PSY372H1 S

Human Memory

Winter 2024 Syllabus

Course Meetings

PSY372H1 S

Section	Day & Time	Delivery Mode & Location
LEC0101	Wednesday, 9:00 AM - 12:00 PM	In Person: SS 1083

Refer to ACORN for the most up-to-date information about the location of the course meetings.

Course Contacts

Course Website: https://q.utoronto.ca/courses/339266

Instructor: Morgan Barense
Email: morgan.barense@utoronto.ca
Office Hours and Location: Make an appointment: https://calendly.com/morgan-barense/psy372-office-hours-winter-2024
Additional Notes: Questions on course content should be raised during lectures, on the Quercus Discussion Board (https://q.utoronto.ca/courses/339266/discussion_topics), or during office hours. Please use email ONLY for emergencies (e.g., illness). Neither the instructor nor the TA will be able to respond to emails regarding course content or logistics. Please do not use the built-in Quercus communication tool called “Inbox”, as this is not monitored.

Teaching Assistant: Katrina Chini
Email: katrina.chini@mail.utoronto.ca
Additional Notes: Questions on course content should be raised during lectures, on the Quercus Discussion Board (https://q.utoronto.ca/courses/339266/discussion_topics), or during office hours. Please use email ONLY for emergencies (e.g., illness). Neither the instructor nor the TA will be able to respond to emails regarding course content or logistics. Please do not use the built-in Quercus communication tool called “Inbox”, as this is not monitored.

Course Overview

Current theories and data on human memory: processes involved in encoding, storage, and retrieval.

PSY372H, Human Memory, aims to provide a comprehensive research-oriented overview of the history, methodology, theories and contentious issues in the study of human memory. The course draws on a core textbook, scientific articles, lectures, interactive discussions, and

student writing in order to discuss and critique current research related to the investigation of human memory.

Course Learning Outcomes

In taking this course, you should:

- Gain new knowledge about the scientific study of human memory, from both historical and current perspectives.
- Become an informed consumer of research in psychological science by learning to translate between data and theory while considering the inherent limitations of any approach.
- Practice your critical thinking and writing skills.

Prerequisites: PSY201H1/ ECO220Y1/ EEB225H1/ GGR270H1/ IRW220H1/ POL222H1/ SOC202H1/ STA220H1/ STA238H1/ STA248H1/ STA288H1/ PSY201H5/ STA215H5/ STA220H5/ PSYB07H3/ STAB22H3/ STAB23H3/ STAB57H3, PSY260H1/ PSYB38H3/ PSY270H1/ PSY270H5/ PSYB57H3/ COG250Y1
Corequisites: None
Exclusions: PSY372H5/PSYC53H3
Recommended Preparation: None
Credit Value: 0.5

Course Materials

Required Readings

Textbook:

Radvansky, G.A. (2021). Human Memory, 4th Edition. Taylor & Francis: Routledge.

The third edition is available as a FREE eBook; see Library Course Reserves link:

https://ebookcentral-proquest-com.myaccess.library.utoronto.ca/lib/utoronto/detail.action?docID=4825146

Assigned Articles (on course website under "Files"):

Lecture 2 – Short-Term and Working Memory:

Paper discussion 1: Conway, A. R., Cowan, N. & Bunting, M.F. (2001). The c ocktail party phenomenon revisited: The importance of working memory capacity. *Psychonomic Bulletin & Review*, 8(2): 331-335.

Lecture 3 – Episodic Memory: Past & Future:

Karpicke, J. D., & Roediger, H. L. (2008). The critical importance of retrieval for learning. *Science*, 319(5865), 966-968.

Lecture 6 – Amnesia and Memory Disorders:

Hassabis, D., Kumaran, D., Vann, S. D., & Maguire, E. A. (2007). Patients with hippocampal amnesia cannot imagine new experiences. *Proceedings of the National Academy of Sciences,* 104(5), 1726-1731.

Lecture 7 – Critical Topics in Modern Memory Research:

Reconsolidation:

Brunet, A., Orr, S. P., Tremblay, J., Robertson, K., Nader, K., & Pitman, R. K. (2008). Effect of post-retrieval propranolol on psychophysiologic responding during subsequent script-driven traumatic imagery in post-traumatic stress disorder. *J Psychiatr Res, 42*(6), 503-506.

Nader, K., & Hardt, O. (2009). A single standard for memory: the case for reconsolidation. *Nat Rev Neurosci, 10*(3), 224-234.

