PSYC 309 Cognitive Processes 2025F Term 1 Syllabus

Acknowledgement

UBC's Point Grey Campus is located on the traditional, ancestral, and unceded territory of the xwməθkwəy̓əm (Musqueam) people. This land has always been a place of learning for the Musqueam people, who for millennia have passed on their culture, history, and traditions from one generation to the next. As you consider these lands, you are invited to take a further step toward a decolonial future.

Course Information and Description

Course Title	Course Code Number	Credit Value
Cognitive Processes	PSYC 309	3

This course is <u>not</u> eligible for Credit/D/Fail grading.

If you wish to withdraw from this course without a record of the course on your transcript, you must do so on or before **September 15, 2025**. If you wish to withdraw with a "W" on your transcript, you must do so on or before **October 24, 2025**.

This course will survey discoveries and progress made over the past 50 years of research in human cognitive processes, from classic experimental findings and fundamental theoretical principles to the cutting edge of research that lies at the interface of psychology with neuroscience (neural mechanisms underlying cognitive processes), computer science (artificial intelligence and machine learning), and applied clinical areas (such as therapeutic approaches that involve cognition). Topics will include perception, attention, memory, decision making, reasoning, problem solving, and cognitive control.

Contact

Course Instructor and TA	Contact Details	Office Location and Hours <mark>(office hours start in week 3)</mark>
Dr. Miriam Spering (Instructor)	miriam.spering@ubc.ca	Drop-in virtual office hours on Wednesdays 9-10 am https://ubc.zoom.us/my/miriamspering (passcode **365635**)

Ni An	nian0602@psych.ubc.ca	Wednesdays 3 pm, Room 3512 Kenny
Melanie Butt	mbutt@psych.ubc.ca	Tuesdays 1-2 pm on zoom: https://ubc.zoom.us/my/mbmeeting?pwd=VXFCSU5yTUk2UW9LL0cvbTlNVU8vQT09

There are several ways to get in touch with us. *You will receive the fastest response if you email the TAs for this class (see above).* Please choose this contact method for all content-related, administrative, or schedule-related questions.

For any **personal issues only**, please email me (Miriam Spering). However, if you email me with content-, admin-, or schedule-related questions, I will forward your email to the TA, who consults with me regularly on FAQs, and this will be slower than if you email the TA directly.

Please note that due to high email volume and other academic and personal obligations, it can take several days for you to receive a reply from me. I also have a policy to not reply to emails in the evenings or on weekends. If your message is urgent, please indicate this in the subject line. There is no need to resend your email if you do not receive an immediate reply; I will respond but it may take me some time, depending on how busy I am.

Course Instructor Biographical Statement

Before I tell you more about myself, let me preface this by saying that I am excited to teach this course! I love teaching and I love research, and this course combines both for me, because my own research is related to human cognition.

I am Associate Professor in the Department of Psychology and a member of the Graduate Program in Neuroscience, the Center for Brain Health (DMCBH), Center for Healthy Aging (ELCHA), and the Institute for Computing, Information and Cognitive Systems (ICICS) at UBC. For a number of years, I have also served as Director of the Neuroscience graduate program and Associate Dean Graduate Education in Medicine at UBC. You are welcome to ask me questions about graduate education or the medical undergraduate program or anything career-related.

I am also a Registered Clinical Counsellor and work as a psychotherapist in private practice a few hours each week (I do not see UBC students to avoid conflict of interest). Whereas I will not "mix" my different roles and do not provide any counselling during office hours or beyond, you can expect me to bring empathy and understanding and an interest in engaging with you in a holistic manner.

On the research side, my lab is located at ICICS, and we are interested in how humans see and interact with their multisensory environment. Unfortunately, I cannot accept any

undergraduate research assistants in my lab at this time, but would be happy to direct you to colleagues in related areas, if you're interested in vision/motor neuroscience.

I was born and educated in Germany, where I obtained my BSc (Univ Konstanz) and MA (Univ Heidelberg) in Psychology. It took me seven years to complete these degrees because I could not decide which subject to choose as a minor, so I ended up taking courses in philosophy, economics, medicine, and political science before settling on a minor in psychosomatic medicine. I now look back and envy my younger self for taking the time to indulge in all these areas! My MA thesis was about the role of emotions in complex problem-solving – a topic of relevance to this course. I then completed a PhD in Psychology and Neuroscience (at the Univ of Giessen) and moved to the US to conduct postdoctoral research at New York University in the neuroscience of visual attention (also relevant to this course) before joining UBC in 2011.

