

Psy 311
Winter Term 2 2023
TTh 12:30pm to 1:50pm

Instructor

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Via Zoom (see Canvas for link)

Academic Calendar Entry**PSYO 311 (3) Memory**

An examination of memory systems and how they work. Topics will focus on how we input, store, and retrieve memories; the systems that process these memories; and the disruptions of memory in amnesia, false memory, and eyewitness testimony. [3-0-0]

Prerequisite: Two of PSYO 219, PSYO 220, PSYO 230, PSYO 241, PSYO 252, PSYO 270, PSYO 271, PSYO 298, PSYO 299 (or 6 credits of 200-level Psychology).

Course Overview, Content, and Objectives

The purpose of this course is to introduce students to memory systems from a psychological perspective. This course is centred around three themes/ questions:

- ☐ How do we remember?
- ☐ Why do we forget?
- ☐ What can go wrong with memory?

In addition to those three themes, we will cover how different memory systems are connected with learning and a sense of self.

Learning Objectives:

1. recognize important memory systems and relevant research findings
2. articulate connections between important memory systems and 1) learning and 2) self
3. recognize methods used in memory research
4. synthesize research on memory (based on theory, methods, ethics)
5. articulate how to reconcile findings from multiple articles and multiple sources
6. articulate opinions backed up by research findings
7. apply concepts from course material to real-world phenomena
8. articulate main findings from a novel research project
9. demonstrate the ability to plan and execute a project, working in a team

Course schedule

Date	Topic	Readings	Assignments due
Jan 9	Introduction		
Jan 11	Making memories	Ch1/#1	RQ#1
Jan 16	Memory/attention	Ch2/#2	RQ#2
Jan 18	Working memory	Ch3/#3	RQ#3/PSA#1
Jan 23	Motor memory	Ch4/#4	RQ#4
Jan 25	Big project meeting #1		
Jan 30	Guest lecture: Dr. Sarah Kraeutner		
Feb 1	Semantic memory	Ch5/#5	RQ#5/PSA#2
Feb 6	Episodic memory	Ch6/#6	RQ#6
Feb 8	Memory source	Ch7/#7/Film	RQ#7
Feb 13	Tip of the tongue	Ch8/#8	RQ#8/PSA#3
Feb 15	Big project meeting #2		
READING WEEK			
Feb 27	Gestures		Literature review
Feb 29	Midterm #1		Midterm #1
Mar 5	Prospective memory	Ch9/#9	RQ#9
Mar 7	Big project meeting #3		
Mar 12	Forgetting	Ch10-11/#10	RQ#10 /Video plan (VP)
Mar 14	Normal aging	Ch12/#11	RQ#11 /PSA#4
Mar 19	Guest lecture: Dr. Harry Miller	Ch13-14/#12	RQ#12
Mar 21	Guest lecture: Dr. Leanne ten Brinke	Ch15-16/#13-14	RQ#13; Data (RP)
Mar 26	Cognitive reserve	Ch17-18/#15	RQ#14
Mar 28	Big project meeting #4		
Apr 2	Midterm #2		Midterm #2; Video clips (VP)
Apr 4	Video screening		
Apr 9	Video screening		
Apr 11	RP presentations		Paragraph on videos/research project presentations; final write up (RP); participation portfolio (VP)

RQ = Reading quiz

PSA = practice short answer

RP = research project

VP = video project

Ch = Chapter from Genova

Evaluation Criteria and Grading

This course is graded as a percentage, with the final grades corresponding to UBC conventions. The table below details the exact assignments, their weight, and the learning objectives targeted with each assignment.