Insights from single-cell recording:

Paper discussion 2: Ekstrom, A. D., Kahana, M. J., Caplan, J. B., Fields, T. A., Isham, E. A., Newman, E. L., et al. (2003). Cellular networks underlying human spatial navigation. *Nature, 425*(6954), 184-188.

Quiroga, R. Q., Reddy, L., Kreiman, G., Koch, C., & Fried, I. (2005). Invariant visual representation by single neurons in the human brain. *Nature, 435*(7045), 1102-1107.

Episodic-like memory in animals:

Clayton, N. S., & Dickinson, A. (1998). Episodic-like memory during cache recovery by scrub jays. *Nature, 395*(6699), 272-274.

Eacott, M. J., & Norman, G. (2004). Integrated memory for object, place, and context in rats: a possible model of episodic-like memory? *J Neurosci, 24*(8), 1948-1953.

Lecture 8 - Memory across the lifespan:

Biss, R.K., Ngo, K.W.J., Hasher, L., Campbell, K.L., & Rowe, G. (2013). Distraction can reduce age-related forgetting. *Psychological Science*, 24(4):448-455.

Effective scientific writing (optional, but a helpful resource): Gopen, G.D., & Swan, J.A. (1990). The science of scientific writing. *American Scientist*, 78(6), 550-558.

Marking Scheme

Assessment	Percent	Details	Due Date
Term test 1	25%	Term tests will be held in the regular class location, at the regular time. Although the emphasis will be on material covered during lectures, the tests may contain any material from the class lectures, textbook, or the assigned articles. As the lectures will always cover some information not contained in the texts (and vice versa), it is important that you both attend the lectures and do the readings. The tests are non-cumulative. That is, the questions are grounded in the material covered in the preceding three lectures. However, some questions will require integration of material covered across the course, so don't forget what you've learned!	2024-01-31

Assessment	Percent	Details	Due Date
Term test 2	25%	Term tests will be held in the regular class location, at the regular time. Although the emphasis will be on material covered during lectures, the tests may contain any material from the class lectures, textbook, or the assigned articles. As the lectures will always cover some information not contained in the texts (and vice versa), it is important that you both attend the lectures and do the readings. The tests are non-cumulative. That is, the questions are grounded in the material covered in the preceding three lectures. However, some questions will require integration of material covered across the course, so don't forget what you've learned!	2024-03-06
Term test 3	25%	Term tests will be held in the regular class location, at the regular time. Although the emphasis will be on material covered during lectures, the tests may contain any material from the class lectures, textbook, or the assigned articles. As the lectures will always cover some information not contained in the texts (and vice versa), it is important that you both attend the lectures and do the readings. The tests are non-cumulative. That is, the questions are grounded in the material covered in the preceding three lectures. However, some questions will require integration of material covered across the course, so don't forget what you've learned!	2024-04-03

Assessment	Percent	Details	Due Date
Thought Paper	15%	The thought paper is focused on critically evaluating empirical research. The thought paper will be based on the topic of reconsolidation (see “Critical Topics” articles for an introduction to the topic). You should focus on a recently published empirical article (i.e., not reviews or books) that was published in the last 3 years. For quality control, the primary article must be from a journal that is indexed on PubMed. You may select a study that was conducted in either humans or non-human animals. You should choose one article as the focus of your paper, but you should cite a minimum of 4 additional articles to back up any claims you make. There are no restrictions on these articles. For full marks, references will go beyond articles assigned for class.	2024-03-27
Paper Discussion 1	5%	We will use the QALMRI method as a structured framework to give practice in the critical evaluation of experiments. Twice throughout the term, you will read an article and produce a short, written assignment using this method. This assignment will be marked for both quality of content and writing style. Although short, this is a formal writing assignment and so you should use complete sentences. This assignment should be submitted through Quercus (Quizzes section).	2024-01-24

Assessment	Percent	Details	Due Date
Paper Discussion 2	5%	We will use the QALMRI method as a structured framework to give practice in the critical evaluation of experiments. Twice throughout the term, you will read an article and produce a short, written assignment using this method. This assignment will be marked for both quality of content and writing style. Although short, this is a formal writing assignment and so you should use complete sentences. This assignment should be submitted through Quercus (Quizzes section).	2024-03-20

Late Assessment Submissions Policy

Missed tests: I expect students to make every effort to take required tests. There will be no make-up tests. If a student is unable to attend class on the test day and has a legitimate excuse, the student's marking scheme will be reweighted entirely the instructor's discretion. This will be based on the student's performance and the class averages for the remaining elements. Legitimate excuses include a documented family emergency, or a documented severe illness making it impossible to take the test. (See below for the mechanisms for reporting this.) Contact me as soon as you are aware of the conflict and (ideally) before the day of the test to determine the best course of action. I must receive any documentation within one calendar week of the test. An unexcused missed test will receive a mark of zero. Late thought paper or paper discussion: Assignments must be submitted by their specified due date. Except in the case of an emergency (see below), late assignments will be marked down 10% per day. Appropriate documentation is required in all emergency situations. Unless you have a documented emergency, no extensions will be given.

