

University of British Columbia

PSYC304-002: Brain and Behaviour (first semester of the course) Autumn 2022

Course overview: Your brain is staggeringly complex, and responsible for what you call your “self”—all your preferences, perceptions, memories, dreams, ambitions, desires, goals, emotions, and unique inferences are housed within the “pile of pudding” that accounts for a mere 2-3% of your body. And humans take great advantage of this organ, whether it’s creating works of art, lifelong friendships, space stations, or just appreciating the beauty of a sunset over the Pacific.

This course is about linking the psychological background you have acquired—in essence, a study of behaviour—with the neurobiological underpinnings responsible for that behaviour. To understand our very selves, and the roots of our mind’s organization, we must start at the most fundamental unit of the nervous system: the neuron. Indeed, we will see how small changes in (for example) concentration of ions can radically alter our behaviour. From these basic building blocks of nervous system function, we will expand outward into a systems-level understanding of our basic sensory and motor systems, which will reveal evolution’s influence on our brain’s hierarchy and function.

- Instructor:** **Dr. Jay Hosking, Department of Psychology**
jayhosking@psych.ubc.ca
Please bear in mind that my email volume is very high. When contacting me, please use your UBC email, and please note which course you are in, i.e. PSYC304-002.
- TA:** **Giulio Laino, glaino@psych.ubc.ca**
Tianxin Wang, twang@psych.ubc.ca
- Website:** **Canvas: <https://canvas.ubc.ca>**
Links to all lecture slides, messages, announcements, etc. will be posted here. Please let me know if you’re having any issues with the website!
- Lectures:** On campus **Tuesdays & Thursdays 9:30-10:50am, SWING 222**
- Office hours:** Held virtually, booked via **<https://jayhosking.youcanbook.me>**
- TA office hours:** Please email Giulio or Tianxin for availability!
- Textbook:** **Breedlove and Watson’s *Behavioural Neuroscience*, Ninth Edition.**
Recommended, not required. The previous edition is also perfectly fine. Other textbooks also likely fine (just check with me).

Grades breakdown:

Syllabus quiz:	2%
Exam 1 (midterm):	16%
Exam 2 (midterm):	16%
Exam 3 (“final” of first semester):	16%
Total:	50%
Bonus research participation:	3%*

*You can only earn 3% bonus for research participation across the two semesters.

By the end of the first half of this course you will be able to:

- Explain and critically evaluate current topics and research in the field of neuroscience
- Describe basic biopsychological processes
- Use critical thinking skills through discussion and analysis of neuroscience issues
- Define modern neuroscience and identify the major perspectives within it
- Recognize, recall, connect, and evaluate neuroscientific concepts and theories from specific subfields (e.g., behavioural vs. cognitive)
- Critically evaluate new evidence about brain and behaviour in your daily life
- Understand, describe and differentiate between commonly used research methods in neuroscience, including experimental and correlational designs

Note on lectures and attendance:

Lectures will be held on campus and your attendance is expected, as per UBC’s “in person” designation of this course. The Department of Psychology has advised its faculty to *not* livestream any lectures, nor is there any requirement, expectation, or additional resources provided to record the lectures. For students who must be absent (e.g. due to illness), I will try to record lecture audio for each class, but these recordings will be sub-optimal and cannot be guaranteed.

Attendance is a critical predictor of success in this course. (In fact, it’s a strong correlate of success for courses in general.) In this course, material that is taught in class will often be different from, or supplement, the readings. Moreover, lecture slides are designed to provide a framework for the lecture and any discussions. **In other words, the important part of the lecture is not what is on the slides, but rather the lecture itself. If you try to rely solely on the slides for studying, you will not be successful, as much of the critical information is not explicitly written.** It is therefore essential that you attend lecture.

