



| Psychology 463 A | | Memory | Winter 2014 |
|------------------------|--------------------------------------|-----------------------------|----------------------|
| Instructor | Cody Tousignant | Lab TA (Jan-Feb): | Veronika Kiryanova |
| email: | catousig@ucalgary.ca | email: | vkirvano@gmail.com |
| Phone: | 403-690-1984 | Lab TA (Mar-Apr): | Lenka Zdrzilova |
| Office: | 2506 H | email: | lzdrazil@ucalgary.ca |
| Office Hours: | Before or after class by appointment | Lab TA Office: | 2506 H |
| | | Lab TA Office Hours: | TBA |
| Classroom: | 2301 | Lab Location: | 907 B |
| Class Schedule: | Saturday 12:00-2:50 | Lab Days/Time: | W 3-4:50 pm |

Course Description

This course will provide an overview of current and classic research examining how memories are encoded, stored, and retrieved. In the seminar-style classroom component, students will be responsible for presenting and facilitating discussion of research articles to their peers, actively participating in thoughtful class discussion of other course readings, and constructing a research proposal outlining a novel memory study that aims to make an original contribution to our understanding of memory. In the laboratory component, groups of students will collaborate to design, conduct, analyze, present and report a novel study that aims to make an original contribution to our understanding of memory. The course goals are for students to acquire knowledge about memory and memory research, to develop critical thinking skills essential to evaluating this scientific literature, and to use this knowledge and these skills to identify gaps in the extant literature and generate novel means of investigating unanswered questions about memory.

Prerequisites

Psyc 200 & 201 or Psyc 205 – Principles of Psychology I & II
Psyc 312 – Experimental design and quantitative methods for psychology
Psyc 365 – Cognitive psychology

Required Text

There are no required textbooks for this course. The course material consists of selected articles that will be made available on the course's blackboard website. The following texts are suggested for students who would like additional information about memory and memory research:

Neath, I. & Surprenant, A. M. (2003). *Human Memory* (2nd Edition). Wadsworth.
Schwartz, B., L. (2013). *Memory: Foundations and Applications* (2nd Edition). Sage.
Tulving, E., & Craik, F. I. M. (Eds) (2000). *The Oxford Handbook of Memory*. Oxford University Press.

Evaluation

Students must achieve a passing grade on both the class and lab components to pass this course.

1. Class components (60% of final grade; evaluated by the instructor)

A. Article Presentation/Facilitation of class discussion (20% of final grade).

A.1. Presentation. Each student will give a brief (~20 minute) presentation on a memory article within a specified topic area (e.g., the production effect, context effects on recognition judgments), and will moderate a brief (~10 minute) discussion afterward (the length of the presentation/facilitation component may change based on the course size). During the second class of the semester, students will be asked to select a presentation date according to the course schedule. Students will present singly or in groups depending on class size, and presentation dates will be assigned at random if the number of dates and topics chosen voluntarily do not cover the entire course schedule. A maximum of 35 minutes will be allotted for each presenter, during which they must cover both the presentation and facilitation components of this assessment.

The presentation should be in PowerPoint or Keynote format, and should examine one or more journal article(s). As a rough guideline, each presentation should include a summary of what was done, why it was done, what was found, and what it tells us about memory. More specifically, each presentation should cover 1) a brief overview of the subject of the article and relevant background literature, 2) the main question that the article aims to address, the relevance of this question in the context of existing literature, and the authors' hypothesis, 3) a detailed description of the methods and procedure used, 4) the results of the study, 5) the authors' interpretation of the results, 6) the authors' general conclusion, 7) the presenter's observations about the study (including merits and/or limits of the research question, methods, or interpretation), and 8) the presenter's suggestions for future studies given the article's findings (what would you do next and what would we learn from doing it?). Presenters should be prepared to answer student's questions over the course of their presentation. The length of each presentation should be approximately 20 minutes. In order to make the presentation as engaging as possible, presenters are encouraged to be creative in their use of presentation aids and supplemental materials. For example, consider using PowerPoint to briefly walking the class through several experimental trials so that they have a greater understanding of what the experimental task entailed.

A.2. Class Discussion. Once the article has been presented, the presenter will facilitate a class discussion of the strengths and weaknesses of the article as well as of the article's relevance in the context of the other topic articles and memory literature reviewed to date. The class discussion should last for approximately 10 minutes (note that both components should not exceed a total of 35 minutes). Presenters are encouraged to read supplementary research as needed and/or to prepare material (such as handouts or prepared questions) in order to engage the class and stimulate relevant discussion. In addition, presenters should make use of students' blackboard discussion questions (see C) in order to encourage active participation in the discussion. Students are required to read the presented article and any related material recommended by the presenter in advance of the class (presenters are responsible for delivering supplemental materials to the instructor no later than one week before their presentation so that these materials can be placed on blackboard in a timely manner). Evaluation of this assessment is based on the facilitator's success in engaging students' participation in a thoughtful discussion, and in keeping the discussion focused and on topic.