Course Schedule

Jan 10 Week 1	**Lecture 1:** Course overview; Overview & History of Memory Research; Neuroscience of Memory	Chapters 1-2; QALMRI instructions
Jan 17		Chapters 3-5;

Week 2	**Lecture 2:** Methods in Memory Research; Sensory and Short-Term Memory; Working Memory	Conway et al., 2001
Jan 24 Week 3	**Lecture 3:** Episodic Memory: Past & Future ★ **Paper discussion 1 (Conway et al., 2001) due (9AM)**	Chapter 7; Karpicke & Roediger, 2008
Jan 31 Week 4	**Test 1**	
Feb 7 Week 5	**Lecture 4:** Nondeclarative Memory; Semantic Memory	Chapters 6 and 9
Feb 14	**Lecture 5:** Failures of Memory; Autobiographical Memory	Chapters 8, 12, 13
Feb 21 Week 6	**Reading week**	
Feb 28 Week 7	**Lecture 6:** Amnesia and Memory Disorders	Chapter 10; Hassabis et al., 2007
Mar 6 Week 8	**Test 2**	
Mar 13 Week 9	**Lecture 7:** Critical Topics in Modern Memory Research	See “Required Readings”
Mar 20 Week 10	**Lecture 8 - Guest lecture (Katrina Chini):** Memory Across the Lifespan: Aging and development; Tips for effective scientific writing	Chapters 16-17 Biss et al., 2013 Gopen & Swan, 1990 (optional)

	★ **Paper discussion 2 (Ekstrom et al., 2003) due (9AM)**	
Mar 27 Week 11	**Lecture 9:** Memory and the Law; Metamemory ★ **Thought paper due (9AM)**	Chapters 14-15
Apr 3 Week 12	**Test 3**	

Policies & Statements

COURSE WEBSITE, LECTURES AND MEETINGS, COMMUNICATION POLICIES:

Quercus Information, including expectations for students to check: This course uses the University's learning management system, Quercus (https://q.utoronto.ca), to post information about the course. This includes posting readings and other materials required to complete class activities and course assignments, as well as sharing important announcements and updates. The site is dynamic and new information and resources will be posted regularly as we move through the term, so please make it a habit to log in to the site on a regular basis. To access the course website, go to the U of T Quercus log-in page at https://q.utoronto.ca. Once you have logged in to Quercus using your UTORid and password, you should see the link or 'card' for PSY372 Human Memory. You may need to scroll through other cards to find this. Click on the PSY372 Human Memory link to open our course area, view the latest announcements and access your course resources. There are Quercus help guides for students that you can access by clicking on the '?' icon in the left side column.

SPECIAL NOTE ABOUT GRADES POSTED ONLINE: Please also note that any grades posted are for your information only, so you can view and track your progress through the course. No grades are considered official, including any posted in Quercus at any point in the term, until they have been formally approved and posted on ROSI at the end of the course. Please contact me as soon as possible if you think there is an error in any grade posted on Quercus.

Lecture Slides: Lecture slides will be posted to Quercus in advance of the lecture (at the latest, the evening before).

Recording lectures: You may record lectures, but please note that lectures are the intellectual property of the instructor.

Course materials belong to your instructor, the University, and/or other sources depending on the specific facts of each situation. These materials are protected by copyright. Do not download, copy, or share any course or student materials or videos without the explicit instructor permission.

Communication: Emails to the instructor and/or TA are ONLY for genuine emergencies (e.g., illness). Please do not use the built-in communication tool on Quercus, called "Inbox," as this is not monitored. Please ask any content-related or logistical questions in the following ways: (1) During lecture; (2) on the Discussion boards; or (3) by

scheduling an individual appointment to meet with the instructor (book here: https://calendly.com/morgan-barense/psy372-office-hours-winter-2024). Neither the instructor nor the teaching assistant will be able to respond to emails regarding course content.

