ANTH 362: HUMAN BIOLOGICAL VARIATION (ONLINE)
Spring Quarter 2018
Course Dates: April 2nd– June 15th, 2018

Instructor: Monya Anderson
E-mail: monya@uoregon.edu
Office Hours: 2:00-3:00pm Monday through Friday on e-mail; also available in person by appointment in Condon 369
Graduate Employee (GE): Andrea Eller
E-mail: are@uoregon.edu
Recommended Prerequisites: ANTH 270, BI 213, BI 283H, or permission of the instructor
Please print this syllabus for your reference!

Course Description: This course examines key issues related to human biological variation with a focus on human adaptation and adaptability, as well as genetic and phenotypic variation in contemporary human populations. It begins with a historical overview of approaches to classifying human biological diversity, which includes a discussion of the rise and fall of the concept of "race" in anthropology, as well as the complex topic of racial differences in health. Moreover, this course uses an evolutionary, biocultural framework to understand how adaptation to various ecological stressors (e.g., temperature, solar radiation, and altitude) promotes human biological diversity. This section of the course also describes how genetic tools allow us to document evolutionary change and detect recent selection in human populations. In addition, the course focuses on selected topics in human biology research, including the health effects of chronic psychosocial stress. This course uses a multidisciplinary scientific approach by drawing on the methods, theories, and bodies of knowledge from various scientific disciplines, including anthropology, evolutionary biology, human physiology, medicine, global health, and epidemiology.

Learning Objectives: After successful completion of this course and its associated assignments (e.g., discussion board posts, laboratory exercises, response papers, the midterm exam, and the final exam), students will be able to:

- Discuss why race is not a useful term for describing contemporary human biological variation and describe how race is a sociocultural phenomenon that has biological consequences for health.
- Describe the pattern of global human genetic variation and how genomics provides us with the ability to document evolutionary change and detect recent selection in human populations.
- Explain how environmental stressors such as temperature, solar radiation, and hypoxia shape contemporary human biological variation.
- Elucidate the links between chronic psychosocial stress and disease, including the specific factors that influence how stress "gets under the skin" to affect health.

Course Format

Getting Started

This course is designed to be completely online. To familiarize yourself with the class, please explore the Canvas site and review all documents in the ***Start Here*** section of the Modules page.

Here, you will find the **course syllabus** as well as important regulations and guidelines regarding **Netiquette**. Given that this course discusses and explores some sensitive material in an online format, Netiquette is extremely important. Also in the ***Start Here*** section, you will also find a **student readiness survey**. Please take the survey to learn about how to be a successful online learner.

Weekly Schedule
Each week, we will have a schedule of events and assignments, with most weeks including a selection of the following exercises: required readings, lectures, discussion board posts, response papers, and lab/video worksheets. Your midterm and final exams will taken through the course Canvas site. ***A detailed schedule of the weekly assignments and their respective due dates is listed at the end of this document.***

Required Readings:
Assorted articles and book chapters for each week have been posted to Canvas (see below). These readings have been selected to reinforce the lecture material and to provide fodder for your response papers and the discussion board conversations. Furthermore, your midterm and final exams will include questions focused on these readings to make sure that you have completed the assignments and have critically engaged with the literature***.***

Narrated Lectures:
During most weeks, you will be required to watch narrated PowerPoint presentations (approximately 1 – 2 lectures per week). These lectures will provide an overview of the key topics and ideas for the week. These lectures will also incorporate issues associated with the weekly readings to enhance your understanding of this material. Although the lecture slides are also available in pdf format, there will be material and details presented in the narration that is not on the slides that you are also responsible for knowing.

Discussion Board Posts:
On designated weeks (see schedule below), a discussion prompt will be posted based on the lecture material and required readings. These weekly discussions will provide an opportunity for you to demonstrate that you have completed the readings and critically engaged with the material. Moreover, the discussion board offers a forum for you to talk with your classmates and your instructor about course-related material. In the weeks preceding the midterm and final exams, the discussion board can also serve as an "online study group" in preparation for the upcoming tests. In general, I encourage everyone to use the discussion board as a space to ask questions and receive feedback from other students. I will be available to address questions as needed, but this will be a student-facilitated discussion. ***Please refer to page 12 of the syllabus for a grading rubric of the discussion posts.*** Discussion participation is worth 10% of your grade.