B. Participation (7.5% of final grade). Students are expected to come to class and actively engage in discussion of the weekly readings. To this end, students will come to class having read each presenter's article with an eye for discussion points about topics such as the article's methodological strengths and weaknesses, the practical significance of its findings, its relevance in the context of previously reviewed literature, and directions for future research. Students will be evaluated on their ability to contribute quality discussion points during each discussion.

C. Discussion Questions (7.5% of final grade). Each week, students are expected to post one thoughtful discussion question per presenter on the blackboard discussion form. These questions should be posted no later than 48 hours prior to each class, and will likely be brought up during the discussion. Students will be evaluated on their ability to generate novel and relevant questions about a variety of aspects of the selected articles over the course of the term (i.e., students should not pose the same question for multiple articles). Put another way, students' questions should provide evidence of independent critical thought about the source material.

D. Research proposal.

Each student will propose a novel study to extend or better test the central claims of a target article or combination of target articles, that will further our understanding of a memory phenomenon. Do not propose a study for which you are unable to justify a prediction, or for which you merely predict a replication of known findings (unless this is theoretically interesting). Ideally, your proposed study should be a 2x2 factorial design (2 independent variables, each with 2 levels), and it is critical that you predict and justify a novel and meaningful interaction (note: the instructor can approve other designs).

D.1. Proposal Summary (5% of final grade). Students will first submit a brief summary sketch of their research proposal. This summary should be formatted using the APA 6th edition guidelines, no longer than 2 double-spaced pages (not including the title and reference pages), and should include a concise outline of the relevant literature (minimum 5 references), highlighting the specific need for further inquiry. In addition, students will provide a brief outline of their proposed study, including a description of how this study addresses the existing gap(s) in the literature. This assignment provides a formal point of first contact between the student and the instructor for the research proposal project, and should be viewed as a means of ensuring that the student's final proposal is of the highest possible quality. Proposal summaries (in Word format) will be submitted by email no later than midnight after the last class before Reading Break (February 15th).

D.2. Final Proposal (20% of final grade) Students will use the feedback from the Proposal Summary to prepare a formal research proposal. This document should at a minimum include a research question and rationale for it, design, key methodological details, justified predictions (for each main effect, the interaction, and simple effects), and implications. The content of the paper must be formatted using the APA 6th edition guidelines, and organized into the following sub-headings: (1) Title, (2) Abstract (150 words maximum), (3) Literature review, (4) Proposal, (5) Methods, (6) Expected results, (7) Implications and conclusions, (8) References (minimum 10). Provide an APA-formatted bar graph of your predicted means with clearly labeled axes. If helpful, use figures to convey your design/procedure. Put all figures at the very end of the proposal. Do not include any tables/figures from published articles. The body of the paper must not exceed 10 double-spaced pages (not including the title and reference pages). All text should be double spaced and formatted in Times New Roman font. Proposals (in Word format) will be submitted via email no later than midnight on the last class of the semester (April 5th).

2. Lab components (40% of final grade; evaluated by the TA and by your lab group)

The lab portion of the course gives students an opportunity to design, conduct, analyze, and report an original study that aims to make an important, original contribution to our understanding of memory. Students will form or be placed into lab groups of 3 – 4 and choose a research topic. The research proposal should build on a target article or combination of target articles (ideally published in 2010 or more recently), that focus on memory, and report original data (i.e., not a review article). Projects must use a 2x2 repeated-measures factorial design (2 within-subjects independent variables, each with 2 levels), and the study should be designed to yield a meaningful and significant interaction (note: in special circumstances the lab instructor can approve other designs). Groups will collect data from their classmates. Lab group members must be prepared to invest time outside the lab on their projects throughout the term.

To encourage equivalent contribution from all group members, a portion of each group member's final lab grade will be determined by the consensus of the lab group. To accomplish this, each group member must complete and submit a Lab Contributions form (posted on Blackboard) at the end of the semester. This process will be briefly explained by the TA at the beginning of the semester and again in more detail before the end of the semester.