Please exercise respect and responsibility in attending our lectures, adhering to institutional policies. Please perform a daily health self-assessment before coming to campus. If you’re sick, please do not come to lecture. Please be kind, courteous, gracious, and patient with your peers; and many students have legitimate concerns with being on campus; some students may have health conditions, like a chronic cough, that can be misconstrued as symptoms of illness. In short, please give your fellow students the benefit of the doubt. Please understand that if I am sick or have symptoms of sickness, I will not be lecturing that day on campus. In sum, let’s take care of each other and be good to one another.

Note: whom should you book office hours with?

Please book office hours with one of your awesome TAs if:

- You would like to review one of your exams. When reviewing your exam, you are not allowed to take notes on, or photos of, the exam.
- You would like to discuss content from the course readings and/or study strategies.
- You would like to discuss psychology more generally.

Please book office hours with Dr. Hosking if:

- You have an issue with course performance or progress.
- You would like to discuss psychology and neuroscience more generally.

Please note that questions about lecture content should be handled during lectures, on our discussion forum, or during the pre-exam review sessions (time permitting), not during office hours.

Note on booking office hours with Dr. Hosking:

All office hours are held online, via Zoom. Please do not use email to book office hours with me. Instead, I have created a website for all office hours booking:

<https://jayhosking.youcanbook.me>. The site will show all of my available office hours, as well as show a Zoom link for you to join.

Please refrain from using office hours to ask course content-related questions—these are more valuable to all students if handled in class, on the class discussion forum, or during pre-exam review sessions (time permitting)—and leave office hours for personal/individual matters, like your own progress in the course. Finally, please do not book me for multiple timeslots in a given week; there are many students that need help, virtually all issues can be handled within the allotted time, and I will cancel any multiple bookings.

Note on the course discussion forum

We will be using Piazza for forum discussion this semester. While I will be checking Piazza as time permits, Piazza is especially useful because it leverages your biggest asset in the class: your fellow students. You are amazing and exceptional individuals, and I encourage you to interact with your classmates to work on course content, get reminded on course administration, talk about interesting tangents, etc.

Note on email:

Please bear in mind that we instructors get a lot of email and, if possible, would prefer to spend all our preparation time on making the lectures as useful, fun, and interesting to you as possible. Thus, please keep emails to administrative concerns (e.g. problems with the course website) if you can. For course-related content, please post it in the discussion forum on our course website, or ask during in-class lectures, or during the pre-exam review session (if time permits them). Finally, please use good email etiquette when contacting me—see lecture notes for more details.

Note on readings:

The two newest editions of the Behavioral Neuroscience textbook by Breedlove & Watson are sufficient for the course; other textbooks on behavioural neuroscience (e.g. Pinel & Barnes' Biopsychology) are also sufficient (please check with me).

Material that is in the textbook but not in lecture will not be tested. The purpose of the textbook is to act as a "second teacher", a way to learn the concepts in class from a slightly different perspective, to clarify things that might not make sense from my lecture. Reading the relevant chapters prior to the related lectures will likely make those lectures much easier for you.

Note on the possibility of course policy changes:

Please bear in mind that this course's policies are shaped by university mandates, which in themselves are shaped by provincial Public Health orders. If the current circumstances change, our policies may need to be adapted mid-semester. If this is the case, please know that I will try, wherever and however possible, to prioritize your safety and success in this course.

Course Schedule (Tentative)

Week	Dates	Topic	Relevant reading
1	Sept 6 th -9 th	Course orientation	This syllabus
2	Sept 12 th -16 th	Brain basics	Chapter 2
3	Sept 19 th -23 rd	Research methods basics	Chapter 1
4	Sept 26 th -30 th	Neuroanatomy	Chapter 2
5	Oct 3 rd -7 th	Neural communication I	Chapter 3
6	Oct 10 th -14 th	EXAM 1 (October 13th 9:30-10:50am)	
7	Oct 17 th -21 st	Neural communication II	Chapter 4
8	Oct 24 th -28 th	Neuroscience research tools	Chapter 1
9	Oct 31 st -Nov 4 th	The endocrine system	Chapter 5
10	Nov 7 th -8 th	EXAM 2 (November 8th 9:30-10:50am)	
11	Nov 14 th -18 th	Principles of sensation; touch	Chapter 8
12	Nov 21 st -25 th	Vision	Chapter 10
13	Nov 28 th -Dec 2 nd	The motor system	Chapter 11
14	Dec 5 th -7 th	Exam review	
Exams	Dec 11 th -22 nd	EXAM 3 (DATE/TIME TBD)	