- ***First Critical Response: You are required to post your first response to the discussion prompt by 11:59PM PST on Wednesday of each week.*** These posts should be one to two paragraphs in length and need to be well-structured responses that include reactions to the readings and lectures. Please provide appropriate citations as needed using APA format. You are welcome to include one to two questions in your response that may reflect areas of

confusion or additional areas of inquiry. These questions will provide an opportunity for your classmates to critically respond. The first critical response is worth 10 points.

- ***Second Critical Response: You are then required to respond to at least one posting from another student by 11:59PM on Friday of that same week.*** These posts should be a reaction to the first critical responses posted on Wednesday and should be substantive and well-composed (~1-2 paragraphs). The goal of your second response is to expand your classmates' knowledge and understanding of the key topics in the course. If appropriate, these responses should include citations using APA format. Please provide thoughtful and constructive comments for your fellow students and be respectful of their opinions. Poor behavior will reflect negatively on your grade. The second critical response is worth 10 points.

Laboratory and Video Exercises:
During most weeks, students will complete a laboratory- or video-based assignment that focuses on the key topics for that week. These exercises will provide an opportunity for students to acquire hands-on and interactive experiences with the course material. ***These assignments will include a worksheet that must be submitted by 11:59PM PST on Sunday of each week.*** Each assignment is worth 10 points total. Late assignments will be deducted one point for each day the assignment is late. Weekly assignments are worth 20% of your grade.

Response Papers
During the term, each student will write **three** short (2-3 page, double spaced, 12-point font) response papers on topics selected by the instructor. These response papers will provide an opportunity for critical analysis of several current topics related to human biological variation. Your response papers should be concise, focused around a couple of main points, and demonstrate that you have critically evaluated the subject in a sophisticated way. You have the option of approaching your response papers in various ways. For example, you can discuss how the topic relates to your own life and connect the material with a personal issue. Another option is to link it with material from other courses, or you could also develop a critique that brings in outside sources. Please make sure to use formal language and edit for spelling errors and grammar. Response papers are worth 20% of your grade.

Midterm and Final Exams
The midterm and final exam will be taken through the course Canvas site. ***The midterm exam is scheduled for Weeks Six and Seven (Monday, May 7th – Friday, May 20th), and the final exam is scheduled for Week Ten and Finals Week (Monday, June 4th – Friday, June 15th).***
The midterm and final exams will be based on lectures, readings, discussions, response papers, videos, and lab exercises. They will include objective (multiple choice) and short answer (2-3 sentences) questions. The midterm and final exams are each worth 25% of your grade.

Expectations and Grading
Grades are based on a midterm exam, final exam, discussion board participation, response papers, and weekly laboratory or video exercises. Regular online attendance and participation are essential for this course. Moreover, reviewing the required readings and lectures are critical to passing exams and completing weekly assignments.

Exams and assignments must be posted or turned in at the scheduled time—**under no circumstances will make-up exams or assignment extensions be given without a documented excuse** (e.g. note from your doctor). If you will not be able to take an exam or turn in an assignment, you **must** notify me in advance (preferably by e-mail) or you will not receive credit.

25% Midterm Exam (during Weeks 6-7)
25% Final Exam (during Week 10 – Finals Week)
20% Weekly Assignments Based on Lab or Video Exercises (6 total; 10 points each; 60 points total)
10% Weekly Participation in Discussion Board (4 total; 10 points for first critical response; 10 points for second critical response; 80 points total)
20% Response Papers (3 total; 20 points each; 60 points total) 5

Grades will be assigned as follows: A = 90-100%, B = 80-89%, C = 70-69%, D = 60-69%, F < 60% (with minus and plus grades assigned at appropriate cutoffs). The grading system used in this course is as follows:

A – Outstanding performance relative to that required to meet course requirements; demonstrates
a mastery of course content at the highest level.
B – Performance that is significantly above that required to meet course requirements; demonstrates a mastery of course content at a high level.
C – Performance that meets the course requirements in every respect; demonstrates an adequate understanding of course content.
D – Performance that is at the minimal level necessary to pass the course but does not fully meet the course requirements; demonstrates a marginal understanding of course content.
F – Performance in the course, for whatever reason, is unacceptable and does not meet the course requirements; demonstrates an inadequate understanding of the course content.

