

## **IB 140: HUMAN REPRODUCTION**

**Integrative Biology 140, 4 credits, Spring 2018**

**Lecture on Tuesdays & Thursdays, 2:00 PM – 3:30 PM in 245 Li Ka-Shing**

**Discussion Section one hour a week**

**Instructor: Tom Carlson E-mail: <[tcarlson@berkeley.edu](mailto:tcarlson@berkeley.edu)>**

**Office Hours:** Carlson office hours: Mondays 1:40-2:30, Tuesdays 3:40-4:30, Wednesdays 11:10-12:00 in 1098 VLSB.

Office hours will be in Valley Life Sciences Building room 1098. This room is on the ground floor on the west side of the building. To get to the office, walk south from the feet of the T. rex dinosaur and enter the last door on the left (east) before reaching the south exit doors.

### **GSIs:**

Laura Alexander: [lalex@berkeley.edu](mailto:lalex@berkeley.edu)

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### **Course Description:**

This course focuses on the biological and cultural aspects of human reproduction including conception, embryology, pregnancy, labor & delivery, lactation, infant/child development, puberty, and reproductive aging. This includes the study of factors that diminish and factors that enhance fertility, reproduction, and maternal-child health. We explore evolutionary, ecological, environmental, cultural, ethnobiological, and nutritional determinants of fertility, reproductive rate, infant survival, and population growth.

**Required Textbook:** Human Reproductive Biology, 4th Edition, by Richard E. Jones & Kristin Lopez, ISBN: 9780123821843. It is fine to use the 3<sup>rd</sup> Edition.

**Required Reader:** All Carlson powerpoint presentations are in this required reader. The reader can be purchased at Krishna Copy Center at 2001 University Ave. in Berkeley.

Lectures are based primarily, but not exclusively, on information in the required text. Additional information not in the book is integrated into some of the lectures. This additional information will typically include a citation of the scientific publication source of the information.

Exam material will be based only on material presented in the lectures.

Midterm #1 on 2/20/18 at 2:00 PM: (30% of grade) 50 questions = 50 points

Midterm #2 on 4/03/18 at 2:00 PM: (30% of grade) 50 questions = 50 points

Final Exam on 5/07/18 at 11:30 AM: (34% of grade) 57 questions = 57 points

Discussion section: (6% of grade) = 10 points

Total possible points for course = 167 points

## **Sequence of Lecture Topics:**

with corresponding Reader Pages and Jones & Lopez Book Chapters

**Syllabus:** Pages 1-5

- 1) Lecture Topic #1, **Neuro-endocrine system, hormone biology, and hormone sensitive tissues:** Reader Pages 6-32; Book Ed 3 & 4, Chap 1
- 2) Lecture Topic #2, **Female reproductive system:** Reader Pages 33-55; Book Ed 3 & 4, Chap 2
- 3) Lecture Topic #3, **Menstrual cycle:** Reader Pages 56-67; Book Ed 3 & 4, Chap 3
- 4) Lecture Topic #4, **Male reproductive system:** Reader Pages 68-91; Book Ed 3&4, Chap 4
- 5) Lecture Topic #5, **Sexual differentiation:** Reader Pages 92-114; Book Ed 3, Chap 5 & 17; Ed 4, Chap 5 & 16
- 6) Lecture Topic #6, **Puberty & adolescent development:** Reader Pages 115-132; Book Ed 3 & 4, Chap 6
- 7) Lecture Topic #7, **Reproductive aging:** Reader Pages 133-151; Book Ed 3 & 4, Chap 7
- 8) Lecture Topic #8, **Human sexual response, sex, & gender:** Reader Pages 152-186; Book Ed 3 & 4, Chap 8
- 9) Lecture Topic #9, **Sexually transmitted infections:** Reader Pages 187-206; Book Ed 3, Chap 18; Ed 4, Chap 17
- 10) Lecture Topic #10, **Contraception & induced abortion:** Reader Pages 207-225; Book Ed 3, Chap 14 & 15; Ed 4, Chap 13 & 14
- 11) Lecture Topic #11, **Infertility:** Reader Pages 226-235; Book Ed 3, Chap 16; Ed 4, Chap 15
- 12) Lecture Topic #12, **Gamete transport, & fertilization:** Reader Pages 236-248; Book Ed 3 & 4, Chap 9
- 13) Lecture Topic #13, **Pregnancy:** Reader Pages 249-285; Book Ed 3 & 4, Chap 10
- 14) Lecture Topic #14, **Labor & delivery:** Reader Pages 286-331; Book Ed 3 & 4, Chap 11
- 15) Lecture Topic #15, **Infant & Child Nutrition:** Reader Pages 332-345; Book Ed 3, Chap 12 & 13; Ed 4, Chap 12
- 16) Lecture Topic #16, **Malnutrition:** Reader Pages 346-374

### **REQUIRED PRESENTATION WITH PAPER IN DISCUSSION SECTION:**

Each student will give a five minute presentation on topic related to human reproduction in discussion section. The student will turn in a one page (single spaced, 12 pt. font) on the presentation topic. The written paper should include three or four different citations from **peer-reviewed scientific articles**. The text with the citations should fit on a single page with single spacing using 12 font.

### **Peer-reviewed (refereed or scholarly) journals**

- In **Peer-reviewed Journals**, in order to insure the article's quality, articles are written by experts and are reviewed by several other experts in the field (peer reviewers) before the article is published in the journal.
- In academic publishing, the goal of **peer review** is to **assess the quality** of articles submitted for publication in a scholarly journal.
- Articles published in these journals are more likely to be scientifically valid and reach reasonable conclusions.
- The peer reviewers check the manuscript for accuracy and assess the validity of the research methodology and procedures.
- If they find the article to have appropriate scholarly validity and rigor, the peer reviewers may still suggest revisions.
- If the peer reviewers find the article lacking in scholarly validity and rigor, they reject it.
- Because a peer-reviewed journal will not publish articles that fail to meet the standards established for a given discipline, peer-reviewed articles that are accepted for publication exemplify the best research practices in a field.
- Typically, the peer reviewers do not know who is the author of the article, so the article succeeds or fails on its own merit, not the reputation of the expert

### **Examples of Websites to Locate Peer-Reviewed Articles**

- Google Scholar
- Pubmed
- Web of Science

### **Non-Peer-reviewed articles**

- **Newspapers, magazines, and websites** containing articles and news: Articles are written by people who may or may not be experts in the field of the article. Consequently, articles may contain incorrect information and have biases.
- **Non-Peer-reviewed Journals** containing articles written by academics and/or professionals. Although the articles are written by "experts," any particular "expert" may have some ideas that are not considered valid by the academic or professional community.