

THE UNIVERSITY OF BRITISH COLUMBIA

PSYC 361-002:

THE NEUROSCIENCE OF MOTIVATION

2019 SPRING (2018 WINTER TERM 2)

Monday/Wednesday/Friday, 1-2pm, IBLC 261

Instructor: Dr. Jay Hosking, Department of Psychology

Email: jayhosking@psych.ubc.ca

I respond to emails Monday-Friday. When contacting me, please use your UBC email, and please note which course you are in (i.e. PSYC361-002).

Office hours: Held every day of the week, sometimes in office, sometimes by Skype; please use the website jayhosking.youcanbook.me (instructions below)

TA: Tristan Hynes, Brittany Zhang

TA email: thynes@psych.ubc.ca, tianrui.zhang@alumni.ubc.ca

TAs respond to emails Monday-Friday. When contacting them, please use your UBC email, and please note which course you are in (i.e. PSYC361-002).

TA office hours: by appointment (please email them), or by announcement on Canvas

About PSYC361

At the heart of most psychological research is the implicit (sometimes explicit) question: why do we do what we do? All organisms are motivated to stay alive, eat, drink, sleep, reproduce, and successfully navigate their ecological niche. But motivation is about so much more than satisfying basic biological processes. Why do some individuals work hard while others slack off? Why are some of us motivated to seek drugs at the exclusion of nearly everything else? Why do we spend some of our precious time on watching a sunset, an act that affords no immediate evolutionary benefit? Why is there such variability in our body weights, or the activities that interest us, or our tolerance for risky situations? What motivates us to act on the world, and what explains our differences in motivated behaviour?

This course is about the biological basis of motivation. Namely, this course will explore how our nervous systems enable purposeful behaviour in the pursuit of these motivations, be they “primary” (e.g. food, water, sleep) or otherwise. At the fundamental level, we will cover nearly all aspects of motivated behaviour: instincts, emotions, basic learning processes (i.e. conditioning), habits, and cognitively driven goal-directed behaviour. Along the way, we will discuss the neurocircuitry and neurochemistry that supports these disparate types of behaviour, with an emphasis (wherever possible) of discussing individual differences at the neurobiological and behavioural levels. Ultimately, we study motivation not only to understand how the healthy brain functions, but also to understand where motivation goes awry due to stress, trauma, or addiction, in the hopes of novel therapeutic approaches.

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

- Explain and critically evaluate current topics and research in the neuroscience of motivation
- Describe, using the fundamental language of neuroscience (i.e. neuroanatomical and neurophysiological terms), some of the basic processes of motivation
- Link many types of motivated behaviour to their underlying brain structures
- Appreciate the complexity and incompleteness of the field of motivation
- Evaluate evidence related to the neuroscience of motivation, through reading primary research articles
- Appreciate the highly interconnected and integrative nature of brain, mind, and motivated behaviour

Website: canvas.ubc.ca

All lecture slides, readings, and messages sent to all students (e.g. grades) will come through Canvas. Please let me know if you're having any issues with the website!

Note: whom should you book office hours with?

Please book office hours with your awesome TAs if:

- You would like to review one of your exams (**note: only your TAs will have 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 how to succeed at the optional review paper.
- You would like to discuss psychology more generally.

Please book office hours with Dr. Hosking if:

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

Note on booking office hours with Dr. Hosking:

Please do not use email to book office hours with Dr. Hosking. Instead, I have created a website for all office hours booking: <https://jayhosking.youcanbook.me>. It will show all of my available office hours, as well as where you can find me on campus. Note that I am available on campus on Mondays, Wednesdays, and Fridays, and available for videochat via Skype (username: jayhosking) on Tuesdays and Thursdays. **Please do not book me for multiple timeslots on a given day**; 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 booking office hours with your TAs:

Please email them with a few available dates/times and they will do their best to accommodate you.

Note on readings:

We will be using Beck's *Motivation: Theories and Principles, Fifth Edition*. I recognize that this is an older textbook and leaves something to be desired, but there are no better alternatives at the moment. The text is "recommended" rather than "required". In other words, don't focus on the textbook as a potential "test bank". Instead, treat the textbook like a "second teacher", a way to learn the concepts in class from a slightly different perspective.

There will also be some primary (and possibly review) papers that you will be responsible for reading. They will be posted on Canvas, and you will be tested on this material. **Please note that "learning objectives" for these readings are posted as a courtesy and are occasionally NOT provided. This occasional lack of learning objectives is deliberate. Part of your learning process in science is to identify information hierarchically and think about it critically without anyone telling you *how* to think about it.**

Note on email:

Please bear in mind that instructors get a lot of email and, if possible, would prefer to spend all their preparation time on making the lectures as useful, interesting, fun, and edifying to you as possible. Thus, please keep emails to administrative concerns (e.g. Canvas issues) if you can. If you do send an email that is related to the course content, it should contain no more than one question, and you should try to explain your current understanding of the content in the email (which will be affirmed or corrected by me). But really, if you're struggling with content, please book some office hours!

