

PSYC* 6790, Course Outline: Winter 2019

General Information

Course Title: Memory & Cognition

Course Description: This course will provide an in-depth examination of research into human memory and how memory-related processes inform other perceptual and cognitive abilities. The first half of the course will address factors that govern how we learn, retrieve, and forget information along with coverage of related mnemonic experiences. The second half of the course will focus on how memory informs other cognitive abilities including perception, attentional selection, cognitive control, and categorization.

Credit Weight: 0.5

Academic Department (or campus): Department of Psychology

Semester Offering: Winter 2019

Class Schedule and Location: Lecture Wednesdays, 11:30 - 2:20 pm, MacKinnon Building (MCKN), Room 317

Instructor Information

Instructor Name: Chris M. Fiacconi, PhD

Instructor Email: cfiaccon@uoguelph.ca

Office location and office hours: MacKinnon Extension 3019; appointments as needed

GTA Information

GTA Name: N/A

GTA Email: N/A

GTA office location and office hours: N/A

Course Content

Specific Learning Outcomes:

Learning Outcome 1: Critical and Creative Thinking

1.1. **Inquiry and analysis:** is a systematic process of exploring issues, objects and works in cognitive psychology through the collection and analysis of evidence that result in informed conclusions or judgments.

1.2. **Problem solving:** involves using one's understanding to work through a series of operations to come to a conclusion or implement a solution.

1.3. **Creativity:** involves the ability to use one's depth and breadth of understanding to adapt to situations of change, to initiate change, and to take intellectual risk.

1.4. **Depth and breadth of understanding:** demonstrates both broad and in-depth knowledge of concepts in neuroscience and/or applied cognitive science topics.

Learning Outcome 2: Literacy

2.1. **Information literacy:** is the ability to know when there is a need for information, where to locate it and the ability to identify the value and differences of potential resources in a variety of formats.

2.2. **Methodological and technological literacy:** is the ability to evaluate, design, and implement appropriate methodologies, and select and use appropriate technologies for rigorous science.

2.3. **Quantitative literacy:** includes numeracy, and competence in working with numerical data and statistics.

2.4. **Visual literacy:** is the ability to effectively find, interpret, evaluate, use, and create visual media, and to effectively present information visually.

Learning Outcome 3: Global Understanding

3.1. **Sense of historical development:** involves a comprehensive understanding of the studies that established the core knowledge in the content area.

Learning Outcome 4: Communication

4.1. **Oral communication:** includes interpersonal skills, oral speaking and active listening.

4.2. **Written communication:** is the ability to express one's ideas and summarize theory and research through a variety of writing styles.

4.3. **Reading comprehension:** is the understanding of theoretical and empirical literature.

4.4. Integrative communication: is the ability to synthesize information from a variety of sources into a communicable form.

Schedule:

Week of: Topic, Readings & Presentations
Jan. 9 Overview: Distinction between memory-as-object vs. memory-as-tool

Core Reading: Jacoby, L.L., & Kelley, C.M. (1987). Unconscious influences of memory for a prior event. *Personality and Social Psychology Bulletin*, 13, 314-336.

Jan. 16 Memory As Object I: Automatic/Controlled Forms of Memory & Process Impurity

Core Reading: Toth, J.P., Lindsay, D.S., & Jacoby, L.L. (1992). Awareness, automaticity, & memory dissociations. In L.L. Squire & N. Butters (Eds.), *Neuropsychology of Memory (2nd ed.)*. New York: Guilford Press.

Presentation Papers:

1. Jacoby, L.L., Woloshyn, V., & Kelley, C.M. (1989). Becoming famous without being recognized: unconscious influences of memory produced by dividing attention. *Journal of Experimental Psychology: General*, 118, 115-125.

2. Jennings, J.M., & Jacoby, L.L. (1997). An opposition procedure for detecting age-related deficits in recollection: telling effects of repetition. *Psychology and Aging*, 12, 352-361.

3. Boldini, A., Russo, R., & Avons, S.E. (2004). One process is not enough! A speed-accuracy tradeoff study of recognition memory. *Psychonomic Bulletin & Review*, 11, 353-361.

Jan. 23 Memory As Object II – The Importance of Context

Core Reading: Smith, S.M. (2014). Effects of environmental context on human memory. In T.J. Perfect & D.S. Lindsay (Eds.), *The SAGE Handbook of Applied Memory* (pp. 162-182). Thousand Oaks: SAGE.

