Psyc 328: Neurobiology of Sexual Behavior

Fall 2024
Tues/Thurs 1-2:25PM
Sharpless 416

Professor: Laura Been, PhD
Pronouns: she/her/hers
Please feel free to call me "Laura," "Professor Been," or "Dr. Been."

Contact: lbeen@haverford.edu

Office hours: by appointment on Wednesdays
https://calendar.app.google/Gbq93kT2V2VqhnxD9 (or email me to schedule!)
Office: KINSC Sharpless 408 or via Zoom

Pre-requisites: Prior completion of Psyc 100 and Psyc 217 or an equivalent course is required. Completion or concurrent enrollment in Psyc 200 is recommended. If you do not meet these requirements, pre-approval by the instructor is required. Feminist Neuroscience (offered in 22-23 academic year) is an antirequisite.

Textbook and Readings: There is no textbook for this course. Readings and other resources will be distributed electronically via the course Moodle site.

Course Description: This seminar will use peer-reviewed literature to explore the relationship between the brain, hormones, and sexual behaviors. We will take a *comparative* approach to understanding these relationships, drawing from examples from a wide variety of organisms including invertebrates, fish, birds, mammals, non-human primates, and humans. In addition to the neural regulation of copulation *per se*, we will also examine pre-copulatory behaviors (e.g. sexual attraction) post-copulatory behaviors (e.g. parental behaviors), and issues related to the study of the neurobiology of sexual behavior (e.g., how culture, language, and zeitgeist influence our pursuit of this knowledge). Students will be responsible for co-creating some of the course content through two presentations, in-class activities, and science communication projects including a podcast. For these projects, you are encouraged to focus on the course content that interests you most.

Expectations and Commitments: We are living through a continued global pandemic, a heightened collective awareness of racial injustice, and a deeply divided political climate. I will teach from a place of compassion as we navigate these unprecedented challenges together. I will be flexible and generous with deadlines. I will be understanding of unforeseen circumstances. I will pivot as necessary. I hope you will extend the same grace to me. My ultimate goal is to create a learning community that is inclusive, equitable, and conducive to learning for each student in this course, as well as sensitive to the specific, unique, and unpredictable challenges we will encounter this term.

Attendance: Students are expected to participate in the course by presenting and discussing papers. These presentations and involvement in discussion will contribute significantly to the final grade. Consequently, if you are absent from the class without an explanation (see 'Missed Classes Policy' below), you will not get participation credit for that class.

Grading: There are 100 possible points in this course:

Participation	15 points
Thought Papers / Exercises	10 points
Presentation 1	20 points
Presentation 2	20 points
Podcast	15 points
Final Exam	20 points
Total Possible Points	100 pts

Grading Scale:

94-100 pts = 4.0	77-79 pts = 2.3
90-93 pts = 3.7	73-76 pts = 2.0
87-89 pts = 3.3	70-72 pts = 1.7
83-86 pts = 3.0	67-69 pts = 1.3
80-82 pts = 2.7	63-66 pts = 1.0

Participation: **Your active participation in discussion is *essential* for success in this course.** I expect students to come to class having critically read the assigned papers and to put a good faith effort into their assignments and presentations. Bring questions with you to class to assist in talking about the material. Be prepared to answer both specific and general questions about these papers. I want to hear everyone's ideas!

Thought Papers / Exercises: Each week, I will post a thought question or exercise related to that week's reading. You will write a short paper (~1 page double-spaced) or complete a short exercise in response to that question/prompt. These papers and exercises are designed to stimulate your thinking and processing of the course material and to help me focus discussion on what resonated most with the class. **Your response is due by Tuesday at Noon each week,** and we will discuss your responses in class on Tuesday.

Presentations: Starting in Week 3, students in pairs will present empirical papers (journal articles, NOT review articles or book chapters) related to that week's topic. The presentation should be around 20 minutes with about 10 minutes for questions. **You are required to meet with me prior to your presentation to get your paper choice approved and discuss a strategy for your presentation.** In the presentation, I expect students to briefly and clearly summarize the problem that the paper addresses as well as describe and critically analyze the methods, results and interpretations. Prepared slides and/or handouts are encouraged. ***Additional background reading, over and above what is assigned, is assumed for***

presenters. Throughout the semester, each student will present a total of **two** primary papers on two separate occasions.

