

**Hormones and Behavior (PSY 450/550) CRN: 25839/25849**  
**University of Oregon, Winter 2018**

Instructor: **Dr. Jagdeep Kaur-Bala**  
225 Straub Hall  
[jagdeep@uoregon.edu](mailto:jagdeep@uoregon.edu)

Classroom: **245 Straub Hall**  
Time: **10:00-11:20am TR**

Office Hours: **11:30am- 12:30pm Tuesdays/Thursdays (& by appointment)**

**Teaching support:** *GTFs are also available to help students.*

**Ben Nelson**, 494 Straub Hall, [bwn@uoregon.edu](mailto:bwn@uoregon.edu) **Office Hrs: Fridays 10 am – 11:30am & by appointment**

**Course Description:** This course focuses on the relationships between the brain, the endocrine systems, and behavior. We will study the effects of hormones on development and differentiation of the body and the brain with a focus on endocrine interactions with human behavior. We will examine hormonal signaling and behaviors that are influenced by and themselves effect these mechanisms. In addition, we will discuss developmental effects of hormones on the brain, puberty, sexuality, aggression, stress, rhythms and moods.

**Course Format:** The material in this course will be presented through a combination of assigned reading from the text, empirical research articles, recent reviews, lectures, in-class discussion, and demonstrations. Lecture material and readings will have overlap, but will not be replications of each other; some lecture material will not be covered in the readings and vice versa. Each of the non-lecture parts of the course (discussions, readings, papers, presentations) are designed to reinforce ideas and augment concepts presented in lectures. Please note that some class materials (videos, demos, etc.) will not be available outside of class due to copyright and intellectual property laws. Questions are encouraged in all parts of the course and students are welcome to stop by my office for clarifications and/or discussions during my office hours or additional appointments, and equally welcome to see the Graduate instructors. It is my hope that by the end of this course you will have a new appreciation for how you experience the world on a daily basis. This is a fast paced class and you should plan on scheduling regular intervals of time for studying/assignments outside of class.

**Learning Objectives:** This course will expose students to contemporary research in the rapidly growing field of human neuroendocrinology. Through different readings, discussions and assignments, you will learn about the reciprocal relationship between hormones and social behavior. Specifically:

1. One goal of this course is for you to **gain foundational knowledge** of major theories, research findings and methodological approaches in the field of human neuroendocrinology. We will include readings and discussions of the methods and manipulations used by scientists to examine questions related to social behaviors (e.g. sexual, parenting, attachment, aggression, stress) and their interaction with hormonal mechanisms (e.g. testosterone, cortisol, oxytocin).
2. A second important goal is for you to **gain proficiency in reading, analyzing and critically evaluating scientific literature**. Discussion and writings based on empirical research in the field is an important part of this course. Throughout the course, discussions and presentation assignments will require you to critically evaluate and analyze current research and findings. For example, the term paper assignment requires you to apply this understanding to examine specific research questions and frame research questions for further scientific enquiry.
3. **Familiarize you with interventions** that can influence social behaviors as well as hormonal influences in the brain.
4. In addition, we will work to enhance your self-study skills through reading response and discussions assignments. Overall, the format of this course is designed to help you to hone your scientific and critical thinking skills while studying neuroendocrinology.

**Required Text:** **An Introduction to Behavioral Endocrinology** by Randy J Nelson, 5th edition is required. Please notify me immediately if you have difficulty obtaining the text from the bookstore. A copy of the text is on reserve in the Knight Library. This is a very comprehensive text on neuroendocrinology and should meet the needs of both undergraduate and graduate students in the class. We will select readings from this text for each topic (see outline for section and page information), however, you are encouraged to read beyond the required readings. Earlier editions of the textbook are acceptable for conceptual understanding, but lack important updates of recent research on the topics covered in class. Students may choose to use an earlier edition, provided they are confident that they will be attending class regularly and can use class notes, the library copy of the new edition and/or other readings to review more recent research that will be a part of discussions in class.

**Course website:** <http://canvas.uoregon.edu> This course is managed via canvas. This course site will provide supplemental information for the course (syllabus, course schedule, grades, copies of overheads, assignments, etc.). Please be sure to check for announcements and updates often.

