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*Human Reproductive Ecology* BIO A 568  
Spring 2004

**Scope:** This course examines recent developments in human reproductive biology, human reproductive ecology, and fertility analysis. The major features of the human reproductive process will be considered using a combination of demographic, physiological and evolutionary approaches. The principal focus of the course will be so-called *natural fertility*, i.e. fertility in the absence of modern methods of birth control. Emphasis will be placed on accounting for the range of variation in natural fertility in the human species as a whole, and on assessing the roles of physiological, behavioral, and environmental factors in regulating reproductive output. Special attention will be given to the design of field studies of reproductive ecology in "anthropological settings" (i.e. outside of clinical settings, and usually among near-natural fertility populations). Finally, human reproduction will be examined in its larger ecological and evolutionary contexts.

**Classes:** Wednesday and Friday, 02:30-03:50 p.m. in 213 Parrington.

**Office hours:** 3:50-4:30 Friday (after class) in 117 Denny Hall. Other times can be arranged. Finally, you can use email anytime (djholman@u.washington.edu).

**Textbook and readings:** There are two textbooks for this course. (1) Wood, JW (1994), *Dynamics of Human Reproduction: Biology, Biometry, Demography* published by Aldine de Gruyter. The book is available in a hardcover edition (ISBN 0-202-01179-8) and a less expensive paperback edition (ISBN 0-202-01180-1). The second book is Ellison PT (ed.) (2001) *Reproductive Ecology and Human Evolution*, published by Aldine de Gruyter (ISBN 0-202-30657-7 cloth, ISBN 0-202-30658-5).

The organization for the first eight weeks of the course largely follows the text book. The last two weeks of the course will consist of student presentations of chapters out of the Ellison text.

**Grading:** Your course grade will be based on two problem sets (15% each) two 30 minute presentations (25% each), and two short papers (2 to 3 pages, based on the presentation, 10% each).

**Problem sets:** The problem sets will include some analytical problems as well as short written answers. I encourage you to work in groups on the problems, and you are free to use books, readings, notes, and web pages to help you work on the problems. In part, the problems will test your ability to do the work in a limited amount of time. Therefore, grades for **late problem sets will depreciate by 10% per day**, including any fraction of a day late. For example, if you would have gotten a 95% on the problem set, it depreciates to 85.5% for being one day late, 77% by for 2 days late, and so on. Problem sets are due by the beginning of the class period, one week after being handed out.

**Presentations:** Each student will make two presentations out of the Ellison text. Each presentation will cover one chapter of the Ellison book. For the most part, you will be able to select the chapters of greatest interest to you. You should plan on incorporating newer material from the anthropological, demographic and biomedical literature into your presentation as well. The idea for the presentation is to (1) present a summary of the chapter, (2) fit the material into the bigger context of this course (i.e. address the big questions) and (3) provide a state-of-the-art update to the chapter using newer literature.

Each presentation will be 30 minutes. Two student presentations will be done per class period.

**Short Papers:** For each presentation, you must write a 2 to 3 page short paper that (1) summarizes the chapter and (2) provides a brief update to the material in the chapter based on more current literature. The goal, of course, is for you to immerse yourself into the more recent literature on reproductive ecology, biodemography, biological anthropology, biomedical sciences and other relevant fields. Papers are due on the last day of finals week by 5 pm.

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**Topics and schedule**

**Week 1**

Mar 31 Course Intro. Wood chapter 1.

Apr 1 Natural fertility. Wood chapter 2.

**Week 2**

Apr 7 Frameworks for analyzing fertility. Ovarian cycles. Wood chapter 3 and 4.

Apr 9 More ovarian cycles, Conception, implantation and pregnancy. Wood chapter 5.

Problem set #1 distributed Apr 9.

**Week 3**

Apr 14 and 16. NO CLASS—AAPA/HBA meetings.

**Week 4**

Apr 21 Pregnancy loss. Wood chapter 6.

Problem set #1 due Apr 21.

Apr 23 Guest lecture, KA O'Connor. Endocrine methods in reproductive ecology. Wood & Campbell appendix.

**Week 5**

Apr 28 Fecundability. Wood chapter 7.

Apr 30 Fecundability and Pregnancy loss. Ellison Chapter 1.

**Week 6**

May 5, May 7 Breastfeeding and postpartum infecundability. Wood chapter 8

Problem set #2 distributed May 5.

**Week 7**

May 12 Menarche and menopause. Wood chapter 9.

May 14 More menopause and sterility. Wood chapter 10.

Problem set #2 is due by class time May 14th.

**Week 8**

May 19. Marriage and the male contribution. Wood chapter 11.

May 21. Extensions and elaborations. Wood chapter 12.

**Week 9**

May 26, 28. Student Presentations 1, 2, 3, 4

**Week 10**

Jun 2, 4. Student Presentations 5, 6, 7, 8

**Exam week**

Papers due Friday, 11 Jun, 5:00 p.m.