Podcast: Science podcasts have become a popular way to communicate complex scientific ideas to the public in an understandable, entertaining way. Each student in this course will produce an episode of a podcast that corresponds to one of their presentation topics. At the end of the semester, I will collate all of the episodes into a podcast about the Neurobiology of Sex and publish them! More information about the Podcast will be given in class. In the meantime, here is a link to previous episodes of the podcast: https://been.sites.haverford.edu/podcasts/

Final Exam: The final exam is a series of short essay prompts that present an opportunity for you to demonstrate your *comprehension* and *synthesis* of key course concepts and *apply* them to real-world problems in science. More information about the final exam will be given during class.

Missed Classes Policy: If you have to miss a class for a planned reason, please let me know as soon as possible so that we can make arrangements for you to make up the missed material. If you miss a class for an unplanned reason (e.g., illness), please contact me as soon as possible so that we can make arrangements for you to make up the missed material. Missing class without a legitimate excuse will result in a mark of 0 points for participation for that session.

Extension Policy: If you need an extension on an assignment, please ask for it (at least 24 hours in advance whenever possible) and I will grant it. If you need more than a one-week extension, or are finding yourself needing extensions frequently, please talk with both your Dean and me to arrive at a practical and workable plan for completing the work.

Other Classroom Policies: Please silence your phones and put them away during class. Students may use laptop computers to take notes, but please refrain from using your devices for non-class-related activities during class. Please do not audio-record any portion of my lectures without explicit permission to do so. Questions and discussions are welcome and encouraged. Please be respectful of your classmates at all times.

Academic Integrity: You are expected to abide by Haverford's Honor Code. Academic dishonesty of any kind will not be tolerated. Do not use AI (e.g., ChatGPT) to answer your thought paper or final exam prompts.

Disability Statement: I am committed to partnering with you on your academic and intellectual journey and recognize that you bring many strengths, perspectives and strategies as you navigate this journey. I encourage you to think proactively and strategically about leveraging these strengths, in partnership with the many resources on campus. These resources include CAPS (free and unlimited counseling is available), Office of Academic Resources, Writing Center, Student Diversity Equity and Access

Team, Health Services, Professional Health Advocate, Religious and Spiritual Life, the GRASE Center, and the Advising Deans. At times you may experience challenges or stressors that impact your ability to fully engage intellectually. If the stressors are academic, I welcome the opportunity to discuss and address those stressors with you in order to find solutions together. If you are experiencing challenges or questions related to emotional health, finances, physical health, relationships, learning strategies or differences, or other related topics, I hope you will consider reaching out to the many resources here on campus. Additional information can be found at https://www.haverford.edu/deans-office-student-life/offices-resources.

Additionally, Haverford College is committed to creating a learning environment that meets the needs of its diverse student body and provides equitable access to students with disabilities. If you have (or think you may have) a disability related to mental health, chronic health, neurological state, and/or physical condition – please contact the Office of Access and Disability Services (ADS) at hc-ads@haverford.edu. It is never too late to request ADA accommodations – our bodies and circumstances are continuously changing. Please know that all inquiries and health-related information is handled in a sensitive and confidential manner.

Students who have already been approved to receive academic ADA accommodations and want to use these in this course should share their accommodation letter and make arrangements to meet with me as soon as possible to discuss how their accommodations will be implemented in this course. Please note that accommodations are not retroactive and require advance notice in order to successfully implement.

If, at any point in the semester, a disability or personal circumstances affect your learning in this course, please do not hesitate to reach out to me. I want to be sure you are aware of the full range of resources and options available to you.

It is a state law in Pennsylvania that individuals must be given advance notice that they may be recorded. Therefore, any student who has a disability-related need to audio record this class must first be approved for this ADA accommodation by Access and Disability Services and then must communicate approval to me. I will then make a general announcement to the class that audio recording may occur while respecting students' right to privacy by not identifying the individual(s).

