PSYC 460 – BEHAVIOURAL NEUROENDOCRINOLOGY SYLLABUS

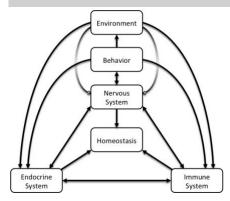**THE UNIVERSITY OF BRITISH COLUMBIA**
Department of Psychology

INSTRUCTOR INFORMATION

Instructor	E-mail	Office Location & Hours
Desiree Seib, Ph.D.	desiree.seib@ubc.ca	Via Zoom
Dept. of Psychology	*Please write "PSYC 460" in Subject Line*	Office Hours by Appointment

GENERAL INFORMATION

- This class is fully online (asynchronous); however, I hope we can all meet online for a subset of this class.

Teaching Assistant	E-mail	Office Location & Hours
Mudi Zhao	mzhao@psych.ubc.ca	Via Zoom
		Office Hours by Appointment

DESCRIPTION

Welcome to PSYC 460! This course focuses on the inter-relationships between the brain, the endocrine systems, and behaviour (see figure to the left). We will study the effects of many different hormones to gain an understanding of how hormonal signaling in the body and brain coordinates the incredible behavioural complexity observed in nature, specifically in humans and animal models. We will discuss the reciprocal nature of hormone and behaviour interactions on puberty, sexuality, stress, rhythms, and moods across development. In addition to assigned review articles, we will use discussions of the primary literature to emphasize the current knowledge and limitations in the field.

PREREQUISITES

- 4th-year standing
- PSYC 304 – "Brain & Behaviour"   OR   PSYC 360 – "Biopsychology"

KEY INFO

TEACHING PHILOSOPHY & CLASS EXPECTATIONS

My primary goal in the classroom is student engagement, and I strive to get you invested in the content by providing clear expectations, well-defined learning objectives, and consistent feedback, with the goal of fostering self-directed learning. During lectures, I will refer to the learning objectives explicitly and I will have post-class assessments to check for your understanding and keep you engaged with the content.

The most critical factor determining your success in any course is being on top of the learning content. This is an online class, so we have limited and non-mandatory synchronous time. Watch the lecture recordings, take good notes, and then review and outline the material presented. I will implement short quizzes that you need to finish in order to access the next module on Canvas, let this be lecture recordings, quizzes, or exams. Online participation will be recorded, and you will do poorly in this course if you do not watch the lecture recordings and participate in online discussions (Piazza). Finally, be in touch with me or your TA if you need help, ideally as early as possible. Successful students are those who are not afraid to ask for help. You will enjoy the material much more if you understand it. Don't wait until it's too late to rectify the problem!

This course will include learning experiences using recorded lectures and I am offering weekly office hours/discussions to talk about the lecture and assigned readings. I really value your feedback to both lectures and assigned readings and I expect you to be prepared and participate in online discussions. It will help you to perform well in this class if you come to our flexible synchronous time.

Student Expectations	Instructor Expectations
a. PLEASE BE ACTIVE AND STAY ON TOP OF THE MATERIAL	a. BE ACTIVE AND ENTHUSIASTIC TO FACILITATE STUDENT LEARNING
b. Listen and respect others	b. Listen and respect students' views
c. Be comfortable taking risks	c. Accommodate differences in students' learning
d. Complete all assignments (on time)	d. Mark objectively, consistently, and in a timely manner
e. Be punctual for synchronous online time	f. Be online at least 5 minutes before and after synchronous time
f. Discuss class concerns during designated office hours	g. Respond swiftly and effectively to student concerns
g. Be prepared for class by completing assigned readings prior to lectures	h. Be prepared for class

