ANTH 369: HUMAN GROWTH & DEVELOPMENT (version 9.27.2020)
Fall Quarter 2020 (CRN 16530)
4 credit hours (Satisfies an SC requirement)

Course Time: Mondays and Wednesdays, 10:15 - 11:45 am
Course Location: REMOTE

Instructor: Dr. Josh Snodgrass (website: http://www.pinniped.net/snodgrass.html)
Office Hours: Fridays at 11-12 (open Zoom) & private meetings by appointment (using Zoom)
e-mail: jjosh@uoregon.edu

Graduate Teaching Assistants: Tanner Anderson, e-mail: tander10@uoregon.edu
Kelsi Kuehn, e-mail: kelsik@uoregon.edu

Prerequisite: None; ANTH 173, ANTH 175, ANTH 270, or equivalent highly recommended

Course Description: Examines key issues in human and nonhuman primate growth and development; addresses genetic, social, and ecological determinants of variation in growth.

Course Format: REMOTE (Prerecorded lectures, live discussion, and online live weekly laboratory sections)

Expanded Course Description: This is a science group satisfying course that examines key issues in human growth and development, focusing particular attention on human physical growth. In this course, human growth and development is viewed as a biocultural process that demands an integrated analysis. This course uses a scientific approach, drawing on the methods, theories, and bodies of knowledge from various scientific disciplines, including evolutionary biology, genetics, neuroscience, physiology, nutritional sciences, and medicine.

This course has three main sections:

Section 1 builds the framework for understanding human growth and development. This section begins by providing an historical overview of growth studies, focusing particular attention on developments during the 20th century. This is followed by discussions of the scientific method and evolutionary theory, with particular attention directed towards the adaptation concept and life history theory. This comparative evolutionary perspective on human growth incorporates studies of living primates and fossil human ancestors.

Section 2 focuses on the basic principles of human growth and development, from conception through older adulthood. For each life stage, the major shifts in anatomy, physiology, and brain development are discussed. This section also covers techniques for assessing human growth status and the application of the knowledge of patterns of growth and development to bioarchaeology and forensic anthropology.

Section 3 focuses on variation in human growth and development. Beyond simply describing differences in growth and development within and between groups, this course uses a biocultural framework that incorporates genetic, social, and ecological factors to explain why these patterns of variation exist. This section spends considerable time on illustrating how specific dietary factors, disease exposure, and parenting practices can shape variation in growth and development, as well as patterns of aging.

Canvas: A Canvas site will be used extensively, it being the main source for course materials, information, readings, lab materials, and announcements. Make sure that you check your Canvas-linked e-mail account daily.

Accommodations: Appropriate accommodations will be provided for students with documented disabilities. Please make arrangements to meet with me or your TA to discuss these accommodations.

Required Readings: Assorted articles and book chapters (see below—all available on Canvas).
**Expectations and Grading:** Viewing of lectures and participation in laboratory sections are required. Course readings are extremely helpful as a supplement to lectures, completing lab assignments, and participating in lab section activities. Also, students are encouraged to attend and participate in the online class discussion. Your grade in the course will reflect your performance on four quizzes, three lab write-ups, and a term project that includes iterative writing assignments and a presentation in lab section.

**Canvas Quizzes** 40%
- **Quiz 1** (Online, covers weeks 1-3; Must be taken 10/15 - 10/18), 10%
- **Quiz 2** (Online; covers weeks 4-5; Must be taken 10/29 - 11/1), 10%
- **Quiz 3** (Online; covers weeks 6-7; Must be taken 11/12 – 11/15), 10%
- **Quiz 4** (Online; covers weeks 8-9; Must be taken 11/26 -11/29), 10%

**Lab Write-Ups** 15%
- **Week 2 Lab (Anthropometry; Write-up due 10/13), 5%
- **Week 5 Lab (Fetal Development & Embryology; Write-up due 11/3), 5%
- **Week 7 Lab (Skeletal Development; Write-up due 11/17), 5%

**COVID Briefing** 45%
- **Scaffolding Assignment 1** (Topic & group division of labor; Due 10/25), 5%
- **Scaffolding Assignment 2** (How you are approaching this briefing; Due 11/8), 5%
- **Scaffolding Assignment 3** (Key issues & intervention possibilities; Due 11/22), 5%
- **Group Presentation** (In lab section; 12/1), 10%
- **Final Briefing Document** (Due 12/8), 20%

**Quizzes:** The quizzes are based on lectures, readings and class discussions, and will be multiple choice on Canvas. Quizzes must be taken at the scheduled time. Make-up quizzes will not be given without a documented excuse (e.g., signed note from your doctor). If you will not be able to take a quiz, you must notify us in advance by e-mail.