### **GRADING POLICY**

Final grades are based on consistent performance through the term. As such, the final grade will include the weighted scores for the quizzes, the term papers, study group discussion responses and the exams. Graduate students (Psy550 class) will also undertake an additional self-study assignment and prepare a presentation for class that will also be graded. In addition, some opportunities for extra-credit will be available to all.

- **Quizzes** – highest- scoring 4 (of 6 total) quizzes form 15% of final grade
- **Midterm Exams** – your lower scoring midterm counts for 15% of final grade and the higher scoring midterm for 20%
- **Final Exam** – 20% of final grade
- **Term Paper** – 15% of final grade
- **Study group discussion responses** - 8% of final grade (0% for graduate students)
- **Group presentations** – 5% of final grade (0% for graduate students)
- **Participation** – 2% of final grade (0% for graduate students)
- **Individual presentation** (*graduate students only*) – 15% of final grade

**Letter grades will be determined as follows: A (90-103% of total possible points), B (80-89%), C (70-79%), D (60-69%), F (0-60%).** *Scores in the upper and lower third of each grade range will be awarded a 'plus' or a 'minus' respectively.* Typically, grades for individual tests and assignments are not curved, However, the instructor may relax (but not stiffen) this criterion for final grade assignments, depending on the actual distribution of scores.

#### **Criteria used in making grading decisions:**

- Please see the psychology department guidelines for a description of the type of achievement that each grade signifies: <http://psychology.uoregon.edu/courses/departments-grading-standards/>
- **As a general principle, I will never work harder for your grade than you do.** Students who have poor attendance should not expect me to "make up" points for them. Students who have done everything in their power to do their best can be assured that will be carefully considered in making any borderline decision. I try to apply consistent standards and treat students fairly, as well as fulfill my responsibilities to U of O in making difficult decisions about grades.

**Grading problems:** If you feel there has been an error in working out your grade please let me know as soon as possible. Work out your grade as described above and specify the reason for your concern when contacting me. I want you to get every point you have earned. If you are unhappy with your final grade but agree that it has been worked out correctly as described above, please don't ask for a better grade, or extra opportunities to make a better grade, as a "favor" at the end of the semester. I consider such requests unfair to others in the class and always answer with a "no".

### **Quizzes: (15%)**

Short quizzes will be given in the first 10 minutes of several scheduled classes (see course outline). Quizzes will contain 4 multiple choice questions that pertain to the most recently presented lecture materials and the readings from the text. The quizzes are designed to serve as quick reviews of recently covered materials as well as to help you keep up with the reading assignments. Of the 6 quizzes, the 2 with the lowest scores will be dropped, with the score of the remaining four yielding 15% of the final grade. No make-up quizzes will be offered; if you miss a quiz, that grade will be one of the two that will be dropped.

**Exams (Midterms – 15% for lower, 20% for higher scoring midterm; Final 25%):** Exams primarily test conceptual understanding. The exams will be part multiple choice, part fill-in-the-blank/match the information and part short answer/short essay. All exams are somewhat comprehensive i.e. each exam will contain questions drawn from the entire course. However, a greater focus on material covered after the previous exam is typical (refer to the study guide for each exam for a list of general concepts and detailed topics included in that test). All midterms will be initially scored out of 20%. At the end of the term, your lowest midterm score will be weighted to 15% of the final grade.

***No make-up exams will be given without evidence of a valid excuse, and prior arrangement with the instructor – if you know in advance that you cannot take all exams on the appointed dates (see the course schedule below), do not take this course!*** If unforeseen circumstances during the term prevent you from taking an exam, notify the instructor immediately. Allowable excused absences are medical emergencies, athletic events such as away games for student athletes and executive orders/court orders. All such occasions must be accompanied by official documentation. Student athletes should notify me of their away schedule early in the term and make arrangements for taking missed tests on the road, when possible. Format of make-up exams may be different in type of questions and/or choices.