Note on attendance:

Attendance is a critical predictor of success in this course. (In fact, it's a strong correlate of success for university courses in general.) In this course, material that is taught in class will often be very 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, because much of the critical information is not explicitly written. **It is therefore essential that you attend class,** as well as read ahead. If you do have to miss a class, you are responsible for getting notes from another student.

Course schedule (tentative):

Week	Dates	Topic	Assigned reading
1	Jan. 1 st -4 th	Course orientation; intro & foundations	Syllabus; Ch. 1
2	Jan. 7 th -11 th	Foundations; emotion	Chapters 1, 2
3	Jan. 14 th -18 th	Emotion; instinct; biological motivators	Chapter 3, 4, 5
4	Jan. 21 st -25 th	Addiction	Chapter 5
5	Jan. 28 th -Feb. 1 st	Review; EXAM 1 (30th Jan. and 1st Feb.)	
6	Feb. 4 th -8 th	Drive and activation; reward	Chapter 6, 7
7	Feb. 11 th -15 th	Reward cont'd	Chapter 7,8
8	Feb. 18 th -22 nd	READING WEEK – NO CLASS!	
9	Feb. 25 th -Mar. 1 st	Escape and avoidance	Chapter 9
10	Mar. 4 th -8 th	Stress and coping	Chapter 10
11	Mar. 11 th -15 th	Review; EXAM 2 (13th and 15th Mar.)	
12	Mar. 18 th -22 nd	Modern conceptions of motivation	
13	Mar. 25 th -29 th	Individual differences	Chapter 12
14	Apr. 1 st -5 th	Cognitive consistency	Chapter 13
Exams	Apr. 9 th -	EXAM 3 (date/time/location TBA)	

EVALUATION

1. Exams (up to 100%):

There will be three exams, with the final exam written during the exam period at a time designated by the Registrar's Office (you *must* be able to write at any time during the exam period), and two midterm exams written split across two class times (i.e. 100min total).

Midterm Exam 1 (33%) January 30th (multiple choice), February 1st (short answers)

Midterm Exam 2 (33%) March 13th (multiple choice), March 15th (short answers)

Final Exam (34%) April 8th-26th

Notes on the exams:

- **The exams are not cumulative.**
- Textbook material that doesn't show up in lectures is not testable; primary or review papers that are assigned and posted on Canvas are testable.
- There will be no make-up exams for the midterms.
- You will not be accommodated for missing an exam unless you present evidence of unavoidable hardship with 48 hours of missing the exam.
- Students who plan to be absent for varsity athletics, family obligations, or other commitments, cannot assume they will be accommodated, and must discuss their commitments with me **by 11th January 2019** if they wish to be considered for accommodation. (See "Attendance" below for more on this.)
- Being accommodated for missing a midterm exam is at my sole discretion. Similarly, I may send you to Academic Advising if I feel ill-equipped to judge the nature of your hardship, as Advising has much more experience in the matter.
- If you are accommodated for missing a midterm exam, that portion of your course grade will be evenly split between the other midterm and the final exam. If you are accommodated for missing both midterms, which is exceedingly rare, you will be

assigned a research project to make up for the portion of the grade corresponding to midterms 1 and 2. **I do not recommend this.**

- If you miss the final exam, you must contact your Faculty Academic Advising Office to address the issue—note that they will probably require unambiguous medical or other documentation. Please refer to the UBC Calendar for details of “academic concession”. Note that make-ups for the final will differ from the version used for the rest of the class.
- You will not be able to write an exam if 1) you are more than 20 minutes late, or 2) another student has already submitted their exam and left the exam room—whichever occurs first.
- Note that, during exams, instructors or invigilators reserve the right to move you to a new seat without providing an explanation.
- All exams will include multiple-choice and short-answer questions. Due to the short nature of our lecture times, the test will be broken into two components across two different days. I recognize that this is not ideal, and I’m sorry that I don’t (yet?) have a better solution for it.
- Once exams have been marked, grades will be sent out via Canvas.
- You are strongly encouraged to review your exam with your TA.
- Grade adjustments are very uncommon but if a dispute between TA 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. Optional Project (up to 25%):

You may elect to do a project on a topic of your choosing that related to our course (i.e. is about the neuroscience of motivation). This is a project written specifically for this course; handing in work done for another course (past or present) is not acceptable. If you elect to do the project, the grade you receive on that project will be worth 25% of your final grade, and the grades you receive on each of the exams will be worth the following: Midterm 1 (25%), Midterm 2 (25%), Final Exam (25%).

There are three purposes to this optional project: 1) To offer you the chance to explore a topic of interest in greater depth than the lectures and readings can provide; 2) To assess your ability to think critically and creatively; 3) To offer you a chance to explore other ways of expressing your knowledge. As such, the content of your project should not overlap substantially with the material in the text or lectures.