Canvas
This course is delivered on a computer using Canvas. This learning management site will allow you to complete academic work in a flexible manner on your computer. The syllabus, videos, readings, PowerPoint lectures, assignments, and discussion boards are all included on the course site. When you register for the class, you will automatically be enrolled to the site. Issues related to Canvas as well as the design and accessibility of this course should be directed to the UO Academic Extension Distance Education (http://de.uoregon.edu/) and an email can be sent to Disted@uoregon.edu.

Be Computer Ready!
Make sure your computer is ready for this course. If you don't have the following installed on your computer, make sure you do as soon as possible.

• Microsoft Office Suite software, Mac's Pages, Open Office Suite software, or a compatible word-processing suite
• Adobe® Reader® software (available as a free download at http://get.adobe.com/reader/
• QuickTime player, VLC, or any other free video player download

Accommodations

Appropriate accommodations will be provided for students with documented disabilities. ***If you anticipate needing accommodations in this course, please make arrangements to talk with me soon.*** You will need to provide a notification letter from Disability Services outlining your approved accommodations.

Personal Issues

If there is a serious issue related to your ability to participate in our course, you need to contact me ***immediately***. Delay in asking for help will cause you to fall behind in the course, and make-up work will not be accepted unless prior accommodations have been made. Please contact me if you have any questions or concerns.

Academic Honesty

Academic honesty is essential for each student's intellectual development. As a student who enrolls in this course, you agree to acknowledge the research and ideas of others in your work and to abide by those rules for exams, response papers, discussion posts, and weekly assignments. For further information about the UO policy on plagiarism, please refer to your student handbook. The UO also provides resources to help you avoid plagiarism. Check out: http://library.uoregon.edu/guides/plagiarism/students/index.html. Additionally, I will be monitoring all work for evidence of plagiarism. Software is now available that can scan a paper or paragraph and compare it to hundreds of sources on the Internet to analyze the degree of its originality. In cases in which plagiarism is observed, it is my responsibility to take appropriate action. ***Please, for your protection and development, cite your sources properly and do not plagiarize.*** You can find proper use and examples of the APA citation method at the University of Oregon library website: http://researchguides.uoregon.edu/citing-plagiarism.

Keep Copies of Your Work!

Given that this is an online course, you should consider storing all your work on a personal external hard drive to protect your material from possible hard drive failures. Your instructor is not responsible for lost or missing coursework. ***Please be safe and back up your work.***

Schedule and Readings:

Week/Date	Topics	Assignments	Required Readings
Week One **April 2**-7	**1) Setting the Stage**: Human Evolutionary Biology **2) Are Humans Still Evolving?** **3) Human Evolutionary Biology Today:** Adaptation and adaptability	**1) Required Readings** **2) Narrated Lectures** **3) Discussion Board: *Course Introduction*** • First post by *11:59PM PST* on *Wednesday, April 4th* • Respond to at least one posting from another student by *11:59PM PST* on *Friday, April 6th* **4) Video Exercise: *BBC Horizon—Are We Still Evolving?*** • Upload video question worksheet by *11:59PM PST* on *Sunday, April 7th*	1) Stinson et al. 2012 2) Frisancho 2010 3) Gibbons 2010 4) Tyson 2009 5) Supplementary Reading for Discussion Board: Ward 2009
Week Two **April 8-15**	**1) Human Genetic Variation**	**1) Required Readings** **2) Narrated Lectures** **3) Response Paper: *What Makes Us Human?*** • Upload response paper by *11:59PM PST* on *Sunday, April 15th*	1) Meier & Raff 2010 2) Steiper 2010 3) Response Paper Reading: Pollard 2009
Week Three **April 16-22**	**1) Population Genetics:** Documenting Evolutionary Change	**1) Required Readings** **2) Narrated Lectures** **3) Discussion Board: *Modern Genetics Research*** • First post by *11:59PM PST* on *Wednesday, April 18th* • Respond to at least one posting from another student by *11:59PM PST* on *Friday, April 20th* **4) Lab Exercise: *Population Genetics*** • Complete a sample problem on Canvas and upload a worksheet by *11:59PM PST* on *Sunday, April 22nd*	1) Jurmain 2010 2) Relethford & Harding 2001