**Term Paper (15%):** A prerequisite to gaining scientific knowledge of any sort is the ability to read and critically evaluate the primary scientific literature. The goal of this assignment is to help you develop these essential skills. Students will be required to write a 7 – 9 page (double-spaced, 1 inch margins, 10-12 point font) term paper that describes compares and contrasts two recent empirical research articles that address a topic relevant to hormones and behavior. In doing so you will apply the concepts you have learned to a real world experiences/observation and develop questions for future research. The paper will be scored based on the quality of writing, critique of the reading and analysis of your observation (e.g. correctly applied scientific terminology; correct explanation of hormone-behavior interactions in terms of a theory discussed in class). **More guidelines for this assignment will be posted on Canvas; please be sure to review the detailed assignment guidelines carefully throughout the term, and at every step of this assignment.**

**Study group reading responses and discussion assignments (8%- 0% for graduate students):** Critically thinking about the concepts, and applying it to your everyday life, is at the core of what I want you to take away from this class. To help you practice that, I will post a discussion question on Canvas that asks you to think about the material for that week as applied to hormone-behavior interactions. We will form 4-5 member study groups in order to have some contact time outside the class in which course work may be discussed and small assignments completed as a group. The study groups will be expected to meet once a week and 5 discussion reports will be due during the term (see outline for due dates). For each report, I will give you assignments and will be looking for timely responses (via Canvas). . Each response should be 200-300 clearly written words. **Only one discussion response is required from each group for each of the assignments.** All members of the group are expected to contribute equally to the work and will receive the same grade for the assignment.

**Note:** Sometimes, group members feel that not everyone in the group is working to their best and so it is not fair for everyone in the group to receive the same grade for an assignment. If such is the case for your group, you can choose (as a group) to award individual grades for the report. *If the group decides*

that it is not fair that every person receives the same grade for a particular report, I will let the group decide on grades for each member. For example, if the group grade on a particular assignment is 85 and there are 5 members in the group, the group will have a total of 425 points (85 times 5) to spread among its members. The group can then negotiate with all members and spread out the total points to all members in any way the group sees fits, as long as all members agree to the point spread. *The only requirement is that the group negotiates who gets what grade and that all members of the group give the instructors a written agreement to the point spread. It will be the responsibility of the group to notify me of the point spread if they wish to use this alternative.*

**Class Presentations: (5% for group PSY450 group presentations, 15% for Psy550 (graduate students) individual presentations).** During the last third of the term, Psy450 study groups will create and share 5 minute presentations with the class on a topic of their choice. PSY450 study groups will be provided with a list of topics while PSY550 students will be required to create a 15 min presentation related to the course materials on a topic of their interest. Presentations should be designed to share in depth study on an area related to behavioral neuroendocrinology not directly covered in the lectures.

Topics for presentations are due to be finalized ***beginning of the second class of week 4***. Students/groups are expected to set up an appointment for a one-on-one meeting with the instructor *at least* once before this date and once before the date of their presentation. These meetings give us a chance to explore your interests together. I am available to help you manage your reading list, discuss findings and plan your presentation. This ensures that the effort you put into your assignment is focused and fruitful!

**Please Note:** If two or more students, or groups, have the same idea for a presentation, the one that informs me first will have exclusive rights to the idea. You are encouraged to confer with me about the choice of topics, the research involved and the preparation of the presentation. Accompanying write-up and copies of slides, overheads, etc. are ***due on the day of your presentation***. *The instructor reserves the right to keep copies of the presentations for use in future courses.* Of necessity, the class presentations will be spread out through the latter part of the term; some presentations will have to take place earlier in the term than others. Dates of individual presentations will be decided by the instructor to ensure concordance of presentation topics with class discussions based on course schedule (see course outline). As such, while assessing/grading the presentations, I will be sure to keep in mind the amount of time (into the term) each student/group got for preparation of this assignment.

**Participation (2% - 0% for graduate students)** is based on ***attendance and discussion***. It is important that you come to class! *Attending class is important as there will often be material presented in class that is not presented equivalently in the book or available online.* Many of the exam questions are derived from lecture content that is not in the assigned readings. Other class materials, like videos are not available online and discussions/activities can't be made up after the class. *Credit will be awarded for class participation and occasional in-class assignments/group work/discussions, or discussion board activity on Canvas.* Attendance will be taken during some (*random!*) class periods and after specific class activities. This can be at any point during the class period. All students who participate in the activity and sign attendance at that time will be awarded participation points. Additionally, moderated discussions that help learning and concept clarification may be assigned for credit on Canvas discussion boards.