Evaluation

Note that this is for the first half of the course only, i.e. up to 50% of your grade for the entire course.

1. Exams (48%):

There will be three exams, with two midterm exams written during the class time, and the “final” exam written during the exam period at a time designated by UBC administration (you *must* be able to write at any time during the exam period).

Midterm Exam 1 (16%)	Thursday October 13th 9:30-10:50am
Midterm Exam 2 (16%)	Tuesday November 8th 9:30-10:50am
“Final” Exam 3 (16%)	December 11th-22nd (date & time TBD)

Notes on the exams:

- **Exams are held on campus in our usual class, and you must be available to write the exam on campus at the appointed time. Exams can NOT be administered remotely.** Please schedule ahead accordingly. (Accommodations with the Centre for Accessibility will of course be honoured.)
- **You must bring your student IDs to each exam.** These will be used as proof of identification. **If you do not have student ID, you must obtain it before the exams.**
- **The exams are not cumulative**, but the later material in the course clearly builds upon the earlier material.
- **Only materials from lecture will be tested.**
- **Exams are “closed book”, with no referring to your notes.** This may sound like it’s harder than an open-book exam, but it means that the nature of the questions I can ask you will be substantially easier.
- You will not be able to write an exam if 1) you are more than 30 minutes late, or 2) another student has already submitted their exam and left the exam room—whichever occurs first.
- If you are sick, do not come to the exam. Instead, contact me about accommodations.
- Please empower yourself by reading about UBC’s academic concessions policies at <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,329,0,0>.
- Specifically, if you must miss a midterm exam due to acute illness that will spontaneously resolve (e.g. the ‘flu), you do not need to supply me (or any of your other instructors) with a medical note. Note that this policy does not apply to final exams (for final exams, see below).
- If your unavoidable hardship is not an acute illness that will spontaneously resolve, then you may have to present me with evidence of such hardship, BUT please don’t send personal materials until I request them.
- In any case, you must contact me within 48 hours of the exam if you need accommodation for that exam. **If at all possible, please contact me about accommodations before the exam, not after.**
- Students who plan to be absent for work responsibilities, varsity athletics, family obligations, or other commitments, cannot assume they will be accommodated, and must discuss their commitments with me by September 16th if they wish to be considered for accommodation.
- Being accommodated for missing the midterm exam is at my sole discretion.

- If you miss a midterm exam, you must write a make-up exam with your TAs within one week of the original exam date. Please work with the TAs to determine a time that they can accommodate you, and please be flexible in this process, as multiple students might need accommodation.
- As the “final” exam is not truly a final exam, the same policy described above for make-up exams will hold for these third exams (i.e. one-week window to make up, and arrange with TAs).
- All exams will include multiple-choice and short-answer questions.
- Exam grades will be posted on Canvas.
- You are strongly encouraged to review your exam with your TAs.
- Grade adjustments are very uncommon but if a dispute between TAs and student occurs for grading, Jay will regrade that component of your exam—this can result in the same grade, an increase, or a decrease, depending on Jay’s judgement of your answer. Any grading disputes must be handled within 2 weeks of exam grades being released.

2. Syllabus quiz (2%):

This quiz exists primarily to reduce student anxieties about how to approach complications that may arise during the semester, and provide clear information on whom to contact and how. The quiz will be posted on Canvas and **must be completed by Friday, September 16th at 11:59pm**. Considering it’s simply a quiz of the policies listed in this syllabus document and the introductory slides, there will be no extensions for the quiz deadline. If you do not write the quiz, you do not receive the marks.