**Lab Write-Ups:** During the term, each student will write three SHORT (1-2 page) lab write-ups based on the exercises and questions from lab activities. Lab exercise write-ups are due in lab the following week. All lab sections are held on Tuesdays and will be run by TAs Tanner Anderson and Kelsi Kuehn.

**COVID Briefing:** During the term, each student will participate in a group activity of 3 students and will write a 3-page (single-spaced) plus 1 page of references COVID Briefing Document on one of the following topics: 1) Parenting in a pandemic; 2) Supporting the physical and mental health of kids during COVID; 3) Vaccinating children and adolescents for COVID; and, 4) Social determinants of health with COVID. Your team will write the CBD imagining that you form the transition team for a newly elected US Senator or Congressperson. Your group will have to outline the key issues related to the topic in your particular area (a state or congressional district of your choice) and identify the possible points of intervention or greatest impact. This is an iterative writing assignment with three assignments due during the term (with feedback provided) and the final document submitted during Finals Week (12/8). Also, your team will present this COVID Briefing to your lab during Week 10.

**Course Grades:** 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.
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| 1    | 9/28 | No class; Yom Kippur holiday | 1) Bogin 1999  
2) Rosenberg & Trevathan 2014  
3) Ball & Russell 2014  
4) McDade & Sancilio 2020 |
|      | 9/30 | Lecture 1: Introduction and course overview; Why study growth? Introduction to GenEd & the scientific method; Evolutionary & biocultural approaches; Human auxology | Lab 1: Introduction to the Course; Introductions; Scientific Method & Evolutionary Theory Exercise |
|      |      | **Lab Readings:**  
1) Firestein 2012  
2) Understanding Evolution 2010 |
| 2    | 10/5 | Lecture 2: Historical perspective on human growth & development; Different approaches to studying growth & development | 1) Tanner 1998 |
|      | 10/7 | Lecture 3: Basic principles; Methods for assessing growth and maturity; Biocultural perspective on growth & development | 1) Cameron 2012  
2) Cole 2013  
3) Wiley & Allen 2013 |
|      |      | **Lab Readings:**  
1) Bogin 2012  
2) Leonard et al. 2012 |
|      |      | **Quiz on material from weeks 1-3 (10/15 - 10/18)** |
| 3    | 10/12| Lecture 4: Evolutionary perspective on human growth | 1) Bogin 2012 |
|      |      | **Lab Readings (read at least 3):**  
1) Ablow & Sullivan 2020  
2) Khazan & Harris 2020  
3) NPR Short Wave Podcast 2020  
4) Grose 2020  
5) Decaille 2020 |
|      |      | **Quiz on material from weeks 1-3 (10/15 - 10/18)** |
| 4    | 10/19| Lecture 6: Ovarian cycle regulation; Conception; Prenatal growth & development; Embryology | 1) Berk & Meyers 2015 (Ch. 3) |
|      | 10/21| Lecture 7: Prenatal growth & development (cont’d); Pregnancy; Fetal “programming” & the Developmental Origins of Health and Disease (DOHaD) | 1) Low et al. 2015  
2) Gildner & Thayer 2020 |
|      |      | **Lab 4: COVID Briefing Discussion: Instructions (GE demonstration of research process) & Form your group** |
|      |      | **COVID Briefing Scaffolding assignment 1 (Topic & Team members/team division of labor), Due 10/25** |
| 5    | 10/26| Lecture 8: Birth; Birth outcomes; Advantages and disadvantages of our evolutionary heritage | 1) Trevathan 2015  
2) Trevathan & Rosenberg 2014 |
|      | 10/28| Lecture 9: Infancy; Infant growth & development; Breastfeeding | 1) Berk & Meyers 2015 (Ch5 part)  
2) Hoi & McKerracher 2015 |
<p>|      |      | **Lab 5: Fetal Development &amp; Embryology <strong>(Lab write-up due 11/3)</strong> |
|      |      | <strong>Quiz on material from weeks 4-5 (10/29 - 11/1)</strong> |</p>
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| 6    | 11/2   | Lecture 10: Case Study—Growth & development research among the Shuar of Amazonian Ecuador | 1) Urlacher et al. 2018  
2) Williams 2018 |
|      | 11/4   | Lecture 11: Childhood & juvenile growth; Why grow up?                 | 1) Berk & Meyers 2015 (Ch8 part)  
2) Berk & Meyers 2015 (Ch11 part)  
Lab Readings (read at least 3):  
1) Schwarz 2020  
2) Bernstein 2020  
3) Aizenman & Silver 2020  
4) Gettleman & Raj 2020  
5) Chang & Dunn 2020 |
|      |        | Lab 6: Focus on COVID Discussion 2: How do we support the physical and mental health of kids during COVID? **COVID Briefing Scaffolding Assignment 2 (How your team is approaching this briefing), Due 11/8** |
| 7    | 11/9   | Lecture 12: Puberty; Adolescent growth & development                  | 1) Berk & Meyers 2015 (Ch. 14) |
|      | 11/11  | Lecture 13: Reproductive maturity; Emerging Adulthood; Social dimensions of adolescence and the transition to adulthood | 1) Berger 2011  
2) Gluckman & Hanson 2006 |
|      |        | Lab 7: Skeletal Development **(Lab write-up due 11/17)**             | Lab Reading: TBA |
|      |        | **Quiz on material from weeks 6-7 (11/12 - 11/15)** **              |
| 8    | 11/16  | Lecture 14: Reproductive ecology; Regulation of fecundity in women and men | 1) Valeggia & Núñez-de la Mora 2015 |
|      | 11/18  | Lecture 15: Aging & Older adulthood; Senescence; Aging in global context | 1) Brown 2020 |
|      |        | Lab 8: Focus on COVID Discussion 3: How are we going to handle COVID vaccination, including for children and adolescents? **COVID Briefing Scaffolding Assignment 3 (Key issues & intervention possibilities), Due 11/22** |
| 9    | 11/23  | Lecture 16: Variation in growth between populations; Genetic influences on growth | 1) Stinson 2012 |
|      | 11/25  | Lecture 17: Variation in growth within populations; Secular trends; Biocultural approaches | 1) Hoke & Schell 2020 |
|      |        | Lab 9: Focus on COVID Discussion 4: The uneven distribution of COVID—Social determinants of health **Quiz on material from weeks 8-9 (11/26 - 11/29)** ** |
| 10   | 11/30  | Lecture 18: Social determinants of growth, development, and health; SES; Stress; Nutrition; Infectious disease | 1) Valeggia & Snodgrass 2015  
2) Said-Mohamed et al. 2018  
3) Bogin & Varea 2020 |
|      | 12/2   | Lecture 19: Putting it all together & How to live a long and healthy life | No new reading for 12/2 |
|      |        | Lab 10: Group Presentations on COVID Briefing                        |
| 11   | 12/8   | **COVID Briefing Final Document Due (1 copy per group)               |
ANTH 369 Human Growth and Development (Fall 2020) – Course Readings

