

WS-BIOL 350
SEX DIFFERENCES IN THE LIFE CYCLE
Dr. Ethel M. Villalobos
10:30 to 11:45 am TR
BUSAD A101

Course Overview

This course is designed to give the student a clear understanding of the human sex differences, their biological basis and significance. The course has a broad base approach and will cover aspects of anatomy and physiology of human reproductive biology. Special attention will be given to genetic, hormonal, and behavioral determinants of sexual differentiation; biology of gender, sexuality, menopause, and aging. In addition, the course will integrate the ecological and evolutionary aspects of sexual reproduction. In short, our goal is to provide a forum, drawing from different scientific specializations, in which the students can examine and discuss the many aspects of sexual differences in humans.

Required Textbooks:

Human Reproductive Biology, 2006, by Richard E. Jones and Kristin H. Lopez

Grading:

- Two one hour exams (20 % each)
- Bi-weekly questionnaires based on readings (25 %)
- One final exam (25 %)
- Participation and attendance (10%)

- Grades will be curved
- No make-up exams without a medical, work, or other official excuse

Office Hours

Wed: 9:00 to 11:00 am Gilmore Hall 510

Or by appointment, email me at emv@hawaii.edu, please make sure to indicate WS-350 on the subject of the email

Tentative Lecture Schedule

Readings will be handed out in class or sent by email. Please make sure to turn in your reading responses by the due date as a hard copy, not via email.

- Jan 9** Introduction to the course
Female Reproductive System Part I
Anatomy of internal reproductive organs
Gamete production and meiosis
- Jan 11** Female reproductive system Part II
Hormones, follicle maturation and ovulation
Ovarian cysts
- Jan 16** Female Reproductive system III
Female external genitalia
Diseases: breast and ovarian cancer
- Jan 18** The menstrual cycle
Advertisement of receptivity by vertebrate females
- Jan 23** Diseases and irregularities of menstruation
Changes in age of first menses
Diet related changes
Chemicals in the environment
- Jan 25** Male reproductive system Part I
Anatomy and physiology: testes, sperm, and hormones
- Jan 30** Male reproductive system Part II
Internal and external male genitalia
- Feb 1** Sexual differentiation and development in vertebrates
Role of environmental factors such as temperature in sex determination
- Feb 6** Chromosomal Sex (why the Y)
- Feb 8** Sexual differentiation in humans
Disorders of sexual determination
- Feb 13** Sex as a continuum
Hermaphroditism and the question of only two sexes
- Feb 15** The biology of Intersex
- Feb 20** *Exam I*
- Feb 22** Puberty

<i>Mar 1</i>	Reproductive aging The physiology of menopause Reproductive aging and hormonal replacement
<i>Mar 6</i>	Human sexual response Sexually transmitted diseases
<i>Mar 8</i>	Ecology of sex differences Parthenogenesis
<i>Mar 13</i>	Gamete transport and fertilization The issue of sperm competition
<i>Mar 15</i>	Contraception
<i>Mar 20</i>	Infertility
<i>Mar 22</i>	<i>Exam II</i>
<i>Apr 3</i>	Pregnancy The biology and physiology of pregnancy
<i>Apr 5</i>	Embryonic and fetal development
<i>Apr 10</i>	First trimester, second trimester, and third trimester
<i>Apr 12</i>	Toxoplasmosis and pregnancy Fetal disorders Prenatal testing Prenatal surgery
<i>Apr 17</i>	Labor and birth
<i>Apr 19</i>	Abortion History and ethics of abortion
<i>Apr 24</i>	Lactation and female bonding The nutritional value of lactation The wet nurse syndrome
<i>Apr 26</i>	Why are babies so “adorable”? Infanticide and abandonment The ecological perspective The social perspective
<i>May 1</i>	Brain sex and gender identity

Recommended readings

The following books maybe interesting for students that would like to explore in more details certain aspects of this course

Why Sex Matters. A Darwinian Look at Human Behavior, by Bobbie S. Low. 2000.
(Deals with anthropology, sociology and human behavioral biology)

Mother Nature. Maternal Instincts and How They Shape the Human Species by Sarah Blaffer Hrdy.1999.

(Looking at primate and human societies it deals with myths of motherhood, maternal instincts and the evolution of parent-offspring conflicts)

Sexing the Body, 2000, by Anne Fausto-Sterling
A frank and detailed look at the issues of intersex

Dr. Tatiana's Sex Advice to All Creation, by Olivia Judson. 2002.
(A very entraining look at the evolution of sex in animals)