Cell Phones and Laptop Usage: Technology can support student learning, but it can also become a distraction. Research indicates that multi-tasking (texting or going online) during class time can have a negative impact on learning. Out of respect for your fellow students in this class, please refrain from using laptops or mobile phones for entertainment during class. Do not display any material on a laptop which may be distracting or offensive to your fellow students. Laptops may be used only for legitimate classroom purposes, such as taking notes, downloading course information from Quercus, or working on an assigned in-class exercise. Checking social media, email, texting, games, and other online activities are not legitimate classroom purposes. Such inappropriate laptop and mobile phone use is distracting to those seated around you.

Harassment and Discrimination: The University of Toronto is a diverse community and is committed to providing an environment free of any form of harassment, misconduct, or discrimination. In this course, I seek to foster a civil, respectful, and open-minded climate in which we can all work together to develop a better understanding of key questions and debates through meaningful dialogue. As such, I expect all involved with this course to refrain from behaviours that intimidate, humiliate, or demean persons or groups or that undermine their security or self-esteem based on traits related to disability, race, religion, ancestry, place of origin, colour, ethnic origin, citizenship, creed, sex, sexual orientation, gender identity, gender expression, age, marital status, family status, receipt of public assistance, or record of offences.

Prerequisites: It is your responsibility to ensure you meet all prerequisites listed in the Psychology section of the A&S Calendar. Unfortunately, waivers cannot be granted and if you lack any prerequisites you will be removed.

MISSED AND LATE ASSESSMENTS, ACCOMMODATIONS:

Missed tests: I expect students to make every effort to take required tests. There will be no make-up tests. If a student is unable to attend class on the test day and has a legitimate excuse, the student's marking scheme will be reweighted entirely the instructor's discretion. This will be based on the student's performance and the class averages for the remaining elements. Legitimate excuses include a documented family emergency, or a documented severe illness making it impossible to take the test. (See below for the mechanisms for reporting this.) Contact

me as soon as you are aware of the conflict and (ideally) before the day of the test to determine the best course of action. I must receive any documentation within one calendar week of the test. An unexcused missed test will receive a mark of zero.

Late thought paper or paper discussion: Assignments must be submitted by their specified due date. Except in the case of an emergency (see below), late assignments will be marked down 10% per day. Appropriate documentation is required in all emergency situations. Unless you have a documented emergency, no extensions will be given.

Specific medical or personal circumstances: If you become ill and it affects your ability to do your academic work, consult me right away. Normally, I will ask you for documentation in support of your specific medical circumstances. This documentation can be an Absence Declaration (via ACORN) or the University's Verification of Student Illness or Injury (VOI) form. The VOI indicates the impact and severity of the illness, while protecting your privacy about the details of the nature of the illness. If you cannot submit a VOI due to limits on terms of use, you can submit a different form (like a letter from a doctor), as long as it is an original document, and it contains the same information as the VOI (including dates, academic impact, practitioner's signature, phone and registration number). For more information on the VOI, please see http://www.illnessverification.utoronto.ca. For information on Absence Declaration Tool for A&S students, please see https://www.artsci.utoronto.ca/absence. If you get a concussion, break your hand, or suffer some other acute injury, you should register with Accessibility Services as soon as possible.

Students with Disabilities or Accommodation Requirements: Students with diverse learning styles and needs are welcome in this course. If you have an acute or ongoing disability issue or accommodation need, you should register with Accessibility Services (AS) at the beginning of the academic year by visiting http://www.studentlife.utoronto.ca/as/new-registration. Without registration, you will not be able to verify your situation with your instructors, and instructors will not be advised about your accommodation needs. AS will assess your situation, develop an accommodation plan with you, and support you in requesting accommodation for your course work. Remember that the process of accommodation is private: AS will not share details of your needs or condition with any instructor, and your instructors will not reveal that you are registered with AS.

Religious Accommodations: As a student at the University of Toronto, you are part of a diverse community that welcomes and includes students and faculty from a wide range of cultural and religious traditions. For my part, I will make every reasonable effort to avoid scheduling tests, examinations, or other compulsory activities on religious holy days not captured by statutory holidays. Further to University Policy, if you anticipate being absent from class or missing a major course activity (such as a test or in-class assignment) due to a religious observance, please let me know as early in the course as possible, and with sufficient notice (at least two to three weeks), so that we can work together to make alternate arrangements.

GRADING, ACADEMIC INTEGRITY, PLAGIARISM DETECTION TOOL, AND GENERATIVE AI

FAS Grading guidelines (http://www.writing.utoronto.ca/advice/general/grading-policy):

A+ Outstanding performance, exceeding even the A described below.