Week 1
for Wednesday’s Class (9/30)


Week 1 Lab Readings for Scientific Method & Evolutionary Theory Exercise


Week 2
for Monday’s class (10/5)


for Wednesday’s class (10/7)


Week 3
for Monday’s class (10/12)


Week 3 Lab Readings for Focus on COVID Discussion 1 (Parenting during the pandemic) (**read/listen to at least 3):

- NPR Short Wave Podcast with Geoff Brumfiel. 2020. The science is simple, so why is opening schools so complicated? NPR Short Wave Podcast, 8/17/20.
for Wednesday’s class (10/14)


Week 4

for Monday’s class (10/19)


for Wednesday’s class (10/21)


Week 5

for Monday’s class (10/26)


for Wednesday’s class (10/28)


Week 6

for Monday’s class (11/2)


Week 6 Lab Readings for Focus on COVID Discussion 2 (How do we support the physical and mental health of kids during COVID?) (**read at least 3):


for Wednesday’s class (11/4)

Week 7
for Monday’s class (11/9)

for Wednesday’s class (11/11)

Week 8
for Monday’s class (11/16)

Week 8 Lab Readings for Focus on COVID Discussion 3 (How are we going to handle COVID vaccination, including for children and adolescents?) (**read at least 3)

for Monday’s class (11/18)

Week 9
for Monday’s class (11/23)
for Wednesday’s class (11/25)


**Week 9 Lab Readings for Focus on COVID Discussion 4 (The uneven distribution of COVID—Social determinants of health) (**read at least 3**)

- Dooley S. 2020. Coronavirus Is attacking the Navajo ‘because we have built the perfect human for it to invade’ *Scientific American*, 7/8/20.

**Week 10**

for Monday’s class (11/30)


**for Wednesday’s class (12/2)**

- No new reading