Although the standard format for this project is a review paper (described below), you may pursue other project formats if you have a strong vision and can convince me that you can adequately convey your knowledge. In past, students have submitted short videos, painting series, computer models, musical compositions, and so on. But remember: the important part is for you to demonstrate what you have learned on the subject, and these alternate formats often make that tricky. As such, I sometimes reject project proposals that are not review papers, not because the project sounds uninteresting, but because it would be difficult to demonstrate your learning on the subject via this proposal.

If you would like to write a review paper as your project, please use American Psychological Association (APA) style. Your intended audience for the paper should be someone who has already taken this course. You are expected to read a minimum of 10 peer-reviewed

journal articles as part of your research, and your paper should not be less than 2500 words in length (excluding title page, abstract, and references). Use up-to-date sources wherever possible.

You will need to clear your project topic with your TA (if a review paper) or with Jay (if not a review paper) by **25th January 2019**; please send an email with your proposal, and if you're proposing an alternate-format project, I may also need to meet for office hours, so please contact me well in advance. Once your topic is approved, please meet with your TAs and work with them to make it the best paper possible.

Grading criteria are tailored to specific project types, but are always 35% content, 35% critical thinking, and 30% “pizazz” (organization, flow, creativity, lateral thinking, eloquence, etc.).

Any optional projects are due on Wednesday, 3rd April by 11:59pm. You must upload an electronic copy (.doc or .docx) to TurnItIn (see below). You may also hand in a paper copy, especially if you're using a pseudonym for TurnItIn (see below), but this is not strictly necessary.

TurnItIn instructions. To submit your paper on TurnItIn, you will need to go to turnitin.com, create an account (see below) if you do not yet have one, select “enrol in a class”, enter our Class ID (19950551) and our Enrolment Key (motivation), and submit your paper as a Microsoft .doc or .docx file. If you are handing in a paper copy, please be sure that your paper and electronic copies match.

Setting up an account on TurnItIn. To submit your paper, you'll need to create a unique user profile, consisting of a username (email address) and a password. Please note that the information submitted to TurnItIn is stored in the United States.

If you have any concerns about privacy and TurnItIn, it is recommended that you remove identifying information, such as your name and student number, from the text of your project submitted to TurnItIn. In addition, please follow these instructions:

1. Create an anonymous email address using one of the available free services.
2. Go to turnitin.com.
3. Create an account and select “student” for your account type.
4. Enter the Class ID (19950551) and Enrolment Key (motivation).
5. Create an alias or pseudonym. Please remember to include that alias/pseudonym on the cover of the paper copy, or, if not submitting a paper copy, to email that alias/pseudonym to your TAs.
6. Please delete any identifying information from the original document prior to uploading it. This includes your name and student number in the document, as well as any metadata or hidden data that might be stored in the document itself. To remove metadata from your Microsoft Word document: Use Word's Document Inspector in Windows, or Word > Preferences > Security > “Remove personal information” in MacOS.

Late policy. Late submission of the optional project will result in a penalty of 10% per day of the week; in other words, your due date is 11:59pm on a Wednesday, and if you submit at 12:01am on Thursday (i.e. two minutes late), you will lose 10%.

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

You may earn up to 3 extra percentage points on your overall final grade 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

Your grade for each exam (and your optional project, if applicable and if time allows) will be sent to you via Canvas. If you wish to inspect your exam, you may do so by meeting with your TA.

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 70% for a good class, 68% for an average class, and 66% for a weak class (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 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.

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 us know in advance, by 11th January 2019 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 us by 11th January 2019.

Other Course Policies

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 Access & Diversity (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 and debate are encouraged.
- You are responsible for all readings and lecture materials.
- Lecture slides will be available on Canvas. However, if you miss a lecture, don't expect to find all of what you missed in the slides.
- Lecture slides will be posted on Canvas the night before each lecture. This is done as a courtesy. Please be aware that we may make significant changes to the slides between that time and the lecture the next day. Final versions of lecture slides will be posted no later than the Friday following a lecture, and will be marked as "final version".
- **Please be aware that some of the content in this course can be challenging for those without some background in biology.** I will try to provide additional, optional reading sources for you to pursue, should you wish.
- Laptops and similar devices can be effective learning tools and are welcome in class. However, if you are using them for non-class-related activities, it can be distracting for others. So if you plan to use devices for any non-class-related activities, please sit at the back of the room.

ACADEMIC MISCONDUCT

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 databases. 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.

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.

All graded work in this course, unless otherwise specified, is to be original work done independently by individuals. If you have any questions as to whether or not what you are doing is even a borderline case of academic misconduct, please consult your instructor. For details on pertinent University policies and procedures, please see Chapter 5 in the UBC Calendar (<http://students.ubc.ca/calendar>) and read the University's Policy 69 (available at <http://www.universitycounsel.ubc.ca/policies/policy69.html>).

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.

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/livewelllearnwell

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.