A Exceptional performance: strong evidence of original thinking; good organization, capacity to analyze and synthesize; superior grasp of subject matter with sound critical evaluations; evidence of extensive knowledge base.

B Good 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 Intellectually adequate performance: student who is profiting from her or his university experience; understanding of the subject matter and ability to develop solutions to simple problems in the material.

D Minimally acceptable performance: some evidence of familiarity with subject matter and some evidence that critical and analytic skills have been developed.

F Inadequate performance: little evidence of even superficial understanding of the subject matter; weakness in critical and analytic skills; with limited or irrelevant use of literature.

Contesting a grade: You must wait for at least 48 hours following the return of an assignment/assessment before bringing a grade concern to me; use this time to reflect upon your performance and grade. Additionally, grade concerns must be brought to my attention within 14 days of the return of the assignment/assessment. Please write a short paragraph detailing your grade concern, including a copy, photo, or scan of the original assignment, if relevant, and email it to me. Only reasonable and well-justified concerns will be considered, and all decisions are final. Note that in agreeing to resubmit your work for remarking, you are agreeing to a re-evaluation of the entirety of your work; your grade may go up, go down, or stay the same. If there has been an error in our arithmetic, please let us know and we will immediately recalculate your grade (no written request necessary). *Negotiations for extra marks once final grades are in will not be considered. Arbitrary requests for grade increases will not be entertained (e.g., "I need to get into grad school, so could you please change my grade from a B+ to an A-?"). If I did this for one person, I would need to do it for everyone in the class. Please do not ask for special treatment – it is unfair to your classmates.*

Academic integrity: All students, faculty and staff are expected to follow the University's guidelines and policies on academic integrity. For students, this means following the standards of academic honesty when wri??ng assignments, collaborating with fellow students, and writing tests and exams. Ensure that the work you submit for grading represents your own honest efforts. Plagiarism—representing someone else's work as your own or submitting work that you have previously submited for marks in another class or program—is a serious offence that can result in sactions. Speak to me for advice on anything that you find unclear. To learn more about how to cite and use source material appropriately and for other writing support, see the U of T writing support website at http://writing.utoronto.ca/. Consult the Code of Behaviour on Academic Matters for a complete outline of the University's policy and expectations. For more information, please see http://www.artsci.utoronto.ca/osai and https://www.academicintegrity.utoronto.ca/.

Generative Artificial Intelligence (AI):

Students may not use generative AI tools (e.g., ChatGPT) for the exams in this course, but may use these tools for other assignments. However, we urge using them with caution. These tools will be most helpful when gathering information from across sources and assimilating it for understanding. They will not be able to provide the personal reflection, creativity, and context-specific knowledge necessary to meet the standards of the above assignments. Moreover, the paper discussion and thought paper provide practice for term tests, when generative AI will not be available.

If you choose to use generative artificial intelligence tools to assist you in the assignments in this course, this use must be documented in an appendix for each assignment and any content produced by an artificial intelligence tool must be cited appropriately. The documentation should include what tool(s) were used, how they were used (e.g., include your prompts), and how the results from the AI were incorporated into the submitted work. These tools can be most helpful in improving your writing and clear expression of your ideas (rather than trying to generate complete content which is unlikely to meet the standards of the assignments). Many organizations that publish standard citation formats are now providing information on citing generative AI (e.g., APA: https://apastyle.apa.org/blog/how-to-cite-chatgpt).

ADDITIONAL RESOURCES

Writing: As a student here at the University of Toronto, you are expected to write well. The university provides its students with a number of resources to help them improve their writing, including one-on-one appointments with writing instructors, free workshops, and English Language Support. For more information on campus writing centres and activities, please visit http://writing.utoronto.ca/.

Mental health and well-being: As a student, you may experience challenges that can interfere with learning, such as strained relationships, increased anxiety, substance use, feeling down, difficulty concentrating and/or lack of motivation, financial concerns, family worries and so forth. These factors may affect your academic performance and/or reduce your ability to participate fully in daily activities. All of us benefit from support and guidance during times of struggle; there is no shame in needing help or in asking for help. There are many helpful resources available through your college Registrar or through Student Life (studentlife.utoronto.ca/service/myssp). An important part of the University experience is learning how and when to ask for help.

Plagiarism Detection Tool

Normally, students will be required to submit their course essays to the University's plagiarism detection tool for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the tool's reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of this tool are described on the Centre for Teaching Support & Innovation web site (https://uoft.me/pdt-faq).