A. Lab group proposal (10%). Each lab group will collaboratively write up an APA-formatted proposal for their research project due at the beginning of lab on February 12th. The research proposal should be formatted using the APA 6th edition guidelines, no longer than 6 double-spaced pages (not including the title and reference pages), and should include a concise outline of the relevant literature, highlighting the specific need for further inquiry. In addition, groups will provide an outline of their proposed study, including a description of how this study addresses the existing gap(s) in the literature. This assignment provides a formal point of contact between the group and the TA for the research project, and should be viewed as a means of ensuring that the group's final proposal is of the highest possible quality. This document will also serve as the foundation of the Lab Group Report. Feedback from the TA will allow groups to make changes and to anticipate issues before data collection.

The lab group proposal must include the following:

- *Title Page.* Choose an original and informative title.
- *Abstract (150 words maximum).* What do you plan to do and why? What do you expect to find? What conclusions and implications can you expect to draw from these results?
- *Body (5-6 pages).* Include all of the following sections (with appropriate levels of subheadings): *introduction* (~2+ pages), *method* (~2+ pages), *expected results* (~1 page), *implications* (~.5 page). As implied by the suggested page weightings, the majority of the research proposal should be spent providing a detailed outline of 1) a gap in the research literature, and 2) the group's proposed method for addressing this gap.
- *References (at least 10 references).* Cite all of your sources in the text and reference all cited sources in the reference list.

- *Tables/Figures (minimum of 1)*. Provide an APA-formatted bar graph of your expected group means with clearly labeled axes. If helpful, use figures to convey your design/procedure. Put all figures at the end of your report. Do not use tables/figures from published articles.

B. Lab group presentation (10%). Using PowerPoint, each lab group will give a 10-minute presentation of their project in lab at the end of term, emphasizing their topic background, research question and rationale, study design and procedure, key prediction and rationale, key results and interpretations, implications, limitations, and future directions, and answer questions thereafter.

C. Lab group report (20%). Each lab group will collaboratively write up an APA-formatted report of their project due via email before midnight after the last lab of the term (April 9th).

The Lab Group Report should build off of the Lab Group Proposal and must include the following:

- *Title Page*. Choose an original and informative title.
- *Abstract (150 words maximum)*. What did you do and why? What did you find? What are your conclusions and implications? Provide a specific, clear, and concise take-home message here.
- *Body (10-12 pages)*. Include all of the following sections (with appropriate levels of subheadings): *introduction, method, results, discussion*. Your report should tell a story and should read like a published brief report in *Psychological Science* or *Psychonomic Bulletin and Review*.
- *References (at least 10 references)*. Reference in text and reference list all cited sources.
- *Tables/Figures (minimum of 1)*. Provide an APA-formatted bar graph of your means with clearly labeled axes. If helpful, use figures to convey your design/procedure. Put all figures at the end of your report. Do not use tables/figures from published articles.

Late assignments: The following penalty will be applied to all written work that is submitted after the due date: 10% of the final grade for the assessment will be deducted for every day late.

Missed presentations: Missed presentations will receive 0% unless an official University medical excuse is provided within 1 week, in which case the weight will be added to another class component chosen by the instructor.

Department of Psychology Criteria for Letter Grades

Psychology professors use the following criteria when assigning letter grades:

A+ grade: *Exceptional Performance*. An A+ grade indicates near perfect performance on multiple choice and short answer exams. For research papers/essays/course projects/presentations, an A+ grade is awarded for exceptional work deserving of special recognition and is therefore not a common grade.

A, A- Range: *Excellent Performance*. Superior understanding of course material. Written work is very strong in terms of critical and original thinking, content, organization, and the expression of ideas, and demonstrates student's thorough knowledge of subject matter.

B Range: *Good Performance*. Above average understanding of course material. Written work shows evidence of critical thinking and attention to organization and editing but could be improved in form and/or content.

C Range: *Satisfactory Performance*. Adequate understanding of course material. Knowledge of basic concepts and terminology is demonstrated. Written work is satisfactory and meets essential requirements but could be improved significantly in form and content. Note: All prerequisites for courses offered by the Faculty of Arts must be met with a minimum grade of C-.

D range: *Marginally meets standards*. Minimal understanding of subject matter. Written work is marginally acceptable and meets basic requirements but requires substantial improvements in form and content. Student has not mastered course material at a level sufficient for advancement into more senior courses in the same or related subjects.

F grade: *Course standards not met*. Inadequate understanding of subject matter. Written work does not meet basic requirements. Student has not demonstrated knowledge of course material at a level sufficient for course credit.

