Course Content and Objectives

Growth is a fundamental characteristic of life itself and can be studied from a number of approaches, including molecular biology, behavior and cognition, physical growth processes, and even growth of organisms in ecological and evolutionary perspectives. We will touch on a variety of perspectives of human growth, but emphases will be placed on human variation during the life cycle and on biocultural aspects of growth. The life cycle refers to conception and reproduction (in adults), gestation and birth of the fetus, growth of the infant through childhood and adolescence to maturity, the capability to reproduce, and continued growth through maturity to senescence and death. Human growth is a complex and intellectually fascinating process. Knowledge of human growth and reproduction has value to all students in health-related (pre-med, pre-dental, nursing), biobehavioral (psychology, anthropology), and social sciences (sociology, demography, history). Knowledge of human growth has practical value, as well, especially for anyone who plans to reproduce and take on the task of raising children to adulthood. Hence, this course also will contribute to your parenting skills.

Learning Objectives (NYS Law)

The learning objectives of this course, then, are for you to learn the fundamentals of human growth and the life cycle from different perspectives: biological, anthropological, evolutionary, and, for your own practical needs, to be informed about reproduction, child rearing, and your own life processes.

This is a course in biological anthropology and therefore this course takes a comparative anthropological approach to the understanding of human growth from a global perspective. This course should also assist you in your appreciation for human diversity at all ages of the human life cycle and your understanding of the bases for this diversity.
Required Reading


About the Readings

Bogin’s book is the basic text for the course and it must be read carefully. It is fairly detailed with both anthropological and evolutionary perspectives. Bogin is probably the world leader in these approaches to growth and development. I encourage you to begin reading Bogin’s book immediately and not to fall behind in the reading assignments.

The book by Nilsson and Hamberger is a marvelous contribution. The photographs are spectacular and the text is accurate and professional. Whenever I get extra desk copies I give them to pregnant colleagues. I recommend this as one book that you keep and not resell – you may find it even more fascinating in the future as prospective parents.

The three chapters in Cameron’s book and the chapter on aging by Crews and Ice in the Stinson, Bogin and O’Rourke book are specialized and a bit tough going. Just read them as carefully as you can.

Course Format

The class format will be lecture but with questions and discussion encouraged. Evaluation will be based on four (4) quizzes on the readings (10%), two (2) examinations given about the 4th and 8th weeks of classes (20% + 20%); a comprehensive final examination (30%); and an in-class PowerPoint presentation during the last three classes of the semester (20%).

Course Outline

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Assignments</th>
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<tbody>
<tr>
<td>9/4, 9/6 (2)</td>
<td>Introduction: growth processes/statistical analyses</td>
<td>B Intro, 1, 2</td>
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<tr>
<td>9/11 (1)</td>
<td>Growth and Evolution</td>
<td>B 3, 4</td>
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<tr>
<td>Date</td>
<td>Topic</td>
<td>References</td>
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<td>9/25, 9/27 (2)</td>
<td>Gestation and Pregnancy: the embryo and fetus/pregnancy changes</td>
<td>N&amp;H pp. 82-177</td>
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<td>10/2</td>
<td><strong>&lt;&lt;EXAMINATION 1&gt;&gt;</strong></td>
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<tr>
<td>10/4, 10/9 (2)</td>
<td>Birth and the Perinatal and Neonatal Periods: adjustments at birth/congenital abnormalities/the newborn infant</td>
<td>N&amp;H pp. 178-236</td>
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<td>10/11 (1)</td>
<td>Measurements and Standards of Growth</td>
<td>B 5</td>
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<tr>
<td>10/16, 10/18 (2)</td>
<td>Infancy and Childhood: biological and behavioral norms/individual and population variation</td>
<td>C 2</td>
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<td>10/23 (1)</td>
<td>Skeletal and Dental Growth: anatomy/bone growth/tooth eruption/maturation measures</td>
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<td>10/25, 10/30 (2)</td>
<td>Adolescence and Puberty: reproductive system/other systems/population variations</td>
<td>C 3</td>
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<tr>
<td>11/1 (1)</td>
<td>Body Composition and Physique: sex differences/nutrition/genetic factors/population variation</td>
<td>C 13</td>
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<td>11/6</td>
<td><strong>&lt;&lt;EXAMINATION 2&gt;&gt;</strong></td>
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<tr>
<td>11/8, 11/13 (2)</td>
<td>Environmental Influences and Secular Changes: secular trends/climate, disease, nutrition/health and fitness/sociocultural factors</td>
<td>B 6, 7, 8</td>
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<tr>
<td>11/15 (1)</td>
<td>Growth of Girl Gymnasts</td>
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<td>11/20 (1)</td>
<td>Reproduction and Growth of Highland Andean Quechua</td>
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<tr>
<td>11/27 (1)</td>
<td>Reproduction and Growth of Nomadic Turkana</td>
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<tr>
<td>11/29 (1)</td>
<td>Reproduction and Growth of African Pygmies</td>
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<tr>
<td>12/4 (1)</td>
<td>Aging Processes: theories of aging/morbidity-mortality relationships/senescence of specific systems</td>
<td>S 13</td>
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<tr>
<td>12/6, 12/11 12/13 (3)</td>
<td><strong>POWERPOINT PRESENTATIONS</strong></td>
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<tr>
<td>12/14 (TBA)</td>
<td><strong>&lt;&lt;REVIEW SESSION&gt;&gt;</strong></td>
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The In-Class Presentation