GOALS

Student Learning Objective	Assessment(s)
1. Demonstrate an understanding of the major hormonal mechanisms that underlie behaviour in animals.	Small quizzes; midterm & final exams
2. Become a critical consumer of behavioural neuroendocrinological research by understanding a variety of methodological issues.	Short Journal Club presentation; online discussion group participation; midterm & final exams
3. Be able to read, understand, and integrate research in behavioural neuroendocrinology.	Short Journal Club presentation; reading quizzes; midterm & final exams
4. Be able to apply varying research methods to study behavioural neuroendocrinology across development.	SA question in midterm & final exams
5. Understand the ethical considerations involved when conducting research.	Short Journal Club presentation; SA question in midterm & final exams
6. Learn about the research process by conducting a critical data analysis, formulating a research question and hypothesis, and designing a follow up experiment.	SA question in midterm & final exams

If you have a question or concern, please first consult the syllabus and if you cannot find the answer, please follow the guidelines below:

- Question about course content: Post in Piazza
- Question about course deadlines and expectations: Post in Piazza
- General questions about exams: Post in Piazza
- Questions about your exam (e.g. needing feedback): Email Mudi Zhao
- Issues and concerns (personal): Email Desiree Seib

COURSE MATERIALS

REQUIRED TEXTS

Review Papers & **Discussion Papers** as listed in the syllabus (posted on Canvas – library link)

SUGGESTED TEXT

An Introduction to Behavioral Endocrinology, Sixth Edition, Nelson & Kriegsfeld (5th Edition is also ok)

OPTIONAL MATERIALS

Recorded lectures, lecture notes, and other materials relevant to the course will be available on Canvas (http://canvas.ubc.ca). Please be aware that lecture notes may change such that some slides may be posted after the recording.

Textbook companion website: http://sites.sinauer.com/be5e/index.html

COURSE ASSIGNMENTS

Component	Percentage of Final Mark	Due Date	
Practice & Reading Quizzes	15%	Cumulative	
Participation (Online discussions on papers and questions, Journal Club feedback)	10%	Cumulative	*** You will have the option to move 5% of final mark from the midterm to the final exam. (e.g. Final Exam worth 35%; Midterm worth 20%)
Midterm Exam	25%***	Thursday, Oct. 6, 2022 (Online, 24h available on Canvas)	
Journal Club Presentation	20%	TBD (Theme to choose in week 3-4)	
Final Exam	30%***	TBD (Online, 24h available on Canvas)	

PRACTICE & READING QUIZZES (15%)

As this class is fully online and students are not required to attend any synchronous sessions, I want to make sure that every student progresses through this class. Thus, I plan to stagger modules in Canvas in a way that you have to complete one module before you can access the next module. For example, if you have to prepare for a specific lecture by reading a specific chapter or text, then you might have to answer 2-3 simple questions about this text in order to access the lecture recording. Similarly, to progress to the next module, you have to answer 2-3 questions about the lecture. These questions will be easily doable when you have done the reading and watched the lecture recording. I have had really good experiences with quizzes to keep students engaged

in 2020 and 2021 and know that students appreciate to be kept on track. Quizzes will also prepare you for the midterm and final exams.

PARTICIPATION (10%)

Even though this class is fully online and asynchronous, I would like to have some kind of regular interaction with you. Thus, we will be using Piazza as a platform to discuss research articles in order for you to learn the necessary skills you will need for your journal club presentation. Activity in these online discussions will be monitored and will contribute to your participation. Piazza is linked within Canvas and should be available to students this way. If this is not working, more detailed instructions will be posted on Canvas.

In addition, when we will have journal club presentations, I expect everyone to score everyone else's talk according to a grading rubric. You will receive participation points on submitting scores for your classmates.

MIDTERM & FINAL EXAMS (55%)

The midterm will be on Canvas (Thursday October 6, 2022, available online for 24h) and cover all material prior to the date of the exam. You are expected to know material from class lectures as well as assigned research reviews and articles. Some examination questions will come exclusively from class lectures, some will come exclusively from your reading, and some will come from material that has been covered in multiple formats (e.g., class and reading). Examination questions will come extensively from lecture learning objectives, in-class quizzes, and *Study Questions* at the end of each lecture. The format of the examinations will be multiple choice and short answer. The final examination will have the same format. The final exam (date TBD, available online for 24h) will focus on course material covered after the midterm exam, but it will also include Journal Club presentations. Thus, some content from before the midterm will be covered.