Growing up in rural Germany, I was not exposed to much visible diversity. In fact, for many decades, I was quite unaware of the systemic and intersectional nature of discrimination, even though I have experienced sexism during my education and career. I acknowledge my privilege as a white, heterosexual, able-bodied woman from an educated family. I have been nurtured to do well at school and at university, and have won many scholarships. My career has been championed by many influential people I have met along the way and who have helped me succeed. My path was not without obstacles, but it was easier and smoother than what many of you will experience. I have also worked incredibly hard (too hard!), and the more other people have done to help me along the way, the more indebted I have felt and the harder I've worked.

I acknowledge that you all come from different places and have different stories and experiences. I believe that hard work helps, but it should not be everything. I believe that this class is a place where we all meet and learn from each other. I am humbled by the opportunity to mentor and teach you, and I will in turn strive to learn from all of you.

Please know that I have many other obligations outside of teaching this class. I supervise students in my lab and conduct research, I have administrative obligations, and I am raising three young children. At times, this means that I will be difficult to reach or that I will not be able to reply to emails in a timely manner. This does not mean that your email is not important, and I will get to it as soon as I am able. Please respect evenings and weekends – during these times, I do not reply to emails. Please also respect my boundaries as outlined above and email the TA if you have any questions related to the course.

If you have questions about me or my education that you think would help you make decisions or would inform your career choices, please reach out and ask.

Course Schedule and Structure

This class meets in person on *Tuesdays from 5:00-8:00 pm in HENN 200* (https://learningspaces.ubc.ca/classrooms/henn-200). Unless otherwise noted in the

schedule at the end of this syllabus, each class will be broadly split up into three 45-minute blocks, interrupted by 5-minute breaks.

- Block 1 (5:00-5:45 pm)
- Block 2 (5:50-6:35 pm)
- Block 3 (6:40-7:25 pm)

Readings and Textbook

This class will use a textbook and all lectures and exams will be based on this book:

Marvin Chun and Steven Most (2021): Cognition. New York: Sinauer.

This is an expensive textbook if you buy a hard copy (one is available through the UBC library). However, an electronic copy is fine, and the UBC bookstore is set up to provide them. Follow this link for an ebook through the bookstore: https://the.bookstore.ubc.ca/CourseSearch/?course[]=UBCV,2025W1,PSYC,PSYC309,901&

You can also compare prices and see if it might be cheaper for you to obtain the ebook directly from the publisher's webpage at https://global.oup.com/ushe/product/cognition-9780199950638?q=chun&cc=us&lang=en (use discount code STUDENT25 for a 10% discount but be aware that prices are in USD!).

Students must study assigned textbook chapters as well as slide content in preparation for exams.

Lecture Slides

I will typically post the slides for each lecture a few hours before each lecture. Please note that early postings are a privilege and not a promise; if you do not see the slides before the class, please refrain from sending an email and be assured that the slides will be there right when the class starts.

Along with the slides, I will usually also post a recording of the lecture part of the class. However, viewing the recording should not replace attending the class. The recording will only show the slides and my lecture; it will not reflect question and answer periods or any interactive class elements. The video and audio quality might also not be optimal. As per departmental recommendations, zoom options are not available for in-person classes.

Assessment and Exams

There are three exams for the course. The first two exams are each 60 minutes in duration and will take place during the regularly-scheduled lecture time (5:00-6:00 pm). They will each be worth 25% of your final grade (for more details on this please see below). Exam 1 will focus on material covered in weeks 1-4, and exam 2 will focus on material covered in weeks 5-9.

The third exam will take place during the final exam period at the end of the term, with the time and date TBA, and will be worth the remaining 50% of your final grade. This exam will

focus on material from the entire course, with stronger emphasis on material covered in weeks 10-14. The final exam will be 2.5 hours (or the duration of the final exam slot).

The following points should also be noted regarding exams:

1. Each exam will consist of a mix of multiple-choice and short-answer questions.
2. The first two exams will begin 5 minutes into the class period. After each exam is completed, there will be a 10-minute break, followed by one short instructional block.
3. No extra time will be given to those who are late for an exam.
4. I acknowledge that you may have to miss an exam due to illness, injury, participation in UBC varsity events or religious obligations that conflict with attendance. Instead of make-up exams for the first two dates, students instead have the option to either:
   a. Opt out of *one of the two* in-class exam and choose to have the remaining in-class exam scaled to count 50%. (I do *not* recommend opting out of the first exam. If you choose to opt out of the first exam, be very aware that you cannot miss the second exam except under extraordinary circumstances and with a legitimate excuse; in this case, you must contact me before the exam and provide documentation.)
   b. Take both in-class exams and drop the lower of the two marks for the remaining exam to count 50%. (I highly recommend this option. If you choose it, you are invited to consider one exam as a practice exam and you will be able to maximize the offered learning experiences while also increasing your chance of getting a good grade.)
5. No option to miss the final exam exists; if you miss the final, you will have to provide a note and/or contact Arts Advising to write a make-up exam, or apply for deferred standing.
6. Cheating on exams will not be tolerated, see the Psychology Department's Policy on Academic Misconduct below.