A team of three students will prepare each in-class presentation. Since the major emphases of the course are on human variation (individual and population) during the life cycle and on biobehavioral aspects of growth, presentations must address these themes or they are considered inappropriate for this course. Therefore, the instructor must approve all topics before major research and preparation begins, and this approval is contingent on a one-page outline of the plan for the presentation. (Due October 9, 2011).

Preparing the In-Class Presentation

All presentations or reports will be in PowerPoint format with text and illustrations/photos/tables to document the materials presented. Each group of three students will have 10-15 minutes for the presentation and five minutes for questions/discussion (15-20 minutes total). The three students in the group should each contribute to the presentation equally by describing and discussing the information presented in the PowerPoint slides. Scientific materials for the presentation should be collected in the same way as materials for a term paper. Various tasks, literature review, and coverage of different topics can be divided among the three students in each group and there should be frequent meetings to coordinate your findings and preparation. The most interesting topics for presentations should address a scientific question or “problem” in which some original ideas are presented. For example: “What are the effects of early malnutrition on adult health?” or “What are the effects of childhood obesity (a modern U.S. trend) on morbidity in late adulthood?” Alternatively, a presentation can be designed to review a topic about which there are new and interesting findings. Such a “review” presentation should cover the most up-to-date findings from the literature.

After (and only after) you have gathered your literature and materials on the topic, prepare an outline of what you wish to present. Then design your presentation with text and figures, and make an initial sketch of your presentation, allocating time for an introduction, other topical headings, and a conclusion. Try different arrangements of your materials and different styles to achieve clarity and simplicity. Initial design, measurement, and careful planning are absolutely necessary to produce a neat and well-organized presentation.

Materials should be referenced (cited), including text and illustrations, and a bibliography should be a part of the presentation. The most effective presentations are those with not too much text and that strike a balance between good scientific presentation and an interesting and creative visual presentation.

Your presentation will be made during one of the last three class sessions on December 6, 11, and 13, 2012 (about a third of the presentations during each session). Each group should send me (your instructor) a copy of the final PowerPoint presentation several days before the class. Think of me as a resource to be exploited: I will review your presentations at any stage of their development and offer advice/suggestions, so that you can perform at the most professional level possible.

Some Topics for Consideration
Birth weight variation and its outcomes
Variations in infant mortality
Factors related to age of menarche
Breastfeeding and fertility
Fertility and the environment
Body composition and menarche
<table>
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<tr>
<th>Cultural practices that affect growth</th>
<th>Population variations in longevity</th>
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<tbody>
<tr>
<td>Genetics and growth at the population level</td>
<td>Environmental toxins and child growth</td>
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<tr>
<td>Secular trends in growth of non-Western peoples</td>
<td>Population variations in menopause</td>
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<tr>
<td>Historical causes of secular trends in Western peoples</td>
<td>Growth effects on pregnant teenagers</td>
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<tr>
<td>Sex differences in longevity</td>
<td>Sex differences in secular trends</td>
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<tr>
<td>Breastfeeding influences on growth during infancy</td>
<td>Growth and sports: positive and negative effects</td>
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<tr>
<td>Disease influences on growth (at specific ages)</td>
<td>Growth as a saltatory process</td>
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<td>Standards of growth for non-Western peoples</td>
<td>Growth in obese children</td>
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<td>Growth in modern U.S. children: good or bad?</td>
<td>Body composition and culture (or genetics)</td>
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<tr>
<td>Comparative growth in two or more non-Western populations (e.g., Bushmen, Inuit, Maasai)</td>
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**A Note on Academic Honesty**

The University has detailed guidelines on the "Student Academic Honesty Code" (see statement on the University web page). You should read this carefully. I encourage you to collaborate freely in preparing for examinations (but not during examinations) and in the preparation of the group presentations. Since there is now abundant information in the form of text and illustrations on the web, you must be careful to document your sources in the same way that you would with literature from books or journals. Plagiarism is tempting with materials from the web. Often the materials are not identified as being authored by any given individual – they seem to be in the public domain, usually they are not. There are at least three reasons why you should not plagiarize: (1) it is a character flaw that may give you an immediate gain, but in the long run it is a self-destructive practice that will eventually catch up to you (ethical and professional); (2) if you get caught in this class, you fail the course (practical); and (3) doing your own work and discovering new and original things rather than lifting others’ ideas is an incredibly rewarding experience (enjoyable).

We will discuss proper citation practices and how one goes about gathering information for a PowerPoint presentation in class.