Options	Assignment	Percentage	Due date	Learning objective
	Reading quizzes for required readings (best 12 out of 14)	6%	12:20pm, days listed in course schedule below	1, 2
	Midterms (x 2; better score = 30%; worse score = 25%)	55%	See course schedule below	1-6
	Practice short answer (best 2 out of 4)	3%†	1:50pm, days listed in course schedule below	3, 5, 6
	Paragraph on video presentations	3%	April 11, 11:59pm	3
	Paragraph on research project presentations	3%	April 11, 11:59pm	7
Video	Literature review	8%	February 27, 12:20pm	3, 5
	Video plan	5%†	March 12, 12:20pm	8
	Video	12%†	April 2, 12:20pm	3, 5, 6
	Participation portfolio	5%	April 11, 12:20pm	8
Research	Literature review	10%	February 27, 12:20pm	3, 5
	Data	2%	March 21, 12:20pm	8
	Presentation on research	5%	April 11 by 1:50pm	7
	Final write-up	13%	April 11, 12:20pm	3, 5, 7

†Group marks; that is, everyone in the group gets the same mark

Note: Up to 1% bonus points available for posting excellent practice short answer (0.25% per question) and up to 2% SONA bonus marks available.

Required book

Genova, L. (2021). *Remember: The science of memory and the art of forgetting*. New York: Allen & Unwin.

Required readings/film (from the library):

All resources are available in the UBC library. Please consult a librarian if you do not know how to find them in the library.

(1) Huijbers, W., Pennartz, C. M., Cabeza, R., & Daselaar, S. M. (2011). The hippocampus is coupled with the default network during memory retrieval but not during memory encoding. *PloS One*, 6(4), e17463.

(2) Heath, R. & Nairn, A. (2005). Measuring affective advertising: Implications of low attention processing on recall. *Journal of Advertising Research*, 45(2), 269-281.

(3) Miller, G. A. (1956). The magical number seven, plus or minus two: Some limits on our capacity for processing information. *Psychological Review*, 63(2), 81.

(4) Milton, J., Solodkin, A., Hlušík, P., & Small, S. L. (2007). The mind of expert motor performance is cool and focused. *Neuroimage*, 35(2), 804-813.

(5) Schneider, W., Gruber, H., Gold, A., & Opwis, K. (1993). Chess expertise and memory for chess positions in children and adults. *Journal of Experimental Child Psychology*, 56(3), 328-349.

(6) Bauer, P. J. & Larkina, M. (2014). The onset of childhood amnesia in childhood: A prospective investigation of the course and determinants of forgetting of early-life events. *Memory*, 22(8), 907-924.

(7) Loftus, E. F. & Palmer, J. C. (1974). Reconstruction of automobile destruction: An example of the interaction between language and memory. *Journal of Verbal learning and Verbal Behavior*, 13(5), 585-589.

Also view: *Eyewitness: Unreliable Evidence* by J. Campbell, M. Kelley, & R. Werle, (2003). It is about 22 minutes long. Note that there are some graphic details of an assault in the first three minutes of this film; you are welcome to either skip those three minutes or simply listen to the audio (which does not describe the graphic scenes).

(8) Kreiner, H. & Degani, T. (2015). Tip-of-the-tongue in a second language: The effects of brief first-language exposure and long-term use. *Cognition*, 137, 106-114.

(9) Walter, S. & Meier, B. (2014). How important is importance for prospective memory? A review. *Frontiers in Psychology*, 5, 657.

(10) Bedard-Gilligan, M., Zoellner, L. A., & Feeny, N. C. (2017). Is trauma memory special? Trauma narrative fragmentation in PTSD: Effects of treatment and response. *Clinical Psychological Science*, 5(2), 212-225.

(11) Hayes, G. S., McLennan, S. N., Henry, J. D., Phillips, L. H., Terrett, G., Rendell, P. G., Pelly, R. M., & Labuschagne, I. (2020). Task characteristics influence facial emotion recognition age-effects: A meta-analytic review. *Psychology and Aging*, 35(2), 295–315.

(12) Williams, E., Theys, C., & McAuliffe, M. (2023). Lexical-semantic properties of verbs and nouns used in conversation by people with Alzheimer's disease. *Plos One*, 18(8), e0288556.