JOURNAL CLUB PRESENTATION – (20%)

The process of critiquing the scientific literature is one of the most important aspects of professional science. Indeed, each article you read was submitted to a journal and underwent extensive peer review by fellow experts in the field. Even if you don't intend to pursue a career in professional science, developing critical evaluation skills will serve you well across a broad range of disciplines; moreover, it will help inoculate you against the rising tide of so-called "fake news." The word *critique* often carries with it a negative connotation – but critiques can be very positive. They help identify what was done well, clarify gaps in our knowledge that may still exist, and guide future research to help narrow down fact from speculation.

The overarching goal of the short Journal Club presentation is to help you become critical consumers of the scientific literature (and information in general), while introducing you to important theories, techniques, and lines of research in the field of behavioural neuroendocrinology. More pragmatically, preparing a short Journal Club presentation will prepare you to filter important information from an article, understand the science behind it and assess the quality of research. Presenting and explaining the methods and results to others in a way that they understand it will also help you to better understand the research. This exercise will help you gain presentation skills by preparing and giving a talk.

I expect every student to give a 6-minute presentation and to answer 1-2 questions to the presentation afterwards. I also expect you to upload your slides for others to study and to prepare a multiple-choice question about your research topic that I may use in a modified way for the final exam. We will try to give as many presentations online via several scheduled zoom meeting. I plan to have 7 meetings and have about 10 students present per meeting. Each meeting will focus on a specific topic. Those zoom meetings will be recorded and available afterwards via Canvas like the lectures. I might form groups according to student availability. If someone cannot attend any of the meetings, they have to record their talk on zoom and upload it for the instructor, TA, and others to score. Being recorded also gives you the opportunity to go back and watch yourself, which might feel terrible (I've been there ;) but is also a great learning experience.

Week	Date	Topic	Readings
1	T Sept. 6	*No Class (UBC Imagine Day)*	--
	Th Sept. 8	Syllabus & Course Overview	Syllabus
2	T Sept. 13	Introduction / Experimental Techniques	Becker & Breedlove 2002
	Th Sept. 15	Endocrine Systems	Becker & Breedlove 2002
3*	T Sept. 20	Stress I	Panagiotakopoulos & Neigh 2014
	Th Sept. 22	Stress II	
4*	T Sept. 27	Sex Differences in Development	McCarthy 2017 (p.1-24)
	Th Sept. 29	Sex Differences in Behaviour	McCarthy 2017 (p.1-101-122)
5	T Oct. 4	Review session	
	Th Oct. 6	MIDTERM EXAM	
6*	T Oct. 11	Homeostasis & Behaviour	Berthoud, Münzberg & Morrison 2017
	Th Oct. 13	Parental Behaviours	Rilling & Young 2014
7	T Oct. 18	Attachment	Opendak et al. 2017
	Th Oct. 20	Social Behaviours	Johnson & Young 2017
8*	T Oct. 25	Neuroimmune System	Estes & McAllister 2016
	Th Oct. 27	Developmental Origins of Health & Disease (DOHaD): Risk & Resilience	Bale 2015
9	T Nov. 1	Neurosteroids	Fester 2021
	Th Nov. 3	Review session	
10	T Nov. 8	Journal Club Seminar	
	Th Nov. 10	Midterm break	
11	T Nov. 15	Journal Club Seminar	
	W Nov. 16	Journal Club Seminar	
12	T Nov. 22	Journal Club Seminar	
	Th. Nov 25	Journal Club Seminar	
13	W Nov. 30	Journal Club Seminar	
	Th Dec. 1	Journal Club Seminar	
14	T Dec. 6	Conclusions	

A more detailed description of course topics/themes, reading assignments, and key ideas will be available in the *Course Outline* document posted on Canvas.

* Weeks with a paper discussion on Piazza.

STRATEGIES FOR OPTIMIZING LEARNING

The next page has some general strategies for optimizing learning not only in this class, but for all of your courses at UBC. Originally published in the journal, <u>Perspectives on Psychological Science</u>, these tips are backed by research in the cognitive sciences (Putnam et al. 2016). I encourage you to consider adopting some of these strategies – if you aren't using them already – to help you get the most out of this course and your university experience.