Grading Scale

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|----|---------|----|--------|----|--------|----|--------|
| A+ | 96-100% | B+ | 80-84% | C+ | 67-71% | D+ | 54-58% |
| A | 90-95% | B | 76-79% | C | 63-66% | D | 50-53% |
| A- | 85-89% | B- | 72-75% | C- | 59-62% | F | 0-49% |

As stated in the University Calendar, it is at the instructor's discretion to round off either upward or downward to determine a final grade when the average of term work and final examinations is between two letter grades. To determine final letter grades, final percentage grades will be rounded up or down to the nearest whole percentage (e.g., 89.5% becomes 90% = A, but 89.4% becomes 89% = A-).

Tentative Class Schedule

| Date | Topic/Activity | Reading(s) |
|--------|---|--|
| Jan 11 | Course overview Memory Research Methods Memory Lecture I | |
| Jan 18 | Article presentation dates Memory Lecture II | |
| Jan 25 | Example Article Presentation: Context effects on recognition Memory Lecture III | Bodner & Lindsay, 2003 |
| Feb 1 | Student Presentations/Discussion: Context effects on recognition memory | McCabe & Balota, 2007 Tousignant & Bodner, 2012 Bodner & Richardson-Champion, 2007 |
| Feb 8 | Student Presentations/Discussion: Discrepancy Attribution | Whittlesea & Williams, 2001 Goldinger & Hansen, 2005 Mantonakis, 2012 |
| Feb 15 | Student Presentations/Discussion: The production effect Research Proposal Summaries Due | McLeod, Gopie, Hourihan, Neary, & Ozubko, 2010 Wagner Cook, Kuang Yi Yip, & Goldin-Meadow, 2010 Bodner & Taikh, 2012 |
| Feb 22 | Reading Break – No Class | |
| Mar 1 | Student Presentations/Discussion: The DRM effect | Roediger & McDermott, 1995 Whittlesea, Masson, & Hughes, 2005 Karpicke, McCabe, & Roediger, 2008 |
| Mar 8 | Student Presentations/Discussion: The testing effect | Roediger & Karpicke, 2006 Kornell, Hays, & Bjork, 2009 Smith, Roediger, & Karpicke, 2013 |
| Mar 15 | Student Presentations/Discussion: Levels of processing/Survival processing | Craik & Lockhart, 1972 Burns, Burns, Hwang, 2011 Smeets, Otgaar, Raymaekers, Peters, & Merckelbach, 2012 |
| Mar 22 | No Class | |
| Mar 29 | Student Presentations/Discussion: Consumer memory | Clifasefi, Bernstein, Mantonakis, & Loftus, 2013 Mantonakis, Rodero, Lesschaeve, & Hastie, 2010 Kronlund & Bernstein, 2006 |
| Apr 5 | Student Presentations/Discussion: Task format/instructions Final Research Proposals Due | Mulligan, Besken, & Peterson, 2010 Geraci, McCabe, & Guillory, 2009 McCabe & Geraci, 2009 |

Tentative Lab Schedule

| Date | Lab activity | Suggested Homework |
|--------|---|--|
| Jan 15 | TA outlines the lab component and provides a tutorial on research design and how to create a 2x2 graph. Group members discuss a potential research topic. | Each group member reads a unique set of 3 articles that are related to the potential research topic and creates a short written summary (0.5-1 page single spaced) of each article, noting its relevance to project. |
| Jan 22 | Group members share their readings with the group and groups refine agree on a final research topic with TA's assistance. Groups begin to formalize their research design. | Each group member reads a unique set of 3 articles that are related to the chosen research topic and creates a short written summary of each article, noting its relevance to project. |
| Jan 29 | Group members share their readings with the group and groups refine their research design accordingly with TA's assistance. Groups select the 3 most-relevant articles from the set for all members to read. | Each group member reads the 3 selected articles. |
| Feb 5 | Group members divide up relevant references from the most pertinent article(s) and perform a cited reference search on the most pertinent article(s) and divide up relevant articles. | Groups work on their lab group proposals. |
| Feb 12 | Groups submit their lab group proposals. Groups discuss 3 new articles, choose data collection dates, and design any post-experiment questionnaires. Data collection dates assigned Lab Group Proposals Due | Groups prepare their testing protocols and post-experiment questionnaires for TA. |
| Feb 26 | Groups walk TA through their testing protocols and post-experiment questionnaires. | Final preparations for data collection. Groups work on draft of their Introduction and Method sections. |
| Mar 5 | Lab group data collection 1. | Group 1s code and analyze their data. |
| Mar 12 | Lab group data collection 2. | Group 1s draft their Results section. Group 2s code and analyze their data. |
| Mar 19 | Groups discuss and finalize their data analysis and interpretation. | Group 1s draft their Discussion section. Group 2s draft their Results section. |
| Mar 26 | Groups discuss and finalize their data analysis and interpretation. | Group 2s draft their Discussion section. |
| Apr 2 | Lab Group Presentations. | Groups finalize their lab group reports and presentations. |
| Apr 9 | Lab Group Presentations. Lab group reports and lab contributions documents due by midnight via email. | |