(13) Appleman, E. R., Albouy, G., Doyon, J., Cronin-Golomb, A., & King, B. R. (2016). Sleep quality influences subsequent motor skill acquisition. *Behavioral Neuroscience*, 130(3), 290-297.

(14) Vo, T. V. A., Gunderson, C. A., & Ten Brinke, L. (2022). How deception and believability feedback affect recall. *Memory*, 30(6), 706-714.

(15) Morris, M. J., Le, V., & Maniam, J. (2016). The impact of poor diet and early life stress on memory status. *Current Opinion in Behavioral Sciences*, 9, 144-151.

Optional readings:

Mecacci, L. (2013). Solomon v. Shereshevsky: The great Russian mnemonist. *Cortex*, 49(8), 2260-2263.

Relevant to Chapter 11 of Genova.

Bialystok, E. (2021). Bilingualism: Pathway to cognitive reserve. *Trends in Cognitive Sciences*, 25(5), 355-364.

Relevant to Chapter 17 of Genova

Description of assignments and other course requirements

Reading quizzes

Quizzes on the required readings will be available on the Canvas site. You are meant to be taking these quizzes right after you have done the relevant readings (and film, in one case!), by the date for the *reading* in the course schedule. You will only be allowed to take each quiz once. The form of each quiz will be approximately 5-6 multiple-choice, with the occasional true/false or fill-in-the-blank thrown in. You will have **20 minutes** to complete the quiz once you have opened it. The quizzes are due by **12:20pm** on the day listed in the course schedule. It is not possible to make up a reading quiz for any reason. A quiz that is not taken will be marked as zero. The best **12 marks out of the 14 quizzes** will count toward the final grade.

Midterm exams

Each midterm exam will consist of approximately 30 multiple-choice or true/false questions, 2 short-answer questions and one long (essay) answer (for which there will be several options to choose from). The 30 small questions will cover information from the required readings and information presented only in class. The focus for these questions will be the material covered since the previous midterm (or the start of classes for Midterm #1); in other words, they are not cumulative. The short-answer and long-answer questions could come from any aspect of the course material covered prior to that particular midterm.

The questions asked on the reading quizzes are representative of the small questions on the mid-term. The practice short-answer questions are representative of the short-answer questions. Questions and examples of strong answers will be posted on the Canvas site following each in-class practice short-answer question.

Practice short answer questions

The purpose of the practice short answer questions is to practice short answer questions for the midterms. In class, you will be assigned to a group that will meet during class time (see course schedule for dates). A question will be presented in class and you will answer the question as a group. The answer must be turned in before the end of the class period by **1:50pm** on the day listed in the course schedule, either on paper to the instructor or on the Canvas site. Each group will turn in a single one-paragraph answer. If you are turning in the answer on paper, make sure to list the names of all group members. Every person in the group will receive the same mark. If you are not

present in class *for any reason*, it is not possible to make up this assignment. If you do not turn in an answer, your mark will be a zero on that assignment. Only the best 2 out of 4 marks count toward your final grade.

A small number of the answers will be chosen to be posted on the Canvas site as examples of excellent answers to short-answer questions (see description of mid-term exams above). If your group's summary is chosen, all members of the group will receive a bonus 0.25% toward their class total. You can receive this bonus mark up to four times over the term.

Paragraphs on video presentations/research project presentations

After viewing all the video presentations, students will write a paragraph on one theme that they noticed across several presentations, backing up their arguments with mention of specific video presentations.

After seeing the research project presentations, students will write a paragraph summarizing the results of the project.

Both of these paragraphs will be submitted via the Canvas course site by **April 11 at 11:59pm**.

Big project

Students will choose to do ONE of the following big projects: 1) a documentary-style video clip on a mnemonic OR 2) a research project on gist memory.

(A) Video project

Students will work in small groups (approximately 4-6 people) to first review the literature on a particular mnemonic and then create a documentary-style video clip of at least 5 minutes in length (the exact time constraints will depend on the number of groups and will be announced in class). Note that the video clip cannot include people other than the students in the group. It is possible to borrow a video camera from the instructor.