Psychology Department's Position on 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).

Term Marks and Policy on Scaling

Marks for the term will be based on a total of 100 points, as distributed across three exams (with the options to miss or drop one of the first two exams as outlined above). However, if the grade distribution for the final course marks fails to meet the Psychology Department's norms, scaling will be applied to final course marks (see section below on Scaling).

For 3% Extra Credit

As part of this course, you are invited to earn 3% extra credit. Most students will choose to earn these credits by spending three hours participating in psychology studies (worth 1% point for each hour) through the Department of Psychology's Human Subject Pool (HSP) system. You can locate, create an account, and sign up for studies by going to https://hsp.psych.ubc.ca. Please register in the system by the end of the first month of classes to have the opportunity to earn your first ½ hour credit with a brief online survey that will increase your eligibility for more studies.

Once registered in the system, you will be able to browse through and select which studies you wish to participate in, sign up for an available timeslot, and confirm your accumulated credits afterward. At the end of the last day of class for the term, the subject pool is closed. At that point, you will no longer be able to receive credits. I strongly urge you to participate in and confirm your credits long before the last week of class since many studies will not offer timeslots near the end of the term and you may be locked out before allocating your credits to your desired course. Further instruction on how to use the HSP online system can be found at https://psych.ubc.ca/undergraduate/opportunities/human-subject-pool/ in the document entitled "Subject Pool Information for Participants."

As an alternative to participation in psychology subject pool experiments, you may complete a library-writing project. Such projects consist of reading and summarizing 1) the research question, 2) the methods and 3) the results (in written form) of a research article from the peer reviewed journal Psychological Science. You will receive one (1) research participation credit for each article summary that meets the following requirements.

Requirements:

1. The article must have been published in the journal titled "Psychological Science"

2. The article must have a publication date from the year 2000 to present (i.e. papers from 2001 are acceptable; those from 1999 or earlier are not)
3. The article must be a research article; it cannot be a review article, a news item, a notice, or a letter to the editor, for example
4. The summary should be approximately 500 words in length
5. You must include your name, student number, course, section, instructor and email address on each summary
6. You must log on to the Human Subject Pool (HSP) system (http://hsp.psych.ubc.ca/) and create an account before submitting your article summaries. Your credit is assigned using the online system.

For each course, you may obtain the same number of extra credits via the library option as specified in the course syllabus (i.e. the same number of credits available for students who participate in research). Summaries must be submitted no later than 10 days before the end of classes. You are to submit your article and your summary to turnitin.com. If you don't have a turnitin account already (from a previous course), you will need to create a user account in Turnitin. For the library assignment the class ID is 46712531, class name is "HSP 2024-2025 W2" and password is "Research". See www.turnitin.com, and click on the "Training" link at the top of the page for detailed instructions on how to submit papers to Turnitin. Any student who is suspected of plagiarism will, at a minimum, not be granted credit, and their course instructor will be notified. Further action may be taken at a departmental or university level.

HSP Online Study Credit Limit (NEW PILOT PROGRAM):

We will no longer have an online credit limit. Instead, students are free to receive their HSP bonus credits from any combination of "in-lab" and "online" studies. However, "in-lab" studies will offer a bonus 0.5 credits on top of the standard 0.5 credits per 30 minutes of participation (e.g., a 1 hour "in-lab" study will award 1.5 credits, while an equivalent "online" study will award 1 credit).

Department Scaling Policy

In Psychology Department, we employ department-wide grading standards to promote equitable alignment, supporting students and course instructors as they learn and teach across many diverse courses and sections. For each Course Section, instructors should aim for a grade average in the following Target Ranges (before any bonus HSP points are added, but including any mandatory HSP points): B- (68-71%) in Introductory 100-level and 200-level courses; B (72-75%) in Intermediate 300-level courses; B+ (76-79%) for Advanced 400-level courses and Selective-Entry lower-level courses (e.g., PSYC 277, 278, 312, 370, 371, 349, 359, 365). Ranges are intended to provide some flexibility to instructors and account for differences that can occur between classes. Ranges increase across year levels to account for improvements in student learning, and students' ability to self-select into more specialized courses.