3. Research participation (up to 3% bonus):

You may earn up to 3 extra percentage points on your overall final grade (across the two semesters) by participating in studies regularly conducted by the Psychology Department and coordinated through the human subject pool (HSP). This provides you with the opportunity to observe the research process directly and to contribute to ongoing research activities at UBC. The extra credits are obtained by signing up for the subject pool at ubc-psych.sona-systems.com, or by completing library writing projects (please see the HSP website). If you plan to earn extra credit through research participation, please register in this online system as soon as possible, as the participation window closes (you can find more details at psych.ubc.ca/undergraduate/human-subject-pool).

Grading

In order to reduce grade inflation and maintain equity across course sections, all psychology courses are required to comply with departmental norms for grade distributions. According to departmental norms, the mean grade in a 300-level class is 75% for a good class, 73% for an average class, and 71% for a weak class (with a standard deviation of 14%). Scaling may be used in order to comply with these norms; grades may be scaled up or down as necessary by the instructors or the department.

Grades are not official until they appear on your transcript. You will receive both a percent and a letter grade for this course. At UBC, your course percentage is converted to a letter grade according to the following key:

A+: 90-100%	A: 85-89%	A-: 80-84%
B+: 76-79%	B: 72-75%	B-: 68-71%
C+: 64-67%	C: 60-63%	C-: 55-59%
D: 50-54%	F: 0-49%	

Because you are earning a degree at a highly reputable post-secondary institution, the criteria for success are high. The Faculty of Arts offers the following guidelines that broadly characterize the kind of work that is generally associated with the particular grade ranges.

These characteristics help put the Psychology Department grading policies into perspective.

Please note that adequate performance is in the C range.

A Range: Exceptional Performance. Strong evidence of original thinking; good organization in written work; capacity to analyze (i.e. break ideas down) and to synthesize (i.e. bring different ideas together in a coherent way); superior grasp of subject matter with sound critical evaluations; evidence of extensive knowledge base.

B Range: Competent Performance. Evidence of grasp of subject matter; some evidence of critical capacity and analytic ability; reasonable understanding of relevant issues; evidence of familiarity with the literature.

C-D Range: Adequate Performance. Understanding of the subject matter; ability to develop solutions to simple problems in the material; acceptable but uninspired work; not seriously faulty but lacking style and vigor.

F Range: Inadequate Performance. Little or no evidence of understanding of the subject matter; weakness in critical and analytical skills; limited or irrelevant use of the literature.

UBC's statement about the University's values and policies

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/policiesresources-support-student-success>

Academic integrity and avoiding misconduct

The following is taken, with some modifications, from materials given to me by UBC's Dr. Catherine Rawn, speaking for the Department of Psychology and the Faculty of Arts:

In the academic community—a community of which you are now a part—we deal in ideas. That's our currency, our way of advancing knowledge. By representing our own and others' contributions in an honest way, we are (1) respecting the rules of this academic community, and (2) showcasing how our own novel ideas are distinct from but relate to their ideas. APA style gives us a formal way to indicate where our ideas end and where others' begin. But academic

integrity goes well beyond formal citation. Welcome to the academic community. You are expected to act honestly and ethically in all your academic activities, just like the rest of us.

Make sure you understand UBC's definitions of [academic misconduct](#), [consequences](#), and expectation that students must clarify how [academic honesty](#) applies for a given assignment. Please ask if you're not sure. (While you're checking out the calendar, you might want to check out the "[Student Declaration and Responsibility](#)" statement you agreed to when you registered.)

