phenotypic variation 6**

Nov 2, 3, 4          *Discussion Section 8: Topic 2 related to Salt, Sugar, Fat*

**Annotated bibliography due at start of your discussion section**

Nov 3    Lecture 20    The paper topics discussed, getting ready to write

Nov 5    Lecture 21    Sociobiology (genetics of behavior)

### **WEEK 12: Historical context 1**

Nov 9, 10, 11      *Discussion Section 9: Topic 1 related to Immortal Life of Henrietta Lacks*

Nov 10    Lecture 22    Immunity

Nov 12    Lecture 23    The science of race, Part 1 (before 1900)

**PAPER 1 DUE at start of class 3:40pm**

### **WEEK 13: Historical context 2**

Nov 16, 17, 18      *Discussion Section 10: Review for Exam 2*

Nov 17    Lecture 24    The science of race, Part 2 (1900-1960s)

Nov 19    Lecture 25    **EXAM 2**

### **WEEK 14: Relevance of the history of the biology today 1**

Nov 23, 24, 25      *No discussion sections due to holiday*

Nov 24    Lecture 26    Why race matters in America today

**PAPER 2 DUE at start of class 3:40pm**

Nov 26    No class      Thanksgiving holiday

### **WEEK 15: Relevance of the history of the biology today 2**

Nov 30, Dec 1, 2 *Discussion Section 11: Topic 2 related to Immortal Life of Henrietta Lacks*

Dec 1 Lecture 27 Human biological variation in the news & social media

Dec 3 Lecture 28 The future

**WEEKS 16 & 17: The Final Exam**

Dec 7, 8, 9 *Review sessions will be held during normally scheduled discussion section times and in the same room where all previous sections will have been held (1007 VLSB).*

Dec 18 **Friday, 7-10pm EXAM 3 (final exam, location will be announced by the registrar's office)**

Date	Details	
Wed Sep 16, 2015	<a href="https://bcourses.berkeley.edu/courses/1332906/assignments/6686545">Discussion Section 1: Concepts of evolution</a>	due by 11:59pm
Wed Sep 23, 2015	<a href="https://bcourses.berkeley.edu/courses/1332906/assignments/6677659">Discussion 2: Human cranial variation</a>	due by 11:59pm
Wed Sep 30, 2015	<a href="https://bcourses.berkeley.edu/courses/1332906/assignments/6677665">Discussion Section 3: Genetics</a>	due by 11:59pm
Wed Oct 7, 2015	<a href="https://bcourses.berkeley.edu/courses/1332906/assignments/6677690">Discussion Section 4: Review for Exam 1</a>	due by 11:59pm
Thu Oct 8, 2015	<a href="https://bcourses.berkeley.edu/courses/1332906/assignments/6677571">Exam 1</a>	due by 3:30pm
Wed Oct 14, 2015	<a href="https://bcourses.berkeley.edu/courses/1332906/assignments/6677692">Discussion Section 5: Living Color 1</a>	due by 11:59pm
Wed Oct 21, 2015	<a href="https://bcourses.berkeley.edu/courses/1332906/assignments/6677696">Discussion Section 6: Living Color 2</a>	due by 11:59pm
Thu Oct 22, 2015	<a href="https://bcourses.berkeley.edu/courses/1332906/assignments/6686086">Short Essay</a>	due by 3:40pm
Wed Oct 28, 2015	<a href="https://bcourses.berkeley.edu/courses/1332906/assignments/6677700">Discussion Section 7: Salt, Sugar, Fat 1</a>	due by 11:59pm
Wed Nov 4, 2015	<a href="https://bcourses.berkeley.edu/courses/1332906/assignments/6686067">Annotated bib</a>	due by 11:59pm
	<a href="https://bcourses.berkeley.edu/courses/1332906/assignments/6677703">Discussion Section 8: Salt, Sugar, Fat 2</a>	due by 11:59pm
Wed Nov 11, 2015	<a href="https://bcourses.berkeley.edu/courses/1332906/assignments/6677706">Discussion Section 9: The Immortal Life of Henrietta Lacks 1</a>	due by 11:59pm
Thu Nov 19, 2015	<a href="https://bcourses.berkeley.edu/courses/1332906/assignments/6677577">Exam 2</a>	due by 3:30pm
Tue Nov 24, 2015	<a href="https://bcourses.berkeley.edu/courses/1332906/assignments/6686310">Final paper combined scaled score</a>	due by 3:40pm
Wed Dec 2, 2015	<a href="https://bcourses.berkeley.edu/courses/1332906/assignments/6677710">Discussion Section 10: The Immortal Life of Henrietta Lacks 2</a>	due by 11:59pm
Thu Dec 10, 2015	<a href="https://bcourses.berkeley.edu/courses/1332906/assignments/6686476">spot assignment 3</a>	due by 11:59pm
	<a href="https://bcourses.berkeley.edu/courses/1332906/assignments/6686481">spot assignment 4</a>	due by 11:59pm
	<a href="https://bcourses.berkeley.edu/courses/1332906/assignments/6686762">Spot assignment 5</a>	due by 11:59pm

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Sat Dec 12, 2015	<a href="https://bcourses.berkeley.edu/courses/1332906/assignments/6862485">Spot assignment 6 (https://bcourses.berkeley.edu/courses/1332906/assignments/6862485)</a>	due by 11:59pm
Mon Dec 14, 2015	<a href="https://bcourses.berkeley.edu/courses/1332906/assignments/6686455">spot assignment 2 (https://bcourses.berkeley.edu/courses/1332906/assignments/6686455)</a>	due by 11:59pm
	<a href="https://bcourses.berkeley.edu/courses/1332906/assignments/6686344">Spot assignment 1 (https://bcourses.berkeley.edu/courses/1332906/assignments/6686344)</a>	due by 11:59pm
Fri Dec 18, 2015	<a href="https://bcourses.berkeley.edu/courses/1332906/assignments/7054560">Online final (https://bcourses.berkeley.edu/courses/1332906/assignments/7054560)</a>	due by 11:59pm

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