

Hormones and Behavior (HEB 1310)

Fall 2017-'18 syllabus

M, W, F 10-11, [University Museum 102 \(Haller Hall\)](#)

Lecture, reading and exam schedule is on the last page

Instructor: Dr. Carole K. Hooven

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Course description:

An introduction to the interaction between hormones and behavior, emphasizing research in humans. The course has 4 units: Unit 1 covers the physiology of the endocrine system (endocrine communication, endocrine glands, hormone production and action); Unit 2 covers sex and gender (the effects of hormones on the brain and behavior in early development, the biology of gender and sex differences); Unit 3 covers reproductive and social behaviors (mating, attraction, dominance and aggression), and in Unit 4, we explore the relationship between hormones and health (stress, appetite, obesity, diabetes).

This course fulfills the Anatomy/Physiology distribution requirement for HEB concentrators, and this year only, also fulfills the Behavior distribution requirement.

Course goals—you should learn:

- the physiology of the human endocrine system
- the principles of hormone-behavior interactions
- to critically evaluate scientific studies/claims
- to explain behavior and physiology using proximate and ultimate perspectives
- to improve your scientific communication, through writing, and speaking in class and section
- how to observe behavior (including your own!) and generate testable hypotheses about its origins
- to understand current health and social issues (stress, sexuality, obesity) from a biological/evolutionary perspective

Required text: out of print—some books available at the COOP, some online (eBay, Amazon, etc.); also available as an ebook (<https://www.vitalsource.com/referral?term=9781605356587>), and assigned pages also available on the course website in PDF form (but not super convenient!).

Nelson, R.J. Introduction to Behavioral Endocrinology, 4th edition, Sinauer, 2011

Other readings:

Occasionally course material will be supplemented with readings in addition to the textbook and readings for section. These readings, along with weekly section readings (usually two journal articles

and sometimes a media article) for discussion are available on the course website, under “Required Readings.”

Course grading, exams and assignments

- 60%: 4 exams: 2 in-class midterm (30%), 1 take-homes (10%), and 1 final (20%).
- 8%: 8 in class quizzes (1% each) based on the previous week’s lectures
- 10%: 2 response papers (4 and 6%)
- 22%: section attendance and participation: 2 points for each of 11 sections if you contribute meaningfully (have thoughtfully read and considered assigned readings) to discussions.

Your final grade will be determined according to your course score according to the weightings above. 100-90=A range, 89-80=B range, 79-70=C range, 69-60=D range, and 59 or below is E range. (80, 81, 82 = B-; 83, 84, 85, 86 = B; 87, 88, 89 = B+)

Notes on readings and lectures:

The lectures will follow most closely the readings in the Behavioral Endocrinology textbook.

Especially during the first unit of the course, when we focus on the nuts and bolts of the endocrine system, I encourage you to keep up with the assigned readings in the textbook and to use the readings as support for your review of lecture material. These are fairly detailed readings that provide a foundation for the rest of the course. I have tried to assign only the relevant material from the textbook, so that you don’t have to read every page of every chapter. **You should pay particular attention to the aspects of the assigned readings that most closely follow the lecture material, because this is the material on which you are most likely to be questioned in exams.**

Please read carefully the readings for section. First, they are interesting! Second, you will be graded on the quality of your participation so should come to section prepared to ask questions and discuss what you’ve read. You are encouraged to participate in section discussion, but some sections may be large and full participation will be difficult. Your TF will sometimes ask for your input, so do be prepared!

Much of the lecture content will reinforce material from the textbook, but lectures will also contain lots of information not found in the textbook readings. I will indicate on lecture slides the references for new material so you can pursue further reading if you’re interested or confused, and I’m always happy to discuss readings or lecture material with you outside of class. I encourage you to ask questions during class, and I will, from time to time, ask you to participate during lecture.