Presentation Papers:

1. Gruppuso, V., Lindsay, D.S., & Masson, M.E.J. (2007). I'd know that face anywhere! *Psychonomic Bulletin & Review*, 14, 1085-1089.

Week of: Topic, Readings & Presentations

2. Uitvlugt, M.G., & Healey, M.K. (2018). Temporal proximity links unrelated news events in memory. *Psychological Science*, 1-13

3. Palombo, D.J., Di Lascio, J.M., Howard, M.W., & Verfaellie, M. (2018). Medial temporal lobe amnesia is associated with a deficit in recovering temporal context. *Journal of Cognitive Neuroscience*.

Jan. 30 Memory As Object III – Encoding/Retrieval Interactions

Core Reading: Roediger, H.L. III, & Butler, A.C. (2011). The critical role of retrieval practice in long-term retention. *Trends in Cognitive Science*, 15, 20-27.

Presentation Papers:

1. Jacoby, L.L., Shimizu, Y., Velanova, K., & Rhodes, M.G. (2005). Age differences in depth of retrieval: memory for foils. *Journal of Memory & Language*, 52, 493-504.

2. Walheim, C.N., & Jacoby, L.L. (2013). Remembering change: the critical role of recursive reminders in proactive effects of memory. *Memory & Cognition*, 41, 1-15.

3. Tullis, J.G., Braverman, M., Ross, B.H., Benjamin, A.S. (2014). Reminders influence the interpretation of ambiguous stimuli. *Psychonomic Bulletin & Review*, 21, 107-113.

Feb. 6 Memory As Object IV – Forgetting

Core Reading: Kelley, C.M. (2014). Forgetting. In T.J. Perfect & D.S. Lindsay (Eds.), *The SAGE Handbook of Applied Memory* (pp. 127-144). Thousand Oaks: SAGE.

Presentation Papers:

1. Sahakyan, L. & Kelley, C.M. (2002). A contextual change account of the directed forgetting effect. *Journal of Experimental Psychology: Learning, Memory, & Cognition*, 28, 1064-1072.

2. Delaney, P.F., Sahakyan, L., Kelley, C.M., & Zimmerman, C.A. (2010). Remembering to forget: the amnesic effect of daydreaming. *Psychological Science*, 21, 1036-1042.

- Week of: Topic, Readings & Presentations
3. Perfect, T.J., Stark, L.J., Tree, J.J., Moulin, C.J.A., Ahmed, L., & Hutter, R. (2004). Transfer-appropriate forgetting: the cue-dependent nature of retrieval-induced forgetting. *Journal of Memory & Language, 51*, 399-417.
- Feb. 13 Memory As Object V – Subjective Experience
- Core Reading:** Jacoby, L. L., Kelley, C. M., & Dywan, J. (1989). Memory attributions. In H. L. Roediger III & F. I. M. Craik (Eds.), *Varieties of memory and consciousness: Essays in honour of Endel Tulving* (pp. 391-422). Hillsdale, NJ, US: Lawrence Erlbaum Associates, Inc.
- Presentation Papers:
1. Whittlesea, B.W.A., Jacoby, L.L., & Girard, K. (1990). Illusions of immediate memory: evidence of an attributional basis for feelings of familiarity and perceptual quality. *Journal of Memory & Language, 29*, 716-732.
 2. Kelley, C.M., & Lindsay, D.S. (1993). Remembering mistaken for knowing: ease of retrieval as a basis for confidence in answers to general knowledge questions. *Journal of Memory & Language, 32*, 1-24.
 - 3a. Cleary, A.M. & Claxton, A.B. (2018). Déjà vu: an illusion of prediction. *Psychological Science, 29*, 635-644.
 - 3b. Martin, C. B., Mirsattari, S. M., Pruessner, J. C., Pietrantonio, S., Burneo, J. G., Hayman-Abello, B., & Köhler, S. (2012). Déjà vu in unilateral temporal-lobe epilepsy is associated with selective familiarity impairments on experimental tasks of recognition memory. *Neuropsychologia, 50*(13), 2981-2991.
- Feb. 20 Reading Week (no class)
- Feb. 27 Memory As Tool I – Perception As Memory
- Core Reading:** Jacoby, L.L. (1983). Remembering the data: analyzing interactive processes in reading. *Journal of Verbal Learning and Verbal Behaviour, 22*, 485-508.
- Presentation Papers:

- Week of: Topic, Readings & Presentations
- 1a. Hussain, Z. Sekuler, A.B., Bennett, P.J. (2011). Superior identification of familiar visual patterns a year after learning. *Psychological Science*, 22, 724-730.
- 1b. Kolers, P.A. (1976). Reading a year later. *Journal of Experimental Psychology: Human Learning and Memory*, 2, 554-565.
2. Masson, M.E.J. (1986). Identification of typographically transformed words: instance-based skill acquisition. *Journal of Experimental Psychology: Learning, Memory, & Cognition*, 12, 479-488.
3. Breuer, A.T., Masson, M.E.J., Cohen, A., & Lindsay, D.S. (2009). Long-term repetition priming of briefly identified objects. *Journal of Experimental Psychology: Learning, Memory, & Cognition*, 35, 487-498.
- Mar. 6 Class cancelled
- Mar. 13 Memory As Tool II – Memory As A Basis for Attentional Selection
- Core Readings:
1. Chun, M.M., & Jiang, Y. (2003). Implicit, long-term spatial contextual memory. *Journal of Experimental Psychology: Learning, Memory, & Cognition*, 29, 224-234.
2. Chun, M.M., & Phelps, E.A. (1999). Memory deficits for implicit contextual information in amnesic subjects with hippocampal damage. *Nature Neuroscience*, 2, 844-847.
- Presentation Papers:
- 1a. Cosman, J.D., & Vecera, S.P. (2013). Context-dependent control over attentional capture. *Journal of Experimental Psychology: Human Perception & Performance*, 39, 836-848.
- 1b. Cosman, J.D., & Vecera, S.P. (2013). Learned control over distraction is disrupted in amnesia. *Psychological Science*, 24, 1585-1590.
2. Thomson, D.R., & Milliken, B. (2013). Contextual distinctiveness produces long-lasting priming of pop-out. *Journal of Experimental Psychology: Human Perception & Performance*, 39, 202-215.
3. Awh, E., Sgarlata, A.M., & Kliestik, J. (2005). Resolving visual interference during covert spatial orienting: online attentional

Week of: Topic, Readings & Presentations
control through static records of prior visual experience. *Journal of Experimental Psychology: General*, 134, 192-206.

Mar. 20 Memory As Tool III – Automatic Control

Core Reading: Jacoby, L.L., Lindsay, D.S., & Hessels, S. (2003). Item-specific control of automatic processes: stroop process dissociations. *Psychonomic Bulletin & Review*, 10, 638-644.

Presentation Papers:

1. Crump, M.J.C. & Milliken, B. (2009). The flexibility of context-specific control: evidence for context-driven generalization of item-specific control settings. *Quarterly Journal of Experimental Psychology*, 62, 1523-1532.

2a. Leboe, J. P., Wong, J., Crump, M.J.C., & Stobbe, K. (2008). Probe specific proportion task repetition effects on switching costs. *Perception & Psychophysics*, 70, 935-945.

2b. Crump, M.J.C., & Logan, G.D. (2010). Contextual control over task-set retrieval. *Attention, Perception, & Psychophysics*, 72, 2047-2053.

3. Brosowsky, N.P., & Crump, M.J.C. (2018). Memory-guided selective attention: single experiences with conflict have long-lasting effects on cognitive control. *Journal of Experimental Psychology: General*, 147, 1134-1153.

Mar. 27 Memory As Tool IV – Episodic Contributions to Skilled Performance

Core Reading: Logan, G. D. (1991). Automaticity and memory. Relating theory and data: Essays on human memory in honor of Bennet B. Murdock, 347-366.

Presentation Papers:

1. Lassaline, M.E., & Logan, G.D. (1993). Memory-based automaticity in the discrimination of visual numerosity. *Journal of Experimental Psychology: Learning, Memory, & Cognition*, 19, 561-581.

2. Verbruggen, F., & Logan, G.D. (2008). Long-term aftereffects of response inhibition: memory retrieval, task goals, and cognitive control. *Journal of Experimental Psychology: Human Perception & Performance*, 34, 1229-1235.