During the course, instructors may choose to adjust grades and/or difficulty of the assessments, to align with the Target Range. At the end of the course, if the average falls outside the Target Range (either direction), instructors will typically be expected to use a linear transformation to adjust final grades (i.e., add or subtract the same number of points to all students' marks, while ensuring no student fails the course due to this transformation). If a course mean falls in within one +/- letter grade band above the Target Range (e.g., in the B+ range for Intermediate courses), and the instructor believes these grades to be justified, the instructor may submit a justification request using the departmental approval final grades submission form, and the grades may stand. This Upper Range is intended to inspire further excellence in learning and teaching, and allow for the possibility that some classes select for higher performing students. Courses with means exceeding the Upper Range will be expected to provide justification as well as use a linear transformation to fall within the Upper Range.

Grades are not official until they appear on students' academic record. Students will receive both a percent and a letter grade for this course. At UBC, they convert according to the key below:

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

Sickness Policy

Students who are unable to come to class are invited to view the lecture recordings that will be provided after each class, and study the lecture slides. If I am too unwell to teach in person, the class will be held on zoom or given by the TA.

University 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/policies-resources-support-student-success/).

Resources

UBC provides a full range of support for students in need, be it academic-, financial-, or health-related, or stemming from injury, assault, harassment, or discrimination:

- UBC Wellness Centre (604-822-8450);
  http://students.ubc.ca/livewell/services/wellness-centre
  Speak with other students about how to manage stress, healthy sleep and eating, safe sex, etc.
- BC Crisis Center (604-872-3311);
  http://crisiscentre.bc.ca
  Non-profit, volunteer-driven organization that provides 24/7 emotional support for those in crisis in BC.
- Counselling Services (604-822-3811);
  http://students.ubc.ca/livewell/services/counselling-services
  Offers resources to help you maintain mental health while in school.

I cannot emphasize enough the important role of simple social contact with others in the class. If you feel overwhelmed, anxious or simply unsure about anything, please be brave and vulnerable and reach out to your peers or just to the person sitting next to you. They might not say the ideal thing in response to your bid, but anything is sometimes better than nothing!

Lecture Schedule

Unless otherwise noted, Block 1 is from 5:00-5:45, Block 2 from 5:50-6:35, and Block 3 from 6:40-7:25.

All chapters in the Reading column refer to Chun & Most.

Date	Lecture Topic	Reading
Week 1 Sept 2, 2025	Block 1: Introduction to the course Block 2: Introduction to the study of cognition Block 3: History of cognitive psychology	Syllabus Ch. 1.1 Ch. 1.2-1.4
Week 2: Sept 9, 2025	Block 1: Neural basis of cognition Block 2+3: Neuroscience methods	Ch. 2.1, 2.2 Ch. 2.3
Week 3: Sept 16, 2025	Block 1: Perception as an active process Block 2+3: Perceptual systems	Ch. 3.1 Ch. 3.2, 3.3
Week 4: Sept 23, 2025	Block 1: Attentional systems Block 2: Attention & awareness Block 3: Exam Q&A	Ch. 4.1-4.4, 4.6 Ch. 4.5
Week 5: Sept 30, 2025	National Day for Truth and Reconciliation. University closed – no class.	No assignments
Week 6: Oct 7, 2025	Block 1+2: **Exam 1 (material from wks 1-4)** Block 3: Cognitive control	 Ch. 5.1
Week 7: Oct 14, 2025	Block 1: Exam 1 review Block 1+2: Working memory	 Ch. 5.2-5.4
Week 8: Oct 21, 2025 *virtual class*	Block 1+2: Memory systems Block 3: Memory in the brain	Ch. 7.1-7.3 Ch. 7.2
Week 9:	Block 1+2: Language and communication	Ch. 8.1-8.5

Oct 28, 2025 *virtual class*	Block 3: Chomsky in depth	Ch. 8.2
Week 10: Nov 4, 2025	Block 1: Thinking fast and slow Block 2: Judgment + cognitive heuristics Block 3: Decision making	Ch. 9.1 Ch. 9.2 Ch. 9.3
Week 11: Nov 11, 2025	Reading week	No assignments
Week 12: Nov 18, 2025	Block 1+2: **Exam 2 (material from wks 6-9)** Block 3: Reasoning	Ch. 10.1-10.4, 10.6
Week 13: Nov 25, 2025	Block 1: Exam 2 review Block 2+3: Problem solving	Ch. 10.5
Week 14: Dec 2, 2025	Last class - exam Q&A and *real* example exam questions	