What does academic integrity look like in this course? *If at any time you are unsure if a certain type of assistance is authorized, please ask. If you have a need that is unmet by existing course materials, course structure, and/or our learning community members, please ask. In the meantime, here are some guiding principles for what academic integrity looks like:*

Do your own work. *All individual work that you submit should be completed by you and submitted by you. All assessments, large and small, are designed to help you learn the material. It is unacceptable to use an editor (paid or unpaid) without my permission to revise, correct, or alter your work, because your submission is no longer your own work. It is unacceptable to buy/sell/swap/share assignment questions or answers on any platform. It is unacceptable to misrepresent your identity by using someone else to complete any portion of a course (e.g., comment on a discussion board, complete a quiz question). It is unacceptable to help someone else cheat.*

Avoid collusion. *Collusion is a form of academic integrity violation that involves working too closely together without authorization, such that the resulting submitted work gains unfair advantage over other students because is a measurement of the group/pair/others' understanding rather than the individual understanding (definition adapted from [OpenLearn](#)). For example, collusion on a test includes working together to write answers or answering someone else's question in a WhatsApp chat. See more examples of collusion [here](#). There are no assignments in this course that are the product of group collaboration, so please do not collaborate on any exams or projects. Preparing to individually complete an assignment or test by studying together (e.g., discussing concepts, quizzing each other and giving feedback on each others' answers during studying) doesn't count as collusion.*

Can I work with a classmate to co-create study notes? *Yes, you can create your own original collaborative notes.*

Can I use my notes as a study aid while writing the exam? *No, exams will be closed-book and you can't use study aids.*

Do not share materials provided for you to use in this course. *We are working hard to provide all the materials you need to succeed in this course. In return, please respect our work and the enormous efforts that went into making this class. All assignment instructions, quiz questions and answers, discussion questions, announcements, PowerPoint slides, audio/video recordings, Canvas modules, and any other materials provided to you by myself or the TAs are for use in this course by students currently enrolled in this course. It is unacceptable to share any of these materials beyond our course, including by posting on file-sharing websites (e.g., CourseHero, GoogleDocs). Please respect our intellectual property and hard work on this.*

Acknowledge others' ideas. Scholars build on the work of others, and give credit accordingly—this is a quality of strong academic work. Citing sources in both formal and informal ways will be essential, and appropriate, depending on the assignment.

Learn to avoid unintentional plagiarism. Visit the Learning Commons' guide to academic integrity to help you organize your writing as well as understand how to prevent unintentional plagiarism, which can be challenging when first learning to paraphrase. Visit <http://learningcommons.ubc.ca/resource-guides/avoiding-plagiarism/>. An example tip: Do not copy and paste text from other sources, including other people's work, even in a draft. It's easy to unintentionally misrepresent those words as your own in a later draft.

Other Course Policies

During your time in this course, if you encounter medical, emotional, or other personal problems that affect your attendance or academic performance, **please notify me as soon as possible, as well as your Faculty Academic Advising Office.** Please refer to the UBC Calendar for a discussion of academic concession.

The university accommodates students with disabilities who have registered with the Centre for Accessibility office (see below). The university also accommodates students whose religious obligations conflict with attendance or scheduled exams. **Please let me know in advance, by September 16th if possible, if you will require any accommodation on these grounds.** Other absences (e.g. varsity athletics, family obligations, or similar) are not part of the university policy and you should not assume they will be accommodated. Please discuss these with me by September 16th.

The Centre for Accessibility (previously Access & Diversity). UBC is committed to equal opportunity in education for all students including those with documented physical or learning disabilities. If you believe you fall in this category, please visit the website for the Centre for Accessibility (<https://students.ubc.ca/about/access>) to take the necessary steps to ensure that you have every opportunity that you deserve to excel in your studies.

Classroom conduct. Our classroom is a place where you should feel safe and respected. It should also be a place that is conducive to learning and intellectual inquiry. Any behaviour on your part that compromises that environment will not be tolerated and you will be asked to leave.