Title IX Statement: Haverford College is committed to fostering a safe and inclusive living and learning environment where all can feel secure and free from harassment. All forms of sexual misconduct, including sexual assault, sexual harassment, stalking, domestic violence, and dating violence are violations of Haverford's policies, whether they occur on or off campus. Haverford faculty are committed to helping to create a safe learning environment for all students and for the College community as a whole. If you have experienced any form of gender or sex-based discrimination, harassment, or violence, know that help and support are available. Staff members are trained to support students in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, and more.

The College strongly encourages all students to report any incidents of sexual misconduct. Please be aware that all Haverford employees (other than those designated as confidential resources such as counselors, clergy, and healthcare providers) are required to report information about such discrimination and harassment to the Bi-College Title IX Coordinator: https://www.haverford.edu/users/ktaylor4

Information about the College's Sexual Misconduct policy, reporting options, and a list of campus and local resources can be found on the College's website: https://www.haverford.edu/sexual-misconduct

Tentative Course Schedule

*NOTE: This schedule is subject to change!! Our **moodle site** will function as a "live syllabus" and will be updated as we adjust the schedule to accommodate the pace of this semester.*

Week 1 Tues 9/3 Thurs 9/5	Introduction To Psyc328	**Tuesday:** - Introductions - Course Structure and Expectations	**Readings for *Thursday*:** - Let's talk about sex -- not gender. Goyman & Brumm, 2018 - Multivariate Models of Animal Sex: Breaking Binaries Leads to a Better Understanding of Ecology and Evolution. McLaughlin et al 2023 ***Assignments:*** - By Friday 9/6 please complete: ○ **Presentation sign-up** ○ **Beginning of Semester Survey**
	UNIT 1: Intro to Neuroendocrinology: Rodent Models		
Week 2: Tues 9/10 Thurs 9/12	The study of Behavioral Neuro-endocrinology	**Readings for Tuesday:** - Are hormones a "female problem" for animal research? Shansky, R. (2019) - Donating Orgasms to Science. Wise, N. (2014) **Assignments for Tuesday:** - Respond to **Thought Paper 1** prompt on Moodle by Tues at noon	***Assignments for Thursday:*** - Come prepared to discuss readings and participate in in-class activities
Week 3: Tues 9/17 Thurs 9/19	Sexual Differentiation of the Brain and Behavior	**Readings for Tuesday:** - Is it useful to view the brain as a secondary sexual characteristic? Ball, et al. (2014) - Hormones and behavior and the integration of brain-body science. McEwen (2020) **Assignments for Tuesday:** - Respond to **Thought Paper 2** prompt on Moodle by Tues at noon	***Assignments for Thursday:*** - **Student Presentations 1&2**: come to class prepared to discuss student-chosen papers
Week 4: Tues 9/24	Sensory Modulation of Sexual Behavior	**Reading for Tuesday:** - **Reading**: Olfactory Systems in Mate Recognition and Sexual Behavior. Keller, et al. 2010 **Assignments for Tuesday:**	**Assignments for Thursday:** - **Student Presentations 3&4**: come to class prepared to discuss student-chosen papers

Thurs 9/26		- Respond to **Thought Paper 3** prompt on Moodle by Tues at noon	
Week 5: Tues 10/1 Thurs 10/3	Neurochemical Modulation of Sexual Behavior	**Readings for Tuesday:** - The ties that bind: Neurochemistry of attachment in voles. Gobrogge & Wang (2016) **Assignments for Tuesday:** - Respond to **Thought Paper 4** prompt on Moodle by Tues at noon	**Assignments for Thursday:** - **Student Presentations 5&6**: come to class prepared to discuss student-chosen papers
	UNIT 2: Central and Peripheral Nervous System Mechanisms of Sexual Behavior		
Week 6: Tues 10/8 Thurs 10/10	Peripheral nervous system mechanisms of sex	- ***In class workshop: "How to record your podcast" by Sharon Strauss, IITS (Laura away)***	**Readings for Thursday:** - Contextual approaches to the physiology and classification of erectile function, erectile dysfunction, and sexual arousal. Sachs, B. (2000). - Animal Models of female sexual dysfunction: Basic Considerations on drugs, arousal, motivation, and behavior. Agmo, A. (2013). **Assignments for Thursday:** - Respond to **Thought Paper 5** prompt on Moodle by THURSDAY at noon - NO STUDENT PRESENTATIONS THIS WEEK
Week 7: 10/15 10/17	***NO CLASS FALL BREAK***		
Week 8 Tues 10/22 Thurs 10/24	Central nervous system mechanisms of sex: male-typical	**Readings for Tuesday:** - Influences of Dopamine and Glutamate in the MPOA on male sexual behavior, Will et al., (2014). **Assignments for Tuesday:** - Respond to **Thought Paper 6** prompt on Moodle by Tues at noon	**Assignments for Thursday:** - **Student Presentations 7&8**: come to class prepared to discuss student-chosen papers - ***Please Complete Mid-Semester Feedback Survey!***
Week 9: Tues	Central nervous system	**Readings for Tuesday:** - Reverse engineering the lordosis	**Assignments for Thursday:**

