

ANTH 399: HUMAN GROWTH & DEVELOPMENT
Fall Quarter 2007
4 credit hours

Class Times: MW 8:30-9:50pm

Class Location: 260 Condon Hall

Instructor: Dr. Josh Snodgrass

Office: 354 Condon Hall

Office Hours: M 1-2 & W 10-11 (& by appointment)

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Prerequisite: None (ANTH 270 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 Content: This course provides an overview of key issues in human growth and development, from conception through adulthood. Specifically, this course views human growth and development as a biocultural process that demands an integrated analysis. Throughout the class, we will draw upon findings and concepts from human biology, evolutionary ecology, developmental biology, and cultural anthropology. Issues to be addressed in this course include: 1) the basic principles of human growth and development; 2) comparative evolutionary perspectives on human growth, incorporating studies of living primates and fossil human ancestors; 3) techniques for assessing human growth status; and 4) genetic, social, and ecological determinants of variation in growth. After constructing a conceptual framework, the course will follow the trajectory of human growth and development from conception through adulthood. A series of case studies will be used to elaborate the relevant biological, cultural, and social issues.

Format: The course format will consist of lectures and directed class discussions.

Required Readings: Course packet with readings—all readings available on Blackboard

Evaluation Criteria: The grade in the course will reflect performance on a midterm exam, 3 short (2-3 page each) reaction papers, participation in class discussions, and a take-home final exam (10-15 pages).

Midterm Exam (In Class 10/29)	30%
Reaction Papers (3 total)	20%
Take-Home Final Exam (Due 12/6)	30%
Class Participation	20%

The midterm exam will be based on lectures, videos, readings, and class discussions, and will include objective (multiple choice & matching), fill-in-the-blank, short answer, and short essay sections. The take-home final exam will consist of five essay questions (2-3 pages each; 10-15 pages total) that require integration of course material (not just the material introduced after the midterm); one week will be given to write the take-home exam.

Reaction Papers: During the quarter, each student will write three short (2-3 page) reaction papers on articles provided by the instructor (see “Special Topics” on the schedule). These response papers provide opportunities for discussion and critical analysis of current biological, cultural, and social issues related to human growth and development. Reaction papers are only 2-3 pages long so writing should be concise and focused around a couple of main points.

Schedule:

Week	Date	Topics	Required Readings
1	9/24	Introduction and Course Overview; Why Study Growth?	Bogin 1999 (Introduction)
	9/26	Historical Perspective on Human Growth Studies; Basic Principles	Tanner 1998 Bogin 1999 (Chapter 2)
2	10/1	Human Growth in Evolutionary Perspective; Our Mammalian and Primate Heritage	Bogin 2002 Rosenberg & Trevathan 2003
	10/3	Growth & Development across the Life Cycle; Reproductive Ecology	Ellison 2001 (Chapter 6)
3	10/8	Pregnancy; Prenatal Growth & Development; Birth <i>Video: The Miracle of Life</i>	Malina et al. 2004 (Chapter 2)
	10/10	Lecture continued (Pregnancy; Prenatal Growth & Development; Birth) **Discussion in Class on Special Topic I** <i>Special Topic I: Genetic Screening—Choose Option # 1, 2, or 3</i> 1) Check 2005 <u>AND</u> Sound Medicine Podcast; 2) Johnson 2003; or 3) Weil 2006 **REACTION PAPER DUE TODAY**	Ellison 2001 (Chapter 3)
4	10/15	Brain Development <i>Video: The Secret Life of the Brain</i>	Eliot 2000
	10/17	Energetics & Regulation of Growth; Skeletal & Dental Growth; Infancy; Breastfeeding	Coutsoudis & Bentley 2004 Malina et al. 2004 (Chapter 6)
5	10/22	Childhood & Juvenile Growth; Why Grow Up? **Discussion in Class on Special Topic II** <i>Special Topic II: Childhood Vaccination (McNeil 2002 <u>AND</u> Harris & O'Connor 2005)</i> **REACTION PAPER DUE TODAY**	Ellison 2001 (Chapter 5)
	10/24	Adolescent Growth; Puberty; Reproductive Maturity	Malina et al. 2004 (Chapter 15)

Schedule (continued):