Points to remember!:

- Productive classroom discussion is encouraged.
- You are responsible for all readings and lecture materials.
- Lecture slides will be available on Canvas. However, the core material is within the lecture itself, not the slides, so be sure to attend the lecture.
- Lecture slides will be posted on Canvas in advance. This is done as a courtesy, and occasionally might be delayed.
- Please be aware that some of the content in this course can be challenging for those without some background in biology. I will provide additional, optional reading sources for you to pursue, should you request it.

Wellness Resources

Below is a list of resources you may want to use if you are struggling in any way to manage your responsibilities while in school or the stresses of life in general. I recognize that this year will be particularly challenging for some of us, and I will be operating from a position of generosity, flexibility, and kindness.

The Kaleidoscope:

the-kaleidoscope.com

A confidential peer-run mental health support group that takes place on campus at least once a week. You may attend the group if you are experiencing any kind of mental health related challenges, or if you're just feeling stressed about school in general. Registration is not required to attend the group. See the website for meeting times and locations. Food and drink are provided.

Counselling Services:

students.ubc.ca/livewell/services/counselling-services

Phone number: 604-822-3811

Counselling services offers a variety of resources to help you maintain your mental health while in school. You may see a counsellor on an individual basis, attend group counselling, or to document an illness if you should require academic concession.

SpeakEasy:

ams.ubc.ca/services/speakeasy/

Phone number: 604-822-9246

A student run service that offers confidential support for students experiencing crisis. Also a good resource for additional information and referrals within the UBC community.

SHARE:

www.vivreshare.org

Self Harm Anonymous Recovery and Education is a program designed to promote self care and educate about self harm. SHARE support groups meet biweekly; times and locations can be found on their website.

UBC Wellness Centre:

students.ubc.ca/livewell/services/wellness-centre

Phone number: 604-822-8450

Speak with other students about tips for managing stress, keeping healthy sleep and eating patterns, concerns about safe sex and more.

Access and Diversity:

students.ubc.ca/about/access

Phone number: 604-822-5844

Access and Diversity provides accommodations for students living with physical or mental disabilities.

Student Health Services:

students.ubc.ca/livewell/services/student-health-service

Phone number: 604- 822-7011

Student health provides students with a variety of healthcare related services to help you maintain your health while studying. Access to doctors and registered nurses.

Mood Disorders Clinic UBC:

ubc-mooddisorders.vch.ca/

A psychiatric program designed specifically to treat individuals living with depression or bipolar disorder.

Live Well, Learn Well:

students.ubc.ca/livewell/learnwell

The Live Well, Learn Well initiative is a resource hub that provides students with information to help improve physical and mental wellbeing.

Mental Health Awareness Club:

ubcmhac.sites.olt.ubc.ca/

A club that offers opportunities to speak about mental health with others and strives to promote mental health awareness throughout the UBC community.

Pacific Spirit Addiction Services:

3rd Floor, 2110 West 43rd Ave Vancouver B.C. V6M 2E1 Phone number: 604-267-3970

A free and confidential service for youth and young adults up to the age of 24. Services include counselling, access to an addiction physician—including usage of a methadone maintenance program—and a drug education series.

AMS Food Bank:

ams.ubc.ca/services/food-bank/

If you are in a financial emergency AMS food bank can provide you with a food hamper. You are able to use the service up to 6 times each term.

UBC Psychology Clinic:

clinic.psych.ubc.ca

Professional psychological services provided to the community, including assessment & treatment for children, adults & families by clinical psychology trainees.

BC Crisis Center:

crisiscentre.bc.ca

Phone number: 604-872-3311

Non-profit, volunteer-driven organization that provides emotional support to youth, adults, and seniors in crisis in BC. Crisis line available 24/7.

Distress Line:

Phone number: 1-800-Suicide (784-2433)

If you are in distress or are worried about someone in distress who may hurt themselves, call 1-800-SUICIDE 24 hours a day to connect to a BC crisis line, without a wait or busy signal.