10/29 Thurs 10/31	mechanisms of sex: female-typical	behavior circuit. Pfaff et al, (2008). **Assignments for Tuesday:** - Respond to **Thought Paper 7** prompt on Moodle by Tues at noon	- **Student Presentations 9&10**: come to class prepared to discuss student-chosen papers
	UNIT 3: A Comparative Approach to Brain-Sex-Behavior Relationships		
Week 10: Tues 11/5 Thurs 11/7	Animal Models of Sexual Motivation/ Attraction (Avian)	**Readings for Tuesday:** - The neuroendocrinology of reproductive behavior in Japanese quail. Balthazart et al. (2003). - How useful is the appetitive and consummatory distinction for our understanding of the neuroendocrine control of sexual behavior? **Assignments for Tuesday:** - Respond to **Thought Paper 8** prompt on Moodle by Tues at noon	**Assignments for Thursday:** - **Student Presentations 11&12**: come to class prepared to discuss student-chosen papers
Week 11: Tues 11/12 Th 11/14	Insect and Fish Models of Sexual Behavior	**Readings for Tuesday:** - Genes and courtship behavior in Drosophila males. Yamamoto & Koganezawa (2013). - The need for speed: neuroendocrine regulation of socially-controlled sex change. Lamm et al. (2015) **Assignments for Tuesday:** - Respond to **Thought Paper 9** prompt on Moodle by Tues at noon	**Assignments for Thursday:** - **Student Presentations 13&14**: come to class prepared to discuss student-chosen papers
Week 12: Tues 11/19 Thurs 11/21	Neurobiology of Sexual Behavior: non-human primates	**Readings for Tuesday:** - Titi monkeys as a novel non-human primate model for the neurobiology of pair bonding, Bales et al. (2017) - Hormones and history: the evolution and development of primate female sexuality, Wallen & Zehr (2004) **Assignments for Tuesday:** - Respond to **Thought Paper 10** prompt on Moodle by Tues at noon	**Assignments for Thursday:** - **Student Presentations 15&16**: come to class prepared to discuss student-chosen papers - **Podcast Check-in Survey due by Friday at 5PM**
Week 13: Tues 11/26	Neurobiology of Human Sexual Behavior	**Readings for Tuesday:** - Is the human brain sexually differentiated? Blog post by Margaret McCarthy, PhD	***NO CLASS THURSDAY*** ***THANKSGIVING BREAK***

Thurs 11/28		- Neuroanatomy and function of human sexual behavior: A neglected or unknown issue? Calabro et al. (2019) **Assignments for Tuesday:** - Respond to **Thought Paper 11** prompt on Moodle by Tues at noon	
Week 14: Tues 12/3 Thurs 12/5	TBD	**Readings for Tuesday:** - TBD Flex time for make-up presentations	**Assignments for Thursday:** - Flex time for make-up presentations - **podcast DUE on Moodle on SUNDAY 12/8 by 5PM**
Week 15: Tues 12/10 Thurs 12/12	Podcast Party!	Listen to our Podcasts together, wrap up	Listen to our Podcasts together, wrap up
Week 16:	*Finals Week- No Class* **Final exam due by noon on 12/20** Please fill out of **End of Semester Feedback Survey** (link on Moodle)		