**ANTH 3301: Modern Human Physical Variation**

**Spring 2019**

Course Instructor: Dr. Barbara Piperata Office: Smith Lab 4054

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Office Hours: T: 3:30-4:30; Th: 2-3 or

by appointment

**Lectures**: T/TH: 9:35-10:55 **Location**: Smith Lab 4025

**Pre-requisite**: Anthropology 2200 or permission of the instructor

**Format of Instruction:** This is primarily a lecture-based course, with periodic planned discussion sessions. To perform well in this course attendance is essential. In addition, from the very start of the semester, you should plan to complete all assigned readings and answer any assigned questions **BEFORE** their scheduled presentation/discussion. Reading material for this course will come from an introductory text and a series of articles (see Reading Schedule).

**Description of the Course**: We all experience human diversity on a daily basis, both cultural and biological. The goal of this course is to provide you with an understanding of modern human ***biological*** variation. As a course in natural science you will apply the principles of evolutionary theory and the scientific method to understanding the forces shaping modern human biological variation. The course emphasizes genetic, anatomical, and physiological differences within and between populations. We will spend considerable time looking at how physical, biological and social aspects of the environment shape human biology and thus contribute to human biological variation.

**Learning Outcomes**:

1. Students will become familiar with key aspects of modern human genetic, anatomical and physiological variation.
2. Students will apply knowledge of the forces of evolution to explain modern human variation within and between populations.
3. Students will gain an appreciation for how aspects of the physical, biological and social environment shape modern human variation.
4. Students will understand how humans are continuing to evolve.

**Required Texts/Videos:**

1. Human Biological Diversity. Brown, DE. New York: Routledge 360 pp.
2. Additional readings are marked with a \* on the reading schedule – these pdfs can be found in the “Files” folder on our course Carmen site.
3. You will be required to watch several videos outside of class that pertain to key topics covered in the class. [Referred to by title on the reading schedule]
   1. Ghost in your genes: <https://www.dailymotion.com/video/x1luqdj>
   2. Race - Power of an Illusion: <https://www.kanopy.com/product/race>
   3. Stress, Portrait of a Killer: <https://www.youtube.com/watch?v=eYG0ZuTv5rs>

**Evaluation**: You will be evaluated based on your performance on two exams and the periodic submission of answers to discussion questions.

Exams: Each of the exams will be multiple-format and may include true/false, matching, multiple-choice, fill-in-the-blank and/or problem sets. There will be no make-up exams and your grade for a missed exam will be recorded as a “0.” Questions based on the readings will be posted on Carmen. Periodically, I will ask you to upload the answers to these questions in advance of class. These will serve as the preparation for in-class discussion.

MIDTERM Exam - (35%) – March 7th

FINAL Exam – (40%) – April 29th

Discussion Questions – (25%)

Grades: Grades will be based on the points you achieve on the exams, quizzes and

in-class activities. A ≥ 93, A- 90-92, B+ 88-89, B 83-87, B- 80-82, C+ 78-79, C 73-77, C- 70-72, D+ 68-69, D 60-67, <60 is a failing grade/

**General Guidelines**: While class attendance is not mandatory, you will be tested over material covered in the lectures and class discussion that, in some cases, will not be covered in the required readings. In addition, you may also be tested over material in the readings that are not covered in a class lecture. Class discussion is an important part of the learning experience and certain class periods will be dedicated to discussing articles related to the lectures. Therefore, in order to perform well in this course, it is critical that you: (1) **attend class on a regular basis** and (2) **complete the assigned readings/question sets BEFORE** the topic is covered in lecture. By reading all assigned materials prior to lecture, you will be familiar with the material we will cover. This will help you follow lecture, clearly articulate questions regarding topics you do not understand and participate in class discussion.

**Academic misconduct:** It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term “academic misconduct” includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct <http://studentlife.osu.edu/csc/>.

If I suspect that a student has committed academic misconduct in this course, I am obligated by University Rules to report my suspicions to the Committee on Academic Misconduct (COAM). If COAM determines that you have violated the University’s Code of Student Conduct (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

**Classroom etiquette:** While it should not be necessary to review these things, direct experience indicates otherwise. The classroom is a learning environment. To maintain that environment we must be respectful of one another’s ideas, effort and time. Please arrive ON TIME and turn your cell phone OFF during class – completely off. Using your computer to type lecture notes is absolutely fine – but I expect that you WILL NOT simultaneously be using your computer to access other websites unrelated to the class discussion. These activities are disrespectful and distracting to me and your colleagues sitting around you. Therefore, I will ask any student found texting or viewing materials unrelated to the class on their phone or computer to leave.

**Outside class communication:** I will use CARMEN to communicate with you regarding class information/news (i.e. cancellations, events, due dates etc.). You may contact me via email and I will do my best to respond to you within 24 hours. I also encourage you to make use of office hours.

**Students with Disabilities:** Students with disabilities are responsible for making their needs known to the instructor as soon as the quarter begins and are responsible for seeking available assistance from the office of disability services 292-3307, prior to or at the beginning of the quarter. I rely on the office of disability services for assistance in verifying the need for accommodations and developing accommodation strategies.

**Mental Health Services.** As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student’s ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life’s Counseling and Consultation Service (CCS) by visiting [ccs.osu.edu](http://ccs.osu.edu/) or calling [614­-292-­5766](tel:%28614%29%20292-5766). CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on call counselor when CCS is closed at [614­-292-­5766](tel:%28614%29%20292-5766) and 24 hour emergency help is also available through the 24/7 National Suicide Prevention Hotline at 1-­800­-273-TALK or at [suicidepreventionlifeline.org](http://suicidepreventionlifeline.org/).

