# University of WaterlooDepartment of PsychologyPSYCH 390Memory StrategiesWinter 2021

## Instructor and T.A. Information

Instructor: Daniel Todorovic

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## Course Description

The goal of this course is to introduce students to memory research regarding encoding and retrieval strategies. Readings consist of a variety of memory studies using a large number of different research paradigms. Students will learn how to prepare, develop, and create their own experimental research, as well as how to collect data and report their findings to their peers. In lieu of quizzes or exams, students will be expected to participate in both synchronous and asynchronous discussions.

## Course Goals and Learning Outcomes

Upon completion of this course, students should be able to:

1. Demonstrate knowledge of major theories in memory research.
2. Demonstrate the ability to comprehend and analyze primary source articles in memory research, and extend those findings in novel ways.
3. Demonstrate the ability to think critically and communicate information to their peers.

## Course Requirements and Assessment

| Assessment  | Date of Evaluation | Weighting |
| --- | --- | --- |
| Online discussions | Weekly | 10% |
| Live discussions | Weekly | 10% |
| Experiment proposal | February 5 | 10% |
| Experiment assignment | March 1 | 25% |
| Experiment poster presentation | March 26 | 20% |
| Written article | April 10 | 25% |
| Total |  | 100% |

## Required Text

* None

## Readings Available on LEARN

All required readings for the course are academic journal articles and are available on LEARN.

### Online Discussions (10%)

There will be weekly online discussions accompanying the course readings. These readings are assigned on the Monday of a given week, and the online discussion posts are due by 11:59pm of the following Sunday. These discussions will take place on LEARN. You can choose to make your own post discussing the assigned readings or comment on someone else’s post, but you must make a post about all readings assigned that week. These posts must show evidence of thoughtful consideration of what was written in that week’s readings. Each discussion is worth 1% of the grade, but only 10 out of the 11 discussions will be considered toward your grade (if you miss one week, for example, that week will not be counted).

### Live Discussions (10%)

The live discussions are an endeavor to have meaningful communication with your peers and instructors. As the name implies, these discussions are live through web conferencing programs (most likely Teams). In the first week of class, we will have a poll to determine everyone’s availability, then everyone will be divided into groups depending on their availability. Each group will meet with the instructor or the TA every week and discuss the readings. Once you decide on your availability, it is your responsibility to attend the meetings. You will be expected to contribute to the discussion in some meaningful way, evidencing an understanding of the text and the issues involved. Like the online discussions, only 10 out of the 11 live discussions will be counted toward your grade.

### Experiment Proposal (10%)

As the primary goal of this course is for students to be able to develop their own experiment, students will first need to submit a proposal for approval. This proposal should focus on phenomena that impact memory encoding or retrieval processes, for example the Stroop effect or the production effect, etc. Any topic included in the weekly readings is fair game, although you are not limited to these topics. This proposal should cover as many relevant methodological details as possible. You should consider what sample size would be appropriate, what kind of stimuli or tests you want to incorporate, your independent and dependent variables, your hypotheses, etc. This should be no more than 3 pages long. More information will be made available through LEARN.

### Experiment Assignment (25%)

After receiving approval for your proposal, you will create an experiment. We will be using PsychoPy, a free psychology software tool. There will be labs explaining how to use PyschoPy, and you will be expected to install PsychoPy on your computer and create your own experiment. You will be required to submit your experiment before collecting data. The experiment that you develop should be able to test your hypothesis and should be methodologically sound. You will want to make sure that the experiment works, that all your materials are being displayed correctly, that the instructions are clear and concise, that all necessary data are being properly saved and stored, and that there are as few methodological problems as possible. More information will be made available through LEARN.

### Experiment Poster Presentation (20%)

After you have collected data for your experiment, you will present your experiment in the form of a poster. Posters are useful to portray your research and findings in conferences. I will provide an example of how to make a poster in class. The poster presentation should cover a brief literature review, the methods employed in the experiment, the results, and an interpretation of the results and discussion of limitations and future directions. The poster should also be visually appealing and not confusing to observers. Also, there is nothing wrong if your experiment failed to find any significant effects – these things inevitably happen in research. In this case just report your null effects and discuss why there wasn’t an effect, what you can do to change that, etc.