Week Four **April 23-29**	**1) Historical Perspectives on Human Variation:** The Rise and Fall of the Race Concept **2) Applied Skeletal Variation and the Concept of Race**	**1) Required Readings** **2) Narrated Lectures** **3) Lab Exercise: *Understanding Race*** • Upload lab worksheet by *11:59PM PST* on *Sunday, April 29th*	1) Mielke et al. 2011:Chapter One 2) Ousley et al. 2009
Week Five **April 30-May 6**	**1) Genetics and the Concept of Race** **2) Race as a Sociocultural Phenomenon**	**1) Required Readings** **2) Narrated Lectures** **3) Response Paper: *Rachel Dolezal's story*** • Upload response paper by *11:59PM PST* on *Sunday, May 6th*	1) Gravlee 2009 2) Madrigal & Barbujani 2007 3) Response Paper Readings: Kim 2015, Peralta 2015, Shalby 2015, Kim 2016
Week Six **May 7-13**	**1) Midterm Exam**	**1) Midterm Exam:** • Exam will be available *Monday, May 7th thru Friday, May 20th* **2) Discussion Board for Midterm Review** First post by *11:59PM PST* on *Wednesday, May 9th* • Respond to at least one posting from another student by *11:59PM PST* on *Friday, May 11th*	No required readingsfor this week
Week Seven **May 14-20**	**1)Midterm Exam Continued** **2) Heat Adaptations:** Hot-Dry vs. Warm-Humid Adaptations **3) Climatic Adaptations to Cold Stress:** Metabolic Strategies	**1) Required Readings** **2) Narrated Lectures** **3) Lab Exercise: *Body Size and Proportions*** • Upload lab worksheet by *11:59PM PST* on *Sunday, May 20th*	1) Brown 2010 2) Leonard & Katzmarzyk 2010 3) Snodgrass et al. 2007
Week Eight **May 21-27**	**1) High Altitude Adaptations:** Hypoxia **2) Solar Radiation Adaptations:** Selection in High vs. Low Sunlight Environments	**1) Required Readings** **2) Narrated Lectures** **3) Discussion Board** • First post by *11:59PM PST* on *Wednesday, May 23rd* • Respond to at least one posting from another student by *11:59PM PST* on *Friday,*	1) Brutsaert 2010 2) Mielke et al. 2011:Chapter Twelve

		May 25th **4) Lab Exercise: *High Altitude and Solar Radiation*** • Upload lab worksheet by *11:59PM PST* on *Sunday, May 27th*	
Week Nine **May 28-June 3**	**1) Social Determinants of Health** **2) Social Inequality and Health Disparities** **3) Psychosocial Dimensions of Stress** **4) Cumulative Measures of Stress:** Allostatic Load	**1) Required Readings** **2) Narrated Lectures** **3) Response Paper: *Social Determinants of Health and Health Disparities*** • Upload response paper by *11:59PM PST* on *Sunday, June 3rd*	1) Sobo 2013 2) Ice & James 2012 3) Seeman et al. 2004 4) Murray et al. 2006 5) Geronimus et al. 2006
Week Ten **June 4-10**	**1) Final Exam** **2) Course Wrap-Up**	**1) Final Exam** • Exam will be available *Monday, June 4th -Friday, June 15th* **2) Video Exercise: *Stress - Portrait of a Killer*** • Upload video question worksheet by *11:59PM PST* on *Sunday, June 10th*	
Finals Week **June 11-15**	**1) Final Exam Continued**		

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Required and Supplementary Course Readings

WEEK 1

- Stinson S et al. 2012. Human biology: An evolutionary and biocultural perspective (Ch. 1). In: Stinson S et al. (eds.) Human Biology: An Evolutionary and Biocultural Perspective. Wiley, pp. 3-22.
- Frisancho AR. 2010. The study of human adaptation (Ch. 2). In: Muehlenbein MP (ed.) Human Evolutionary Biology. Cambridge. pp. 17-28.
- Gibbons A. 2010. Tracing evolution's recent fingerprints. *Science* 329: 740-742.

