“What students retain over the long haul, and what they can use in settings other than your class, is the hallmark of good education, not the quality of term papers or final exam scores”.

Dan Perlman (Brandeis University)

I firmly believe that education should be an interactive process that motivates you to actively seek information and to evaluate that information critically. I am looking forward to working WITH you so that you learn the most from participating in this course.

INSTRUCTOR
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Office Hours:
I am always available to meet you before and after class. Otherwise, you can ask me for an appointment or sign up through CANVAS for an appointment.

BRIEF COURSE DESCRIPTION
This is an introduction to the scientific study of sex in humans. This is a SCIENCE course. Within an evolutionary framework, the course examines genetic, physiological, ecological, social and behavioral aspects of sex, reproduction and attachment/bonds/love in humans and nonhuman animals. After providing the basic principles of evolutionary biology, the course will examine the development of sexual anatomy and physiology: How is sex determined? What is the physiology of the sexual response? How are men and women biologically different? What are the biological influences on sexual orientation? What can we learn from the different sexual strategies of males and females in non-human animals that allows us to understand differences in humans? What are the biological bases for attachment and love? Why do we experience jealousy? Finally, topics relevant to human sexuality today will be discussed, such as the hook-up culture, sexual assault, pornography, contraception and sexually transmitted infections. I take a biocultural approach to human sexuality. Examples are drawn primarily from traditional and
modern human societies and from studies of other living organisms that provide more definite information on the biological bases of sex and reproduction.

**Goals of the course**

Given the importance of sex, reproduction and love in everyone’s life, from medical reasons to emotional ones, it is paramount that we develop the skills to critically evaluate the existing information about those topics. The goal of the course is for you to be able to explore the manifestation of sex, reproduction and love through a process of scientific inquiry that includes a substantial amount of quantitative reasoning (QR). Even when these are aspects of our lives that are undoubtedly influenced by the environmental, social and cultural contexts where we grow up and live, there is an undeniably biological bases to them. An extremely powerful tool for gaining insights into the evolution of sex, reproduction and love in humans is through the study of those phenomena in other living organisms where we do not have the confounding influences of culture. You will develop critical quantitative thinking skills, and improve your ability to integrate quantitative scientific findings from different areas of study.

**Main Learning Objectives (there will be specific learning objectives for each topic as well):**

1. You will learn to recognize the different sources of evidence in the literature (primary, secondary) and the potential contributions each makes to advancing a field of study.
2. You will become familiar with the latest findings in the scientific study of the course topics.
3. You will be able to explain, and illustrate with examples from humans and other animals, the process of scientific inquiry, including the formulation of hypotheses and predictions and the evaluation and interpretation of data.
4. Upon completing the course you will be able to explain foundational aspects of the process of scientific inquiry, evolutionary theory and the different processes involved in evolutionary and developmental change using examples from humans, nonhuman primates and other animal models.
5. You will be able to quantitatively describe and interpret, using tables, graphs or other forms of data summary, the anatomy, morphology, physiology and behavior associated with sex, reproduction and love in humans and nonhumans.
6. You will be able to comfortably use key concepts in the natural and biological sciences, as well as in data sciences and statistics.

The course is divided into three parts; I will share with you the specific learning objectives for each of the parts and/or meetings we have.

**CLASS ATTENDANCE**

I strongly encourage you to attend all meetings. The powerpoint presentations will NOT be well understood unless you have been to class. The uploaded presentations are developed as supporting material for the oral presentation by the instructors. All information discussed in class (e.g. questions from students, debate following a lecture) CAN BE included in the exams.

**ACADEMIC DISHONESTY**

Please read the Yale College statement on academic honesty, available at: [http://catalog.yale.edu/handbook-instructors-undergraduates-yale-college/teaching/academic-dishonesty/](http://catalog.yale.edu/handbook-instructors-undergraduates-yale-college/teaching/academic-dishonesty/)

Also, please use the link on that page to reach the relevant sections of the Undergraduate
Regulations, if you are not familiar with these, and use the link to the Yale College Writing Center’s website to get information about citing sources. This course is an excellent example of what the authors of the intellectual honesty statement meant when they wrote “Discovering how to use others' work to advance your own is a key part of learning. Very few of us ever have completely original ideas, and even the greatest scholars build on their predecessors' achievements.”

CLASSROOM DECORUM

- As a matter of courtesy to us and to your fellow students, I expect you to arrive at class on time, prepared and ready to participate. If you know that you will need to leave a particular lecture early, please let me know beforehand. If it is necessary to leave or enter the room once class has begun, please do so quietly.
- The use of cell phones is not allowed during class. I will ask that you turn them off and you put them away.
- Laptops can be used during class as long as they are being used in relationship to the class and they do not become a source of distraction to your peers or to me.
- If you have trouble hearing or concentrating on the meeting or media presentation because of distractions around you, quietly ask those responsible for the distraction to stop. If the distraction continues, please let me know.
- No audio or video recording of my lecture is permitted without prior, written approval.

COURSE REQUIREMENTS

It is truly difficult to decide on the requirements without knowing whether the course will enroll 30-40 students like when I taught in Spring 2016 and 2017 or 100. And whether I will have the collaboration of Teaching Fellows. I am proposing requirements based on the assumption of 30-40 students and 1TF.