SPACE OUT YOUR LEARNING

- Study for a little bit every day, rather than cramming in one long session.

- Start studying early, and touch on each topic during each study session.

- Reading before class and reviewing lecture notes after class will help consolidate what was covered in class.

LEARN MORE BY TESTING YOURSELF

- Instead of writing a chapter summary as you read, write down what you remember after you read, recalling the details from memory. Then, check to see how well you did (the read-recite-review method).

- Answer the *Study Questions* (found on Course Outline on Canvas) both before and after you read a chapter to help you connect new information with what you already know.

- Use flash cards to learn key vocabulary. Retrieve the idea from memory (before looking at the answer) and use a larger (rather than a smaller) stack of cards. Put answers you missed back in the deck at an early place and the ones you got right at the end. Finally, aim to recall each item correctly multiple times before taking a card out of the deck.

- Be skeptical about what you think you know—testing yourself can provide a better picture about which concepts you know well and which you might need to study further.

GET THE MOST OUT OF YOUR CLASS SESSIONS

- Watch every lecture recording.

- Stay focused during lectures by closing all programs on your computer other than what you use to take notes and turn off notifications; it will make it easier for you to actively engage with the lecture.

- Post questions online when you don't understand something – chances are someone else in the class has the same question and you'll save everyone time by dealing with the confusion in the moment.

- *Don't write down every single word* – focus on key words, prioritize new information, and summarize main ideas

BE AN ACTIVE READER.

- Instead of speeding through your reading, slow down and aim for understanding.

- Ask yourself questions as you read, such as, "What did I learn on this page?" and "What on this page is new to me?"

- Annotate graphs and figures in your own words.

- Finally, write some of your own questions about tricky concepts: "What is an example of X in real life?" or "How is Theory X different from Theory Z?"

OTHER GENERAL TIPS.

- Get organized early in the semester: Put major due dates and exams on your calendar, set reminders to get start studying early, and be sure to look at your calendar at least once a week so you can plan ahead.

- Get some exercise. Going for a 50-min walk in nature can enhance your ability to focus on difficult tasks.

- Sleep! Sleeping is critical for ensuring that memories are successfully stored in long-term memory.

- Be proactive about stress and anxiety – it's important to find healthy ways to cope. Reach out to a trusted friend, professor (like me), or your TA if you're having problems (early & often). Please visit https://wellbeing.ubc.ca for resources available to you as a UBC student.

ADDITIONAL INFORMATION AND RESOURCES

UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious and cultural observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions. Details of the policies and how to access support are available here (https://senate.ubc.ca/policies-resources-support-student-success/).

LEARNING ANALYTICS

Learning analytics includes the collection and analysis of data about learners to improve teaching and learning. This course will be using the following learning technologies: Canvas and Piazza. Many of these tools capture data about your activity and provide information that can be used to improve the quality of teaching and learning. In this course, I plan to use analytics data to view overall class progress, track your progress in order to provide you with personalized feedback, review statistics on course content being accessed to support improvements in the course, track participation in discussion forums, and assess your participation in the course. I will set Piazza in a way that you can post anonymously, so that your classmates cannot identify you, however, I will be able to identify who is posting, so that I can track participation and that postings stay fair and on topic.

COPYRIGHT & AUDIO/VIDEO RECORDING POLICY

All materials of this course (course handouts, lecture slides, assessments, course readings, etc.) are the intellectual property of the Course Instructor or licensed to be used in this course by the copyright owner. Redistribution of these materials by any means without permission of the copyright holder(s) constitutes a breach of copyright and may lead to academic discipline. Recordings of office hours may only be made for the personal and private use of the student. As such, students may not publish such recordings in any form (this includes, but is not limited to, the internet and hard copy publication) or distribute them in another way. Students

creating unauthorized recording violate an instructor's intellectual property rights and the Canadian Copyright Act and will be subject to disciplinary actions.