#### **What about extra credit?**

The only way to earn extra credit in this class is to accrue participation points in excess of the 2% listed above. You can earn **up to 3 additional points** of extra credit for **Class Participation**. These points will be **added to your final grade** at the end of the term. So, if you score an 80% with tests, assignments, and participation, and you earn 3 points of extra credit (in excess of participation), your final score will be 83%.

**Due Dates:** *Assignments are due by the start of lecture on the appropriate date*, and can be turned in to me (or your GTF) during class or during office hours *the day before it is due*. An assignment turned in after its deadline will be marked down 10% for each day late.

**ACADEMIC INTEGRITY:** All students are assumed to have read the University Student Conduct Code <http://studentlife.uoregon.edu/conduct>

***Cheating will NOT be tolerated in any form in this class.*** Academic misconduct is taken extremely seriously and will result in a failing grade for the course and referral to the Dean of Students for further action. Specific violations include (but are not limited to):

- Use or provision of prohibited assistance during exams
- Plagiarism- this includes both the use of the words and ideas without attribution.

All exams administered in this course are to be taken without the use of notes, books, or ancillary materials and without the assistance of any other person or group, in the class or outside of the class. Use of electronic devices such as PDAs, cell phones, or audio devices, or electronic dictionaries during the exams is prohibited. Use of these devices during exams is viewed as a violation. All students should also plan on removing or turning their hats around during exams.

All work submitted in this course must be your own. You may be required to submit writing assignments to **VeriCite**. VeriCite is a software tool designed to help students avoid plagiarism and improper citation. For more information on VeriCite refer to guidelines on Canvas. By enrolling in this course you grant the instructor permission to submit your work to VeriCite or some other plagiarism program analysis and detection program. If your responses on assignments are suspected of plagiarism or if a proctor has any reason to be uncomfortable about your conduct during a test, they may ask you to move seats, confiscate your test and/or mark an "F" for that test/assignment. If you have any questions please ask. I will assume that all students enrolled in the course know and understand what constitutes academic misconduct and agree to be bound by these rules.

**COURTESY:** Included here are some general rules that seem obvious but I will emphasize them anyway. Your cell phone should never ring audibly during class. For example, note taking by computer is ok, but please make an effort to minimize disruption/noise, which includes refraining from computer use during class that is unrelated to note taking. Do not chat with others during class, disrupt class or distract classmates in any other way. **Please be on time** -- this is particularly important on days when we have in-class quizzes. If you arrive late, you will miss part of or the entire quiz! If you are unavoidably late or absolutely must leave early, please sit near the door and be as quiet as possible as you enter or exit.

*If you perceive or experience an emergency during class, or test, please bring it to the instructor's or proctor's notice immediately.*

### **Accessibility, Diversity and Inclusivity**

It is the policy of the University of Oregon to support and value diversity. It's also personally important to me that my classes are accessible to all and respectful of diversity, including diversity in race, ethnicity, gender, sexuality, disability, socioeconomic status, religion, culture and ideology. It is imperative to me that all students feel welcome in my classes. My goal is to create a respectful classroom environment where students feel safe to explore difficult topics. *Many topics that we will be discussing in class are issues that may evoke strong emotions and/or have personal significance to you or your classmate's life. As such, I ask that all class discussion be open, understanding and respectful.* Your suggestions, concerns, and other feedback are always welcome, and I will listen to you with respect and an open mind.

If you need support or counseling, please be sure to seek out a supportive friend, counselor, and/or a social service (see list below).

**Counseling resources:**

<i>Local Crisis Lines &amp; Counseling</i>	
University of Oregon Crisis Line	346-4488
University of Oregon Counseling Center	346-3227
Center for Community Counseling	344-0620

**Students with Documented Disabilities:** If you have a documented disability and anticipate needing accommodations in this course, please make arrangements to meet with the instructor as soon as possible, but certainly within the first two weeks of term. *The University of Oregon is working to create inclusive learning environments. Please notify me if there are aspects of the instruction or design of this course that result in disability related barriers to your participation. You are also encouraged to contact the Accessible Education Center in 164 Oregon Hall at 346-1155 or [uoaec@uoregon.edu](mailto:uoaec@uoregon.edu) . Also, please request that an AEC adviser send a letter verifying your disability and accommodation needs. For a list of resources provided by the Accessible Education Center, please see <http://aec.uoregon.edu/about/index.html>*

**Students for whom English is a Second Language:** If you are a non-native English speaker and think you may have trouble in this course due to language difficulties, please see the instructor as soon as possible to make special arrangements. Please note that you may NOT use electronic dictionaries/translators during exams/quizzes. However, if necessary, please discuss the need for a paper dictionary/translator at the beginning of the term with the instructor and appropriate arrangements will be made.