In addition, OSU has many resources that are also here to help you in a variety of ways. I have included those resources below:

Emergency Grant, Financial Education, & Coaching: <http://advocacy.osu.edu/emergency-grant/>

OSU Food Pantry: <http://www.buckeyefoodalliance.org>

OSU Disability Resources: <http://advocacy.osu.edu/health-personal-crisis/disabilities>

OSU Advocate that Maintains Confidentiality When One is

Hospitalized: <http://advocacy.osu.edu/health-personal-crisis/hospitalization/>

Confidential Access to OSU Mental Health Resources:

<http://advocacy.osu.edu/health-personal-crisis/mental-health/>

OSU Resources for Students that are Veterans:

<http://veterans.osu.edu/current-students/academic-resources>

**Reading Schedule**

**Reading with an \* are available on Carmen**

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| --- | --- | --- |
| **WEEK 1** | **Topic** | **Reading** |
| Jan 8 | Human variation: an introduction | Brown: Chapter 1 |
| Jan 10 | Biological Basis of Human Diversity 1:  DNA structure and function – Replication & Protein Synthesis | \*Stinson: Chap 3 (pg. 53-70)  Brown: Chap 3 |
| **WEEK 2** |  |  |
| Jan 15 | Biological Basis of Human Diversity 2:  Traits and their transmission – Mitosis and Meiosis | \*Stinson: Chap 3 (pg. 53-70)  Brown: Chap 3 |
| Jan 17 | Biological Basis of Human diversity 3:  Traits and their transmission – Mendelian Genetics | \*Stinson: Chap 3 (pg. 53-70)  Brown: Chap 3 |
| **WEEK 3** |  |  |
| Jan 22 | Biological Basis of Human diversity 4:  Forces of Evolution & Population Genetics | Brown: Chap 3  \*Stinson Chap 4 (pg. 99-114) |
| \*Jan 24 | Biological Basis of Human diversity 4:  Molecular Genetics  **Upload problem-set to Carmen** | Brown: Chap 4 |
| **WEEK 4** |  |  |
| \*Jan 29 | **SNOW DAY** |  |
| Jan 31 | Biological Basis of Human diversity 4:  Molecular Genetics and Epigenetics | \*Skinner Article |
| **Week 5** |  |  |
| Feb 5 | Discussion Day  **FILM**: Ghost in your genes  <https://www.dailymotion.com/video/x1luqdj>  **Upload answers to Carmen (due on Jan 29)** |  |
| Feb 7 | Understanding human variation: historical perspectives | \*Anemone: Chap 1 & 4  Brown: Chap 6 |
| **WEEK 6** |  |  |
| Feb 12 | Understanding human variation: historical perspectives | \*Anemone: Chap 9  Brown: Chap 6 |
| \*Feb 14 | *Discussion Day*: the meaning of race  **FILM:** Race - Power of an Illusion  <https://www.kanopy.com/product/race>  **Upload answers to Carmen** | \*Goodman Article  \*Marks Article  \*Anemone: Chap 4, box 3 |
| **WEEK 7** |  |  |
| Feb 19 | Genetics, Geography & Human diversity | Brown: Chap 7 |
| Feb 21 | Physical stressors and human variation part 1: cold stress | Brown: Chap 11 |
| **WEEK 8** |  |  |
| Feb 26 | Physical stressors and human variation part 2: UV radiation | Brown: Chap 11  \*Jablonski & Chaplin |
| Feb 28 | Physical stressors and human variation part 3: Hypoxia | Brown: Chap 11  \*Anemone Chap 6 |
| **WEEK 9** |  |  |
| Mar 5 | Diet & Human Evolution | Brown: Chap 12 (Nutrition)  \*Stinson et al.: Chap 7 (pg. 251-280)  \*Leonard Article |
| Mar 7 | **\*\*\*\*\*\*\*\*\*\*MIDTERM EXAM #1 (Jan 8 – Feb 28)\*\*\*\*\*\*\*\*\*\*** |  |
|  | **Topic** | **Readings** |
| **WEEK 10** |  |  |
| Mar 12 | **\*\*SPRING BREAK – NO CLASS\*\*** |  |
| Mar 14 | **\*\*SPRING BREAK – NO CLASS\*\*** |  |
| **WEEK 11** |  |  |
| Mar 19 | Biological stressors and human variation: Nutrition | Brown: Chap 12 (Nutrition)  \*Stinson et al.: Chap 7 (pg 251-280) |
| Mar 21 | Biological stressors and human variation: Disease stress I | Brown: Chap 12 (disease) |
| **WEEK 12** |  |  |
| \*Mar 26 | Biological stressors and human variation: Disease stress II  **Upload answers to Carmen** | Brown: Chap 12 (disease)  \*Wolfe Article  \*TBD |
| Mar 28 | **NO CLASS: Dr. Piperata attending HBA/AAPA Meetings** |  |
| **WEEK 13** |  |  |
| Apr 2 | Human Reproduction | Brown: Chap 8 |
| Apr 4 | Evolution of the human life cycle | Brown: Chap 9 |
| **WEEK 14** |  |  |
| Apr 9 | Human growth and development | Brown: Chap 9 |
| Apr 11 | Modern life and human biology 1 | Brown: Chap 13 |
| **WEEK 15** |  |  |
| Apr 16 | Modern life and human biology 2 | Brown Chap 13  \*Fagan Article  \*Epstein Article |
| \*Apr 18 | Discussion – Psychosocial Stress & Human Biology  **FILM**: Stress, Portrait of a Killer  <https://www.youtube.com/watch?v=eYG0ZuTv5rs>  **Upload answers to Carmen** | \*Sapolsky Article |
| **Apr 29** | **Final Exam (Mar 12 – Apr 18) + cumulative section**  **8:00-9:45 (Smith Lab 4025)** |  |