3. Crump, M.J.C., & Logan, G.D. (2010). Episodic contributions to sequential control: learning from a typist's touch. *Journal of*

Week of: Topic, Readings & Presentations
Experimental Psychology: Human Perception & Performance, 36, 662-672.

Apr. 3 Memory As Tool V – Categorization

Core Readings:

1. Murphy, G.L. (2004). Theories. In *The Big Book of Concepts* (pp.41-65). Cambridge, MA: MIT Press.

2. Murphy, G.L. (2004). Exemplar Effects and Theories. In *The Big Book of Concepts* (pp.73-115). Cambridge, MA: MIT Press.

Presentation Papers:

1. Brooks, L.R., Norman, G.R., & Allen, S.W. (1991). Role of specific similarity in a medical diagnostic task. *Journal of Experimental Psychology: General, 120, 278-287.*

2. Allen, S.W., & Brooks, L.R. (1991). Specializing the operation of an explicit rule. *Journal of Experimental Psychology: General, 120, 3-19.*

Course Assignments and Tests:

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Assignment or Test	Due Date	Contribution to Final Mark (%)	Learning Outcomes Assessed
1 st Presentation	Jan. 9 – Feb. 13	35%	1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3, 2.4, 3.1, 4.1, 4.3, 4.4
2 nd Presentation	Feb. 27 – Apr. 3	35%	1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3, 2.4, 3.1, 4.1, 4.3, 4.4
Final Paper (Research Proposal)	Due at the beginning of next class	30%	1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3, 2.4, 3.1, 4.2, 4.3, 4.4

Additional Notes:

1. Each student will prepare and deliver two oral presentations – one in the first half of the course, and one in the second. Each presentation should be 20 – 25 minutes in length. Students are responsible for identifying a minimum of 3 discussion questions that will be discussed by

the class following each presentation. Specific guidelines for oral presentations will be provided.

2. The final research paper can be written on a topic of your choice so long as it relates to the study of human memory. In this paper, you will identify an outstanding research question, and propose an experiment or series of experiments to address this question. The paper should discuss relevant background literature and provide motivation for the particular question addressed (i.e., why is this issue interesting/important), include appropriate methodological details, and expected results/hypotheses. The paper should not exceed 12 double-spaced pages, and is due on **Friday, April 5, 2019**.

Final examination date and time: No final exam.

Final exam weighting: No final exam

Course Resources

Required Texts:

No required textbooks. All readings will consist of book chapters and scholarly journal articles.

Recommended Texts: No recommended texts.

Other Resources: No other resources needed.

Software: Basic software programs including Microsoft PowerPoint and Microsoft Office will be useful in preparing presentations and final research proposal.

Field Trips: No field trips

Additional Costs: No additional costs

Course Policies

Grading Policies: If you are unable to attend the midterm or final exam due to medical, psychological, or compassionate reasons, you must provide formal documentation (i.e., note from physician or counselor) to the course instructor, and appropriate accommodations will be made on a case-by-case basis. No other reasons for missing an examination will be accepted (e.g., other exams on the same day, final exam conflicts, travel plans). There are no make-up assignments. Late assignments will be subject to a 10% per day grade penalty.

Course Policy on Group Work: No group work

Course Policy regarding use of electronic devices and recording of lectures:

Electronic recording of classes is expressly forbidden without consent of the instructor. When recordings are permitted they are solely for the use of the authorized student and may not be reproduced, or transmitted to others, without the express written consent of the instructor.

University Policies

Academic Consideration

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor in writing, with your name, id#, and e-mail contact. See the academic calendar for information on regulations and procedures for

Academic Consideration:

[Academic Consideration, Appeals and Petitions](#)

Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community, faculty, staff, and students to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring.

University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection. Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The Academic Misconduct Policy is detailed in [Graduate Calendar](#).

Accessibility

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact the [Student Accessibility Services](#) as soon as possible.

For more information, contact SAS at 519-824-4120 ext. 54335 or email csdexams@uoguelph.ca or the [Student Accessibility Services Website](#)

Course Evaluation Information

Please refer to the [Course and Instructor Evaluation Website](#) .

Drop date

The last date to drop one-semester courses, without academic penalty, is Friday, March 8, 2019. For regulations and procedures for Dropping Courses, see the [Schedule of Dates in the Graduate Calendar](#).