Exam/quiz policy and logic:

Educational research demonstrates that more frequent, lower-stakes testing improves learning outcomes for students (Moulton 2014, link below). At the start of eight of the Monday lectures (dates on the Lecture schedule, below), you will be given a brief quiz on the lectures from the previous week. If you have thoughtfully completed the readings, you should have no problem getting full credit. You may drop your lowest quiz grade.

http://hilt.harvard.edu/files/hilt/files/moulton_2014_applying_psychological_science_to_higher_education_april16.pdf (Moulton, S. *Applying Psychological Science to Higher Education: Key Findings and Open Questions*. Harvard Initiative for Learning and Teaching, 2014)

In-class quizzes are designed to 1) motivate you review lecture material while it’s still fresh and to ask questions about areas of confusion, and 2) help you to understand and remember the material, and to increase your engagement with the course material and improve your exam performance.

If you must submit an exam or assignment late or miss a quiz because of travel or illness, please contact your TF **before** the due date to discuss arranging a makeup. To be eligible for a make-up quiz, assignment or exam extension due to illness, you must submit a note from your doctor. In the highly unusual event of an emergency that prevents you from contacting your TF before the quiz or exam due date, you must contact your TF or Professor Hooven as soon as possible, to discuss arrangements for a makeup or extension.

Academic Integrity—this is important!

If you have not already, be sure to take the time to familiarize yourself with Harvard's guidelines on academic integrity, found at this link <http://handbook.fas.harvard.edu/book/academic-integrity>

These guidelines are in force in HEB 1310, and any infringements will be reported to the Administrative Board.

Written work

Over the course of the semester, you will be asked to complete two response papers (3-5 pages with a maximum of 1300 words). This is designed to deepen your engagement with the course readings and improve your critical thinking and science writing skills. Guidelines are provided on the course website, under "Assignments."

Assignments/exams should be submitted via the course website (instructions will be provided) before midnight on the due date. Papers will be considered one day late if they are submitted after midnight. Five percent will be decremented from your assignment score for each day late (including subsequent versions submitted after the due date), and assignments that are more than 5 days late will not be accepted and will receive a score of 0. *You are responsible for ensuring that you have correctly submitted your assignment on the course website.* If you suspect a problem, then you should email your assignment to your TF, by the due date.

Extensions for written assignments are not normally granted. I strongly recommend that you schedule the time to complete your assignments, so that last-minute crises don't prevent you from finishing on time. If you have legitimate problems that you feel will prevent you from finishing an assignment on time, *contact your TF well in advance of the deadline* to discuss the possibility of an extension.

Collaboration is permitted in writing assignments, but not on the take-home exam

Discussion and the exchange of ideas are essential to academic work. For assignments in this course, you are encouraged to consult with your classmates on the choice of paper topics and to share sources. You may find it useful to discuss your chosen topic with your peers, particularly if you are working on the same topic as a classmate. However, you should ensure that any written work you submit for evaluation is the result of your own research and writing and that it reflects your own approach to the topic. You must also adhere to standard citation practices (<http://usingsources.fas.harvard.edu/icb/icb.do>) in this discipline and properly cite any books, articles, websites, lectures, etc. that have helped you with your work. If you received any help with your writing (feedback on drafts, etc.), you must also acknowledge this assistance.

Collaboration is not permitted on the take home exam—you may consult any sources you like but you may not discuss any aspect of the exam with other people. After the exam is completed you may discuss it.

Sections:

Sections are a crucial part of the course-- you should come to section ready to discuss the readings assigned for that week. Sections meet once a week (11 total), and attendance is required. Section times will be scheduled during the first week of the semester, via the online Sectioning tool (instructions will be posted on the course website), and will begin the second week of the semester. If you need to switch sections at the start of the course, you may need to find someone in another section who can switch with you. You may not switch sections if you miss your own section during the course of the semester. If you must miss a section, please email your TF ahead of time to let him or her know. Unexcused absences will harm your section grade.

To encourage face-to-face communication and focus on discussion and minimize temptations for distraction, computers are not allowed in section (exceptions are made for students with special needs).