Week	Date	Topics	Required Readings
6	10/29 10/31	Midterm Exam <i>Video: Raising Cain—Protecting the Emotional Life of Boys</i>	
7	11/5 11/7	Methods for Assessing Growth and Maturity **Discussion in Class on Special Topic III** <i>Special Topic III: Where Have the Men Gone? (BBC 2003 AND Gurian 2005)</i> **REACTION PAPER DUE TODAY** Physiological vs. Chronological Age; Age Determination in Forensic Anthropology & Bioarchaeology	Malina et al. 2004 (Chapter 3) Loth & Iscan 2000
8	11/12 11/14	Interpopulation Variation in Human Growth; Stunting & Wasting; Secular Trends; Small but Healthy?; Developmental Plasticity Genetic and Endocrine Determinants of Growth	Bogin 5 Malina et al. 2004 (Chapter 23) Bogin 7
9	11/19 11/21	Ecological and Environmental Influences on Growth Social and Economic Determinants of Health; Nutrition	Schell & Knutsen 2002 Norgan 2002 Johnston 2002
10	11/26 11/28	Economic Modernization; Psychosocial Stress and Growth; Changing Human Growth Patterns; Obesity **Discussion in Class on Special Topic IV** <i>Special Topic IV: Who is Responsible for Childhood Obesity? (Mann 2005 AND Cohen 2003)</i> **REACTION PAPER DUE TODAY** Putting It All Together; What Do We Know About Patterns of Growth & Development in other Hominids	Sapolsky 2004 Malina et al. 2004 (Chapter 24) Malina et al. 2004 (Chapter 29)
11		Take-Home Final Exam Due by Thursday, 12/6 @ 5:00 pm (exam will be available Thursday, 11/29)	

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Required Readings

Week 1

- Bogin B. 1999. Introduction. In: Bogin B. Patterns of human growth (2nd Ed.). Cambridge: Cambridge University Press.
- Tanner JM. 1998. A brief history of the study of human growth. In: Ulijaszek SJ et al. (eds.) The Cambridge encyclopedia of human growth and development. Cambridge: Cambridge University Press. p. 3-12.
- Bogin B. 1999. Basic principles of human growth (Ch. 2). In: Bogin B. Patterns of human growth (2nd Ed.). Cambridge: Cambridge University Press.

Week 2

- Bogin B. 2002. The evolution of human growth. In: Cameron N (ed.), Human growth and development. Amsterdam: Academic Press. p. 295-320.
- Rosenberg KR, Trevathan WR. 2001. The evolution of human birth. *Sci Am*, November 2001.
- Ellison PT. 2001. Balancing act (Ch. 6). In: Ellison PT. On fertile ground: A natural history of human reproduction. Cambridge: Harvard University Press. p 167-214.

Week 3

- Malina R., Bouchard C, Bar-Or O. 2004. Prenatal growth and functional development (Ch. 2). In: Malina R., Bouchard C, Bar-Or O. Growth, maturation, and physical activity (2nd Ed.). Champaign (IL): Human Kinetics. p. 21-38.
- Ellison PT. 2001. A time to be born (Ch. 3). In: Ellison PT. On fertile ground: A natural history of human reproduction. Cambridge: Harvard University Press. p. 51-80.

Week 4

- Eliot L. 2000. The basic biology of brain development. In: Eliot L. What's going on in there? How the brain and mind develop in the first five years of life. New York: Bantam. p. 11-39
- Coutsoudis A, Bentley J. 2004. Infant feeding. In: Gibney MJ *et al.* (eds.) Public health nutrition. Oxford: Blackwell. p. 264-282.
- Malina R., Bouchard C, Bar-Or O. 2004. Bone tissue in skeletal growth and body composition (Ch. 6). In: Malina R., Bouchard C, Bar-Or O. Growth, maturation, and physical activity (2nd Ed.). Champaign (IL): Human Kinetics. p. 121-135.

Week 5

- Ellison PT. 2001. Why grow up? (Ch. 5). In: Ellison PT. On fertile ground: A natural history of human reproduction. Cambridge: Harvard University Press. p. 127-164.
- Malina R., Bouchard C, Bar-Or O. 2004. Biological maturation: Concepts and assessment (Ch. 15). In: Malina R., Bouchard C, Bar-Or O. Growth, maturation, and physical activity (2nd Ed.). Champaign (IL): Human Kinetics. p. 277-305.