- Tyson P. 2009. Are we still evolving? *Nova Online* (5 pages); http://www.pbs.org/wgbh/nova/evolution/are-we- still-evolving.html
- Ward P. 2009. What will become of *Homo sapiens*? *Sci Am* (Jan.), pp. 68-73.

WEEK 2

- Meier RJ, Raff JA. 2010. Genetics in human biology (Ch. 4). In: Muehlenbein MP (ed.) Human Evolutionary Biology. Cambridge. pp. 48-73.
- Steiper ME. 2010. DNA markers of human variation (Ch. 14). In: Muehlenbein MP (ed.) Human Evolutionary Biology. Cambridge. pp. 238-264.
- Pollard KS. 2009. What makes us human? Sci Am (May), pp. 44-49.

WEEK 3

- Jurmain R et al. 2010. Population genetics section of Modern Human Biology: Patterns of Variation (Ch. 15). In: Jurmain et al. *Introduction to Physical Anthropology*, Wadsworth/Cengage, pp. 436-445.
- Relethford J & Harding RM. 2001. Population Genetics of Modern Human Evolution. Encyclopedia of Life Sciences. Macmillan Publishers Ltd. pp. 1-6.

WEEK 4

- Mielke JH et al. 2011. Comprehending human biological diversity (Ch1) In: Human Biological Variation (2nd edition). Oxford U Press, pp. 3-22.
- Ousley S et al. 2009. Understanding race and human variation: Why forensic anthropologists are good at identifying race. *American Journal of Physical Anthropology* 139: 68-76.

WEEK 5

- Gravlee CC. 2009. How race becomes biology: Embodiment of social inequality. *American Journal of Physical Anthropology* 139: 47-57.
- Madrigal L & Barbujani G. 2007. Partitioning of genetic variation in human populations and the concept of race. In: Crawford MH (ed.) *Anthropological Genetics: Theory, Methods, and Applications.* Cambridge University Press, pp. 19-37.
- Kim EK. 2015. Rachel Dolezal breaks her silence on TODAY: 'I identify as black'. Today News. Retrieved from http://www.today.com/news/rachel-dolezal-speaks-today-show-matt-lauer-after-naacp-resignation-t26371.
- Peralta E. 2015. Spokane NAACP Leader's Race Becomes Subject Of Controversy. NPR. Retrieved from http://www.npr.org/sections/thetwo-way/2015/06/12/413882989/race-of-spokanes-naacp-leader-becomes-subject-of-controversy.

- Shalby C. 2015. The problem with trying to label Rachel Dolezal. PBS Newsroom. Retrieved from http://www.pbs.org/newshour/rundown/problem-speculation-rachel-dolezal-identity/.
- Kim EK. 2016. Rachel Dolezal 1 year later: 'I don't have any regrets about how I identify'. Today News. Retrieved from http://www.today.com/news/rachel-dolezal-1-year-later-i-don-t-have-any-t85871.

WEEK 6

No required readings for this week

WEEK 7

- Brown DE. 2010. Human adaptability to physical stressors (Ch. 11). In: Human Biological Diversity. Pearson. pp. 201-225.
- Leonard WR, Katzmarzyk PT. 2010. Body size and shape: Climatic and nutritional influences on human body morphology (Ch. 10). In: Muehlenbein MP (ed.) Human Evolutionary Biology. Cambridge: Cambridge University Press, pp 157-169.
- Snodgrass JJ, MV Sorensen, LA Tarskaia, WR Leonard. 2007. Adaptive dimensions of health research among indigenous Siberians. *American Journal of Human Biology* 19: 165-180.