How to do well in the course:

- Read this syllabus carefully and make sure you understand the expectations of the course.
- Complete textbook readings prior to lectures, review more carefully after.
- Come to lectures, and don't "multitask," which reduces engagement and performance (and distracts those around you).
- Take handwritten notes (doing so increases engagement and comprehension) and review notes and lecture slides shortly after lectures and before quizzes exams.
- If you don't understand something from lecture, read the associated pages in the textbook, ask a friend in class, ask your TF (in section or office hours), or me. Or, post your question in the "Discussion" section of the course website and a course mate, TF or I will answer!
- Complete section readings thoughtfully, look for main points, ask questions about what you don't understand.
- Visit office hours! You don't even need to have a specific question.
- Ask questions and participate in lectures and sections!
- Study for exams in groups, quiz each other and quiz yourself. Come see me or your TF to discuss questions about exam or quiz performance.
- Let me or your TF know if you need help!

The lecture, assignment and exam schedule is on the next page.

HEB 1310 schedule for lectures, assessments and readings

Date	Week	Lecture	Topic	Quiz	Section	Lecture readings (from Nelson unless otherwise stated)
Unit I--Behavioral endocrinology intro						
Wed, Aug 30	1	1	Intro to course			
Fri, Sep 01		2	Origins of behavioral endocrinology			1-8, Beach 75
Wed, Sep 06	2	3	Hormone behavior relationships			8-18, 31-35, "Bringing back my Real Self"
Fri, Sep 08		4	Endocrine system basics			37-42, hormones: 42-66
Mon, Sep 11	3	5	Hormone production and action I	1	1	68-75
Wed, Sep 13		6	Hormone production and action II			
Fri, Sep 15		7	Glands I			75-80
Mon, Sep 18	4	8	Glands II	2	2	80-83
Wed, Sep 20		9	Glands III			83-88
Fri, Sep 22			<i>Exam I--in class</i>			
Unit II--Sex, gender and difference						
Mon, Sep 25	5	10	Sexual differentiation I		3	89-103
Wed, Sep 27		11	Sexual differentiation II			103-109
Fri, Sep 29		12	Finishing up and discussion			
Mon, Oct 02	6	13	Organization/activation	3	4	118-141
Wed, Oct 04		14	Sex differences I			143-153, 168-176, 183-200
Fri, Oct 06		15	Sex differences II			
Wed, Oct 11	7		Cancelled due to illness	4	5	
Fri, Oct 13		16	Is sex binary?			Posted!
			<i>Exam II--take home, due Mon, Oct. 16 by midnight</i>			

HEB 1310 schedule for lectures, assessments and readings

Unit III--Reproductive and aggressive behavior

Mon, Oct 16	8	17	Sexual orientation, gender	6	176-183, reading from Nat Geo (posted)
Wed, Oct 18		18	Male reproduction I		201-242
Fri, Oct 20		19	Male reproduction II		

Mon, Oct 23	9	20	Female reproduction I	5	7	275-304
Wed, Oct 25		21	Female reproduction II			304-309, 317-319 (not neural mechanisms)
Fri, Oct 27		22	Parenting			335-340, 349-360, 371-377, 387-390

Mon, Oct 30	10	23	Aggression, status and competition I	6	8	406-422
Wed, Nov 01		24	Aggression, status and competition II			432-443, 450-452
Fri, Nov 03			<i>Exam III--in class</i>			

Unit IV--Health: stress and energy

Mon, Nov 06	11	25	Stress I	9	579-592
Wed, Nov 08		26	Stress II		592-604, 620-623
Fri, Nov 10		27	Stress III		

Mon, Nov 13	12	28	Energy balance and metabolism I	7	10	453-457, 504-505, 604-608
Wed, Nov 15		29	Energy balance and metabolism II			470-476, 498-510
Fri, Nov 17		30	Behavioral control I			476-497

Mon, Nov 20	13	31	Behavioral control II	8	
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Mon, Nov 27	14	32	Obesity/diabetes I	11	TBD
Wed, Nov 29		33	Obesity/diabetes II		TBD
Fri, Dec 01		34	Finishing up		

Final exam is on Wednesday, December 13 at 2:00 PM