

HUMAN GROWTH & DEVELOPMENT

ANTH 4450/6450 (Gen Ed SF designation)

Spring 2018

T Th 12:25-1:45

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Course Objectives

Compared to other primates, humans have an usually short infancy, grow slowly during childhood, but quickly through puberty. We also differ in our social and cognitive development, in how males and females develop, and how we learn to communicate and cooperate. What do these traits tell us about how the human pattern evolved? How does human growth and development vary cross culturally? What factors put children at risk, and how do these factors differ in contemporary postindustrial societies and traditional societies? To answer these and other questions, this course on human growth and development first will cover the biological basics of growing up human. We will then address how adverse environmental conditions (including both food-challenging and food-rich environments) affect growth patterns. In the second half of the semester, we will then turn to social, cognitive and linguistic development, and examine how these patterns set humans apart as a species, differ between males and females and vary across different societies.

Course Requirements

During the first meeting of each week, we overview the background to the week's topic. During the second meeting, we will discuss the case studies that are relevant to the week's topic.

There will be two exams (**100 points each**). Throughout the semester you will put together a poster on a topic of your choice that will be presented at the end of the semester (**100 points**). Your grade in part will also reflect your in-class participation and performance on various labs (**150 points**), and reading assignments (**50 points**). There will be at least 5 reading assignments, which have to be turned in typed the that they are due.

Graduate students will meet in a small lab group once a week to discuss additional readings. As a group project we will choose a topic that is relevant to the students' research and write an abstract and outline for an overview article that reviews that topic. This has successfully led to graduate student publications in the past.

Learning Outcomes

The course builds skills in scientific, behavioral, anthropological and psychological thinking. Students will learn the biological foundations of human growth and development, to design and conduct simple experiments, and perform basic spreadsheet calculations. Students will take away an appreciation of what makes us human with to respect to how we physically and socially grow up. The course has a strong cross-cultural emphasis so that students learn to appreciate how different socioeconomic and epidemiological environments affect growth and development outcomes. In addition, the course includes several methods modules and related labs where students learn to use growth data to construct graphs and charts, evaluate different kinds of study designs and construct their own physical activity profiles.

Required Texts

Available in the University Book Store

1) Peter Ellison 2002 *On Fertile Ground*, Harvard University Press, Cambridge.

Suggested Reference

Noel Cameron and Barry Bogin 2012 *Human Growth and Development*, 2nd Edition

Weekly readings are available online through Marriott Library's course listing. There may be some changes to the readings over the course of the semester.

Schedule of Topics and Readings

Week 1 1/9 1/11	Growing up human – the big picture; Our evolutionary past, life history and how humans grow and develop differently from other animals <u>Readings:</u> <i>Ellison CH 1; Thompson et al. 2003:170-177</i>
Week 2 1/16 1/18	Part I: Biological Development Building a baby; When to be born; gestation & birth; constraints of bipedalism vs. energetics <u>Readings:</u> <i>Ellison CH 2-3</i>
Week 3 1/23 1/25	Infancy & the first few years of life; When to be weaned; <u>Readings:</u> <i>Trevathan 2010, CH 5; Ellison CH 4</i>
Week 4 1/30 2/1	Childhood, why humans grow so slowly; Energetics and growth; Growth concepts module <u>Readings:</u> ; <i>Ellison CH 5 129-135; Kennedy 2005; Bogin 2006</i>
Week 5 2/6 2/8 Poster topics due	Juvenility; puberty-- life in transition <u>Readings:</u> <i>Ellison, CH 5:135-163;; Maron 2015</i>
Week 6 2/13 2/15	Adolescence; are humans the only primate with an adolescent growth spurt? <u>Readings:</u> <i>Ellison et al. 2012; Trevathan 2010, CH 1</i>
Week 7 2/20 2/22 Lab 1 Due	Reproductive maturity; When to mature, when to reproduce; teen motherhood, is it what we're adapted for? <u>Readings:</u> <i>Chisholm et al. 2005; Kramer & Lancaster 2010</i>
Week 8 2/27 3/1	Growth processes in boys vs girls, factors influencing somatic growth; <u>Methods module:</u> methods of assessment; reading growth charts; longitudinal vs. cross sectional study designs <u>Readings:</u> <i>Varela-Silva et al. 2009; Rogol et al. 2002</i>
Week 9 3/6 3/8	Growth in food-rich environments; the metabolic syndrome; childhood obesity & diabetes; fetal programming. <u>Methods module:</u> calculating Physical Activity Levels <u>Readings:</u> <i>Bleich & Wang 2011; the Editors, Scientific American 2010; Jabr 2016</i>
Week 10 3/13 EXAM 3/15 Lab 2 due	Growth in food and disease challenging environments <u>Readings:</u> <i>Kramer & Greaves 2011; Brown & Pollitt 1996</i>
Week 11 3/20 NO CLASS 3/22 NO CLASS	
Week 12 3/27 3/29	Life history tradeoffs; Immune function vs. growth <u>Readings:</u> <i>Blackwell et al. 2010; McDade et al. 2008</i>
Week 13 4/3 Lab 3 Due 4/5	Part II: Social and Cognitive Development Development of language; cognitive development <u>Readings:</u> <i>Giedd 2015; Kuhl 2015</i>
Week 14 4/10 4/12	Development of gender differentiation; social effects on growth and development <u>Readings:</u> <i>Eliot 2012; Saxbe & Repetti 2009</i>
Week 15 4/17 Posters due 4/19	Development of prosociality & cooperation; Inequity aversion; envy & empathy; Final thoughts & review <u>Readings:</u> <i>Warneken & Tomasello 2006; Bjorklund et al. 2010; Blake et al. 2015</i>
Week 16 4/24 Exam	