Reappraisal of Grades

A student who feels that a piece of graded term work (e.g., term paper, essay, test) has been unfairly graded, may have the work re-graded as follows. The student shall discuss the work with the instructor within 15 days of being notified about the mark or of the item's return to the class; no reappraisal of term work is permitted after the 15 days. If not satisfied, the student shall immediately take the matter to the Head of the department offering the course, who will arrange for a reassessment of the work within the next 15 days. The reappraisal of term work may cause the grade to be raised, lowered, or to remain the same. If the student is not satisfied with the decision and wishes to appeal, the student shall address a letter of appeal to the Dean of the faculty offering the course within 15 days of the unfavourable decision. In the letter, the student must clearly and fully state the decision being appealed, the grounds for appeal, and the remedies being sought, along with any special circumstances that warrant an appeal of the reappraisal. The student should include as much written documentation as possible.

Plagiarism and Other Academic Misconduct

Intellectual honesty is the cornerstone of the development and acquisition of knowledge and requires that the contribution of others be acknowledged. Consequently, plagiarism or cheating on any assignment is regarded as an extremely serious academic offense. Plagiarism involves submitting or presenting work in a course as if it were the student's own work done expressly for that particular course when, in fact, it is not. Students should examine sections of the University Calendar that present a Statement of Intellectual honesty and definitions and penalties associated with Plagiarism/Cheating/Other Academic Misconduct.

Academic Accommodation

It is the student's responsibility to request academic accommodations. If you are a student with a documented disability who may require academic accommodation and have not registered with the Disability Resource Centre, please contact their office at 403-220-8237. Students who have not registered with the Disability Resource Centre are not eligible for formal academic accommodation. You are also required to discuss your needs with your instructor no later than 14 days after the start of this course.

Absence From A Test/Exam

Makeup tests/exams are NOT an option without an official University medical excuse (see the University Calendar). A completed Physician/Counselor Statement will be required to confirm absence from a test/exam for health reasons; the student will be required to pay any cost associated with this Statement. Students who miss a test/exam have 48 hours to contact the instructor and to schedule a makeup test/exam. Students who do not schedule a makeup test/exam with the instructor within this 48-hour period forfeit the right to a makeup test/exam. At the instructor's discretion, a makeup test/exam may differ significantly (in form and/or content) from a regularly scheduled test/exam. Except in extenuating circumstances (documented by an official University medical excuse), a makeup test/exam must be written within 2 weeks of the missed test/exam.

Travel During Exams

Consistent with University regulations, students are expected to be available to write scheduled exams at any time during the official December and April examination periods. Requests to write a make-up exam because of conflicting travel plans (e.g., flight bookings) will NOT be considered except under exceptional circumstances. Students are advised to wait until the final examination schedule is posted before making any travel arrangements.

Freedom of Information and Protection of Privacy (FOIP) Act

The FOIP legislation disallows the practice of having student's retrieve tests and assignments from a public place. Therefore, tests and assignments may be returned to students during class/lab, or during office hours, or via the Department Office (Admin 275), or will be made available only for viewing during exam review sessions scheduled by the Department. Tests and assignments will be shredded after one year. Instructors should take care to not link students' names with their grades, UCIDs, or other FOIP-sensitive information.

Student Organizations

Psychology students may wish to join the Psychology Undergraduate Students' Association (PSYCHS). They are located in Administration 170 and may be contacted at 403-220-5567.

Student Union VP Academic: Phone: 403-220-3911 suypaca@ucalgary.ca
Student Union Faculty Rep.: Phone: 403-220-3913 socialscirep@su.ucalgary.ca

Student Ombudsman's Office

The Office of the Student Ombudsmen provides independent, impartial and confidential support for students who require assistance and advice in addressing issues and concerns related to their academic careers. The office can be reached at 403-220-6420 or ombuds@ucalgary.ca (<http://www.su.ucalgary.ca/services/student-services/student-rights.html>).

Important Dates

The last day to drop this course with no "W" notation and **still receive a tuition fee refund** is **January 17th, 2014**. Last day for registration/change of registration is **January 20th, 2014**. The last day to withdraw from this course is **April 14th, 2014**.