There are four deliverables for the video project:

First, each individual student will review at least four research articles on the mnemonic. Each student will turn in a well-organized, well-argued review of these articles in a paper for approximately 2-3 pages (not including the reference section and an optional title page). This literature review is due on **February 27 at 12:20pm** on the Canvas site.

Second, each group will turn in a video plan by **March 12 at 12:20pm**. This is a group project and will address: 1) what exactly will be in the video, 2) how this video plan reflects the findings from research, and 3) what each individual student will contribute. Including a timeline might be a good idea. There is no page minimum or maximum, as the form of each group's plan could differ considerably. This plan will be marked in terms of comprehensiveness and appropriateness. Every member of the group will receive the same mark on this assignment.

Third, each group will turn in the video clip itself. All video clips are due before class (**12:20pm**) on **April 2** and will be shown in class either April 4 or April 9. The video clips will be marked by the instructor, the teaching assistants, and the students in the class in terms of convincingness of arguments presented and quality of video to engage and inform. Every member of the group will receive the same mark on this assignment.

Fourth, each individual student will turn in a participation portfolio that summarizes and provides evidence for the activities they were responsible to carry out (e.g., as presented in the video plan). While there is no page limit (or minimum) to this assignment, please keep in mind

that this assignment is meant only as a check that each individual student carried their weight for what is inherently a group assignment. This assignment is due on the Canvas site by **April 11 at 12:20pm**.

(B) Research project

Students will work as a large group, collecting data according to the same protocol. The data will be pooled and each individual student will write up the results of the pooled data. The project this year will be on how demographic factors (like gender, age, or number of languages spoken) predict gist memory (that is, people's tendency to remember the meaning of what they have heard, rather than the exact form).

Students who have not yet completed the TCPS2 course on research ethics, please go here: <https://tcps2core.ca/welcome> and complete the course by **February 1st** and email a copy of the completion certificate to the instructor.

There are four deliverables for this project:

First, each individual student will review at least ten research articles that provide background for this study. Each student will turn in a well-organized, well-argued review of these articles in a paper for approximately 3-5 pages (not including the reference section and an optional title page). This literature review is due on **February 27 at 12:20pm** on the Canvas site.

Second, by **March 21 at 12:20pm**, students will have entered the data that they have collected according to the provided protocol according to the instructions provided in class. The marks are based on the quality of data entry rather than number of participants tested. If students are having difficulty finding participants, please let the instructor know before March 21. It is possible to negotiate an alternative assignment to obtain these marks.

Third, students will participate in a presentation of the results of the research project on **April 11**. The exact format of the presentations will be communicated in class. The presentations will be marked by the instructor, the teaching assistants, and the students in the class in terms of clarity, completeness, and engagingness.

Fourth, each individual student will turn in a final write-up of the research project, including an introduction (the literature review was the first draft of the introduction), method, results, and discussion. There should also be a title page, an abstract, and a references section. It is expected that the write-up will be approximately 8-15 pages, not including the title page, abstract, and references. These papers will be marked for clarity, completeness, and engagingness. The paper is due by **April 11 by 12:20pm**. Please also turn in the signed consent forms to the instructor by this date for confidential shredding.

RESEARCH ACTIVITY (aka Sona for bonus marks!)

Students earn Sona credit points for their eligible courses from participating in research activity. This can be either through direct participation in research through the Sona online research system (Option 1), by completing summaries of primary research articles (Option 2), or by a combination of the two types of activities. First year courses (i.e., PSYO 111 and PSYO 121) include 4% as part of the final course grade for participating in Sona research activity, while second year and higher courses allow for a 2% bonus to be added to the final course grade for participating.

Research Participation In Online Research System (Option 1)

As a participant in one of the numerous research studies posted at <http://ubco.sona-systems.com/>, you will obtain 0.5% credit for each 0.5 hour of participation. Hence, studies requiring a 1-hour time commitment provides a credit of 1%, 1.5 hours provides a credit of 1.5%, and 2 hours provides a credit of 2.0%, etc.