POLICY ON MISSED TESTS, EXTENSIONS AND REGRADING

Make-up exams will be given for **medical reasons only**. If you miss an exam, you must email the professor within 24 hours of the exam. **Make-up exams will consist of an oral exam to be conducted in the presence of the professor and the teaching assistant on zoom**.

Regrade requests must be made in writing. The instructor reserves the right to regrade the entire exam (not just a particular question), which means that your grade could go down.

PSYCHOLOGY DEPARTMENT'S POSITION ON ACADEMIC MISCONDUCT

All graded work in this course, unless otherwise specified, is to be original work done independently by individuals. Cheating, plagiarism, and other forms of academic misconduct are very serious concerns of the University, and the Department of Psychology has taken steps to alleviate them. In the first place, the Department has implemented software that can reliably detect cheating on multiple-choice exams by analyzing the patterns of students' responses. In addition, the Department subscribes to **TurnItIn – a service designed to detect and deter plagiarism.** All materials (term papers, lab reports, etc.) that students submit for grading will be scanned and compared to over 4.5 billion pages of content located on the Internet or in TurnitIn's own proprietary database. The results of these comparisons are compiled into customized "Originality Reports" containing several sensitive measures of plagiarism; instructors receive copies of these reports for every student in their class. **Google and Google Scholar can also readily detect plagiarism.** In all cases of suspected academic misconduct, the parties involved will be pursued to the fullest extent dictated by the guidelines of the University. Strong evidence of cheating or plagiarism may result in a zero credit for the work in question. According to the University Act (section 61), the President of UBC has the right to impose harsher penalties including (but not limited to) a failing grade for the course, suspension from the University, cancellation of scholarships, or a notation added to a student's transcript.

SPECIAL ACCOMODATIONS

The University accommodates students that have registered with the Centre for Accessibility. Students who plan to be absent for athletics, family obligations, or other similar commitments usually cannot be accommodated. In these cases, you must ask your instructor during the first week of class – not later than that.

EXAM REVIEW

Students have the right to view their marked examinations with their TA, providing they apply to do so within a month of receiving their final grades. We will offer exam review sessions where you can ask questions regarding the exam. This review is for pedagogic purposes. The examination remains the property of the University.

UBC & PSYCHOLOGY DEPARTMENT'S POLICY ON GRADE DISTRIBUTIONS AND SCALING

Faculties, departments and schools reserve the right to scale grades in order to maintain equity among sections and conformity to university, faculty, department or school norms. Students should therefore note that an unofficial grade given by an instructor might be changed by the faculty, department or school. Grades are not official until they appear on a student's academic record.

All psychology courses are required to comply with departmental norms regarding grade distributions, in order to reduce grade inflation and maintain equity across multiple course sections. The average grade in 100- and 200-level Psychology classes may range from 68 for a weak class, to 70 for an average class, and 72 for an exceptionally strong class, with a standard deviation of 14. The corresponding figures for 300- and **400-level** classes will be **71, 73, and 75**, with a standard deviation of 13. Scaling may be used in order to comply with

these norms; grades may be scaled up or down as necessary by the professor or department. Grades are not official until they appear on a student's academic record.

A reminder on grading policy for BSc and upper level small-enrollment courses:

e.g., PSYC 270, 277, 278, 312, 370, 371, 349, 449, 359, 417, 427, 460, 461, 462, 472

These courses may have average grades in the 80-81 range. That's because these students are from a competitive (selective-entry) BSc program, the Honours program, or they are students with a restricted range of high average grades prior to enrolment in the course. Standard deviations must remain in the 8-12 range, to preserve relative class standing in support of statements made about students in letters of reference and for awards. Scaling is likely to be used in order to comply with these norms; grades may be scaled up or down as necessary by the professor or department.

ADDITIONAL INFORMATION

Information about academic regulations, course withdrawal dates, and credits can be found in the Academic Calendar. You are encouraged to read this material. If you need information about studying, note taking, or time management, then free workshops and advice are available from student advising centres on campus. **Or talk to me or the TA during office hours!**