Week 6

No assigned readings.

Week 7

Malina R., Bouchard C, Bar-Or O. 2004. Somatic growth (Ch. 3). In: Malina R., Bouchard C, Bar-Or O. Growth, maturation, and physical activity (2nd Ed.). Champaign (IL): Human Kinetics. p. 41-81.

Loth SR, Iscan MY. 2000. Morphological age estimation. In: Siegal JA et al. (eds.) Encyclopedia of forensic sciences. San Diego: Academic Press. p. 242-252.

Week 8

Bogin B. 1999. Growth variation in living human populations (Ch. 5). In: Bogin B. Patterns of human growth (2nd Ed.). Cambridge: Cambridge University Press.

Malina R., Bouchard C, Bar-Or O. 2004. Undernutrition in childhood and adolescence (Ch. 23). In: Malina R., Bouchard C, Bar-Or O. Growth, maturation, and physical activity (2nd Ed.). Champaign (IL): Human Kinetics. p. 509-525.

Bogin B. 1999. Genetic and endocrine regulation of human growth (Ch. 7). In: Bogin B. Patterns of human growth (2nd Ed.). Cambridge: Cambridge University Press.

Week 9

Schell LM, Knutsen KL. Environmental effects on growth. In: Cameron N (ed.), Human growth and development. Amsterdam: Academic Press. p. 165-196.

Norgan NG. 2002. Nutrition and growth. In: Cameron N (ed.), Human growth and development. Amsterdam: Academic Press. p. 139-164.

Johnston FE. 2002. Social and economic influences on growth and secular trends. In: Cameron N (ed.), Human growth and development. Amsterdam: Academic Press. p. 197-212.

Week 10

Sapolsky RM. 2004. Dwarfism and the importance of mothers. In: Sapolsky RM. Why zebras don't get ulcers (3rd Ed.). New York: Henry Holt. p. 92-119.

Malina R., Bouchard C, Bar-Or O. 2004. Obesity in childhood and adolescence (Ch. 24). In: Malina R., Bouchard C, Bar-Or O. Growth, maturation, and physical activity (2nd Ed.). Champaign (IL): Human Kinetics. p. 527-551.

Malina R., Bouchard C, Bar-Or O. 2004. Secular trends in growth, maturation, and performance (Ch. 29). In: Malina R., Bouchard C, Bar-Or O. Growth, maturation, and physical activity (2nd Ed.). Champaign (IL): Human Kinetics. p. 651-676.

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Special Topic Readings (Choose Three Special Topics)

Special Topic I (Week 3): Genetic Screening & Disability (Choose Option 1, 2, *or* 3)

Option 1:

Check E. 2005. Screen test: A new technique could allow doctors to spot hundreds of potential genetic problems in unborn babies. But is it too soon to put it to use? *Nature* 438: 733-734.

AND

Sound Medicine Podcast. 2005. Eugenics encyclopedia; Interview of RC Engs (<http://soundmedicine.iu.edu/>).

Option 2: Johnson HM. 2003. Unspeakable conversations. *The New York Times*; 2/16/03.

Option 3: Weil E. 2006. A wrongful birth? *The New York Times*. 3/12/06

Special Topic II (Week 5): Childhood Vaccination

Harris G, O'Connor A. 2005. On autism's cause, it's parents vs. research. *The New York Times*; 6/25/05.

McNeil DG. 2002. When parents say no to child vaccinations. *The New York Times*; 11/30/02.

Special Topic III (Week 7): Where Have the Men Gone?

BBC News. 2003. Girls top of the class worldwide: Women have overtaken men at every level of education in developed countries around the world. Published 9/16/03.

Gurian M. 2005. Disappearing act: Where have the men gone? No place good. *Washington Post*; Published 12/4/05.

Special Topic IV (Week 10): Who is Responsible for Childhood Obesity?

Cohen A. 2003. The McNugget of truth in the lawsuits against fast-food restaurants. *The New York Times*; 2/3/03.

Mann CC. 2005. Provocative study says obesity may reduce U.S. life expectancy. *Science* 307: 1716-1717.