WEEK 8

- Brutsaert TD. 2010. Human adaptation to high altitude (Ch. 11). In: Muehlenbein MP (ed.) Human Evolutionary Biology. Cambridge: Cambridge University Press, pp 170-191.
- Mielke JH et al. 2011. Pigmentation (Ch. 12). In: Human Biological Variation (2nd Edition). Oxford U Press: Oxford, p. 291-313.

WEEK 9

- Sobo EJ. 2013. Political economy of variation in human health (Chapter 9). In: Dynamics of Human Biocultural
- Diversity: A Unified Approach. Walnut Creek, CA: Left Coast Press, pp. 185-205.
- Ice GH and James GD. 2012. Stress and human biology (Ch. 10). In: Stinson S et al. (eds.) Human Biology: An Evolutionary and Biocultural Perspective. Wiley, pp. 459-511.
- Seeman T et al. 2004. Cumulative biological risk and socio-economic differences in mortality: MacArthur Studies of Successful Aging. *Social Science and Medicine* 58: 1985-1997.
- Murray CJL, Kulkarni SC, Michaud C, Tomijima N, Bulzacchelli MT, Iandiorio TJ, Ezzati M. 2006. Eight Americas: Investigating mortality disparities across races, counties, and race--Counties in the United States. *PLoS Medicine* 3(9): e260. DOI: 10.1371/journal.pmed.0030260.
- Geronimus A et al. 2006. Weathering and age patterns of allostatic load scores among black and whites in the United States. *American Journal of Public Health* 96: 826-833.

WEEK 10

No required readings for this week.

Discussion Board Rubric

This rubric assesses language skills, content, communication, and critical thinking for all of your posts. Each post is worth 10 points for a total of 20 points total towards your final grade.

Score	Writing Comprehension	Language Accuracy/Usage	Critical Thinking	Relevance/ Creativity of Content	Interactivity	Format &Structure	Preparation Process
9 - 10	Not difficult for instructor or peers to understand	Few or no significant errors; Consistent evidence of sensitivity to language and culture norms	Minimal recitation of reading material; Appropriate use of material learned outside of class; Great advice offered to peers	Strong relevance and creativity of posted content to weekly readings and to the class in general	Discussion and response posts are thought provoking, engaging, and interactive	Fully followed all directions for post	Excellent degree of preparation, editing, and developmentof ideas and thoughts
7 - 8	Minor difficulty for instructor or peers to understand	Some minor errors, but does not impede written responses	Minimal regurgitation of reading material; Some evidence of external learning; Good advice offered to peers	High degree of relevance and creativity of posted content to weekly readings and to the class in general	Discussion and response posts are somewhat thought provoking and engaging	With one exception, followed all directions for post	High degree of preparation, editing, and developmentof ideas and thoughts
5 - 6	Some difficulty for instructor or peers to understand	Consistent errors and poor word choices	Moderate repetition of posts and ideas; Moderate evidence of the use of materials or ideas outside of class; Mostly good advice offered to peers	Moderate relevance and creativity of posted content to weekly readings and to the class in general	Discussion and response posts are moderately thought provoking and engaging	Followed most directions for a post	Moderate degree of preparation, editing, and developmentof ideas and thoughts
3 - 4	Significant parts are incomprehensible	Frequent errors, poor word choices, and minor cultural awareness and sensitivity	Mostly repetition of posts and ideas; Minimal use of materials or ideas outside of class; Poor advice offered to peers	Minimal relevance and creativity of posted content to weekly readings and to the class in general	Discussion and response posts are minimally thought provoking and engaging	With few exceptions, did not follow directions for post	Minimal degree of preparation, editing, and developmentof ideas and thoughts
0 - 2	Completely incomprehensible	Consistent and frequent errors; No evidence of cultural awareness and sensitivity	Only recitation of reading material; No use of any materials or ideas outside of class; Consistently poor advice offered to peers	No relevance and creativity of posted content to weekly readings and to the class in general	Discussion and response posts are not thought provoking, engaging, and interactive	Did not follow directions for post	No evidence of preparation, editing, and developmentof ideas and thoughts