Undergraduate Student Requirements

All assignments will be deducted 10% of the final grade for each day that they are late. I do not give assignments for extra credit, so please be sure to pay close attention to dates of exams and assignments. Makeup examinations will only be given with a Dean’s excuse.

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Percentage of Final Grade</th>
<th>Date when is due</th>
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<tbody>
<tr>
<td>TQs (thoughts and questions)</td>
<td>15%</td>
<td>For 8 meetings, due Mondays or Wednesdays at 9PM</td>
</tr>
<tr>
<td>Midterm 1</td>
<td>35%</td>
<td>First half of meeting, June 11th</td>
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<tr>
<td>Midterm 2</td>
<td>35%</td>
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<tr>
<td>Participation during class</td>
<td>15%</td>
<td>Throughout the course</td>
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<tr>
<td>meetings</td>
<td></td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
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**Midterms:** They will consist of a combination of short and long essay questions. The second midterm will require to draw from material learned and understood during the first half of the course.

**TQs (“Thoughts and Questions”):** On 8 occasions during the course you will need to respond in writing to two or three prompts about the assigned readings for the meetings that week. You will submit your “thoughts and questions” via a Google form at least a day before class so that I can use your responses to shape the upcoming class meetings. The forms will be due on Mondays at 9PM for the Tuesday meetings and on Wednesdays at 9PM for the Thursday meetings. They will not be graded individually, the overall quality of your submissions during the semester will be graded.

**Class discussions**

On four (4) occasions during the course I will allocate all of the meeting to a different activity. These “class discussions” will be used, for example, for watching a video followed by a debate, immersing ourselves in a quantitative data set on a particular topic, listening to a guest speaker, playing an illustrative game, and/or having a discussion on a topic being addressed in the media at the time.

**Participation (15%):** Participation in class will be graded.

**Grading** is NOT on the curve and will be based on the following cut-offs:

- 93 - 100% = A
- 90 – 92% = A-
- 87 – 89% = B+
- 83 – 86% = B
- 80 – 82% = B-
- 77 – 79% = C+
- 73 – 76% = C
- 70 – 72% = C-
- 67 – 69% = D+
- 63 – 66% = D
- 60 – 62% = D-
- <60% = F

**REQUIRED READINGS**

There is no required textbook for the class. *Required* readings will be available in the “resources” section of the class website in Canvas. There may also be *Suggested* readings for those with a particular interest in the topic.

The internet is wonderful, but it is also a great source of misinformation. As you can imagine there is no shortage of websites focused on the topics of the course, but no one exercises quality control over most of them, and much of what they contain is outdated, misleading, and/or wrong. Ours is a science course, we must therefore base our readings on peer-reviewed scientific material. Feel free to consult with me when deciding on readings from the internet that you are not sure if they are an acceptable source of information for a scientific course like this one.

**Schedule of meetings, topics and readings**

**PART I: Principles of Evolutionary Biology**

**28-May, Class 1**

*Introduction and course organization*

Approaches to the scientific study of sex and reproduction, scientific skepticism
Pseudoscience, Superstition, and Other Confusions of Our Time.

30-May, Class 2
Evolutionary Theory and Evolution of Behavior
Sapolski, R. M. (2017). Chapter 8, Back to when you were just a fertilized egg. The biology of humans at our best and worst.

4-June, Class 3
The Evolution of Sex and Sexual Reproduction
Ridley, M. (1993) The Red Queen, Chapters 2 and 3

Sexual selection and the evolution of sex differences

PART II: How we get there
6-June, Class 4
Sex determination: Genetic sex, chromosomal sex, sex differences in the brain
Shibley Hyde, J. and J. D. Delamater Chapter 5, Sex Hormones and Sexual Differentiation. Understanding Human Sexuality.

Male reproductive anatomy & physiology. Male reproductive ecology.
Shibley Hyde, J. and J. D. Delamater Chapter 4, Sexual Anatomy. Understanding Human Sexuality.

11-June, Class 5

*Female reproductive anatomy and physiology. The final act: The physiology of sexual intercourse*

Shibley Hyde, J. and J. D. Delamater Chapter 4, Sexual Anatomy. *Understanding Human Sexuality.*

Shibley Hyde, J. and J. D. Delamater Chapter 8, Sexual Arousal. *Understanding Human Sexuality.*

MIDTERM 1

13-June, Class 6

Class-wide discussion:

*Cross-cultural and biological perspectives on genital modification*

Mackie's and Obermeyer's papers, Wheeler and Malone 2013

*The evolution of the female and male orgasm. Possible Invited Talk: Dr. Gunter Wagner (E&EB, Yale University)*


18-June Class 7

21st Century Sexual Selection.


*Human mating and marriage systems.*


**20-June, Class 8**
*Class-wide discussion, Attraction Video*

*The Biology of Love and Relationships*

**PART IV: Sex and gender in our lives**

**25-June, Class 9**
*Sexual orientation: Biological basis*
Shibley Hyde, J. and J. D. Delamater Chapter 13, Sexual Orientation. Understanding Human Sexuality.

*Contraception: history, function, mechanisms, modern options.*
Shibley-Hyde & Delamater Textbook chapter (Contraception and Abortion)
Sievert 2008

**27-June, Class 10**
*MIDTERM 2*