Important Requirements

You may participate in more than one study in order to earn credits. It is important to sign up for studies early in the semester in order to increase the odds that a timeslot is available. If you wait until later in the semester, timeslots may no longer be available.

Logging On To The System

Sona is only open for those students who are registered in a psychology course offering Sona credit points. Please only use the request account option if you have never used the Sona system before. If you have used the Sona system before, please use the most recent login information you remember to log in.

Missed Appointments & Penalties

Missed appointments (i.e., failure to cancel the appointment at least 3 hours prior to the session) will be tracked. The consequence will be that you will not receive credit for participation in the study and you will be assigned an unexcused no-show. The unexcused no-show designation will cause you to lose the credit value of the study from the total possible credit points you can earn for your course. For example, if you are in PSYO 111 (or 121), you can earn up to 4.0 credits. If you miss an hour-long session that you signed up for (i.e., 1.0 credit) and don't cancel it in advance, the maximum credits that you can now earn for your course is 3.0, regardless of how many studies you complete.

If, after consenting to participate and starting a session (or survey), you decide to withdraw your consent, to avoid receiving an unexcused no-show on Sona, you must do one of the following:

- ☐ if it is an online study, you must cancel your Sona sign-up and/or contact Shirley (psyc.ubco.research@ubc.ca) if you are unable to cancel your sign-up;
- ☐ if it is an in-person study, you must let the researcher know directly. Their email can be found on the main description page for the study (little envelope icon). Depending upon the study, they will either cancel your session or assign you an excused no-show (meaning that you will not be penalized).

Your ability to withdraw your data will depend upon the study. Instructions for withdrawing your data (including limitations) will be described in the study's consent form.

Please email psyc.ubco.research@ubc.ca with any questions or concerns that you may have regarding the Sona system. Your professor or instructor does NOT have access to this information.

Research Summary Assignment (Option 2)

As an alternative to participating in research studies, you may obtain Sona credit points by completing library-writing projects to a satisfactory level. Each library-writing project is worth a total of two credits.

Important Requirements

1. This project consists of reading and summarizing (in written form) a recent, peer-reviewed, primary research article.

- ☐ A "recent" article has been published within the past 12 months.
- ☐ A "peer reviewed" article is one that has been reviewed by other scholars before it is accepted – for example, it *cannot* be a news item, an article from a popular magazine, a notice, or a letter to the editor.
- ☐ A "primary" research article describes an experiment or study where data are collected by the authors. In other words, the article you choose to review *cannot* be a book review, literature review, or summary article.

2. You must choose an article published by one of the following agencies:

- ☐ The American Psychological Society - *Psychological Science*, *Current Directions in Psychological Science*, *Psychological Science in the Public Interest*, or *Perspectives on Psychological Science*.
- ☐ The American Psychological Association - www.apa.org/journals/by_title.html has a full listing.
- ☐ The Canadian Psychological Association - *Canadian Psychology*, *Canadian Journal of Behavioural Science*, or *Canadian Journal of Experimental Psychology*.
- ☐ The Psychonomic Society - *Behavior Research Methods, Cognitive, Affective, & Behavioral Neuroscience*, *Learning & Behavior*, *Memory & Cognition*, *Perception & Psychophysics*, or *Psychonomic Bulletin & Review*.

3. Other Assignment Guidelines

The summary should be about 300-500 words in length. The source must be cited and referenced in accordance with the *Publication Manual of the American Psychological Association*. The review will be graded on a pass – fail basis (2% or 0%).

At least **14 days before the end of classes** each term, submit the following to the course instructor:

- ☐ the article summary
- ☐ a copy of the article

- ☐ a cover page that specifies your name, student number, email address, and word count of the summary.
- ☐ the course title and number

Submitting the assignment 14 days in advance is necessary to ensure that you have an opportunity to make corrections, if required. If you do not check your email frequently, provide a phone number on the cover page.