**Students with financial hardship:** If you are a student experiencing financial hardship and do not have access to textbooks, notebooks, pencils, and other imperative resources to succeed in this course, please talk to me within the first 2 weeks of the term for assistance. We can work together to ensure you find the resources & time you need.

**Course Outline:** *This is only a working draft of the course outline;* it will be revised as the term progresses. **Dates on which particular topics are to be presented in lecture are subject to change, as are reading assignment due dates; however, I will not change the dates of quizzes, exams or term paper deadlines unless absolutely necessary.** The official updated version of the outline will reside on the Canvas web site. Updated print versions can also be obtained from the instructor during normal office hours. **Version Updated:01/03/2018 3:40 PM**

Date	Topic	Readings (focus pages)	Assignments/Due dates/Quizzes
9-Jan	Syllabus and Overview		
11-Jan	Introduction to Behavioral Endocrinology	Ch. 1 (4-16)	
16-Jan	Techniques in Behavioral Neuroendocrinology	<b>Class Notes**</b> (Ch. 1, 16-32 for ref.)	
18-Jan	Endocrine systems: How hormones work	Ch. 2 (35-40,74-84) <b>Class Notes**</b>	<b>SGR 1 due<sup>#</sup></b>
23-Jan	Major endocrine glands and hormones	<b>Class Notes**</b>	<b>Quiz 1,</b>
25-Jan	Sex determination and sexual differentiation	Ch. 3 (93-109) <b>Additional reading**</b>	Term Paper topic due on Canvas
30-Jan	Differences in sexual development	Ch. 3 (118-137)	<b>Quiz 2, SGR 2 due<sup>#</sup></b>
1-Feb	Sexual Dimorphism	<b>Class Notes**</b> (Ch. 4, 170-199 for ref.)	Presentation topics due on Canvas
6-Feb	<b>First Midterm Exam</b>		Term paper topics finalized
8-Feb	Male reproductive behaviors	Ch. 5 (206-211, 244-262) <b>Class Notes**</b>	
13-Feb	Female reproductive behaviors	Ch. 6 (287-298, 304-313, 328-330) <b>Class Notes**</b>	
15-Feb	Parental behaviors (humans)	Ch. 7 (337-341, 371-387) <b>Class Notes**</b>	<b>Quiz 3</b>
20-Feb	Attachment & Social behaviors	Ch. 8 (393-404) <b>Class Notes**</b>	<b>SGR 3 due<sup>#</sup></b>
21-Feb	Aggression & Dominance	Ch. 8 (410-414, 435-452)	<b>Quiz 4</b>
27-Feb	<b>Second Midterm Exam</b>		
1-Mar	Stress <b>Class Presentations</b>	<b>Class Notes**</b> (Ch.11 584-599 for ref.)	Term paper draft due for peer editing (optional)
6-Mar	Homeostasis and behavior <b>Class Presentations</b>	<b>Class Notes**</b> (Ch.9 for ref.)	Peer edits due back
8-Mar	Hormones Behavior interactions I <b>Class Presentations</b>	<b>Class Notes**</b> Canvas readings	<b>Quiz 5, SGR 4 due<sup>#</sup></b>
13-Mar	Hormone behavior interactions II <b>Class Presentations</b>	<b>Class Notes**</b> Canvas reading	Final term paper due
15-Mar	Affective Disorders <b>Class Presentations</b>	<b>Class Notes**</b> (Ch. 13 for reference)	<b>Quiz 6</b>
Mar 23rd	<b>FINAL EXAM</b>	<b>Friday, 8:00am – 10:00am, SGR 5 due<sup>#</sup></b>	

**\*\*Additional class notes with emphasis on class discussion; chapter for reference**

**<sup>#</sup> Due dates for SGRs depend on pace of class discussion and may change; check Canvas for updates.**