### Written Article (25%)

For this assignment, you will choose an academic journal article and have it approved by the instructor or TA. The article you choose cannot be one of the weekly readings, but can be part of the same body of literature. The article should be experimental in nature, not a review or meta-analysis. For this assignment, you should write a brief summary of the article (including the phenomenon being investigated, the methods, and the principal findings) as well as an extension for future possible research. Both the summary and extension should be no more than 2 double-spaced pages each. Please try to get approval for your article at least 2 weeks before it is due, as there is no guarantee that the instructor or TA will be able to approve your article immediately.

## Course Outline

Online discussion posts for all readings are due by the end of the Sunday at the beginning of that week. For example, the first reading discussion is due by 11:59pm on January 17. Although there are some lectures, the live discussions are the primary teaching method of the course.

| **Week** | **Date** | **Topic** | **Readings Due** |
| --- | --- | --- | --- |
| 1 | Jan 11-15 | Introduction | None |
| 2 | Jan 18-22 | Memory | Tulving, 1967 |
| 3 | Jan 25-29 | Methods 1 | Godden & Baddeley, 1975Weldon & Roediger, 1987 |
| 4 | Feb 1-5 | Methods 2 | Serra & Nairne, 1993Russ, Mack, Grama, Lanfermann, & Knopf, 2003 |
| 5 | Feb 8-12 | Methods 3 | Appleton-Knapp, Bjork, & Wickens, 2005Bower & Karlin, 1974 |
| 6 | Feb 15-19 | **Reading Week** | None |
| 7 | Feb 22-26 | Getting Data | Symons & Johnson, 1997 |
| 8 | Mar 1-5 |  | Forrin, Groot, & MacLeod, 2016 |
| 9 | Mar 8-12 |  | Chee & Goh, 2018Toyota, 2013 |
| 10 | Mar 15-19 |  | Nairne, Thompson, & Pandeirada, 2007Gopie & MacLeod, 2009 |
| 11 | Mar 22-26 |  | McDaniel, Einstein, DeLosh, May, & Brady, 1995 |
| 12 | Mar 29-Apr 2 | Poster presentations | Sahakyan & Kelley, 2002Earles & Kersten, 2002  |
| 13 | Apr 5-9 | Poster presentations | Benoit & Anderson, 2012 Raaijmakers & Jakab, 2012 |

## Late Work

All work is due by 11:59pm of the date specified. Any discussion posts submitted after the Sunday on which they’re due will not be accepted. If you miss a live discussion, you will not receive points for participation in that discussion. As for the assignments, they will be accepted up to a week late, but each day late reduces 5% from that assignment’s grade from it’s total out of 100%. If you cannot submit an assignment in time, please contact the instructor or TA before the due date.

## Attendance Policy

You are expected to attend all live discussion sessions that you are signed up for. Failure to show up to a live discussion will mean you will not be credited for participating or contributing to that discussion. If you know that you cannot show up for a live discussion, please contact the instructor or TA ahead of time if possible.

## Institutional-required statements for undergraduate course outlines approved by Senate Undergraduate Council, April 14, 2009

### Academic Integrity

In order to maintain a culture of academic integrity, members of the University of Waterloo are expected to promote honesty, trust, fairness, respect and responsibility. Check the [Office of Academic Integrity webpage](https://uwaterloo.ca/academic-integrity/) for more information.

### Discipline

A student is expected to know what constitutes academic integrity, to avoid committing academic offences, and to take responsibility for their actions. Check [the Office of Academic Integrity](https://uwaterloo.ca/academic-integrity/) for more information. A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (e.g., plagiarism, cheating) or about “rules” for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. When misconduct has been found to have occurred, disciplinary penalties will be imposed under Policy 71 – Student Discipline. For information on categories of offenses and types of penalties, students should refer to [Policy 71 - Student Discipline](https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-71). For typical penalties check [Guidelines for the Assessment of Penalties](https://uwaterloo.ca/secretariat/policies-procedures-guidelines/guidelines/guidelines-assessment-penalties).

### Concerns about a Course Policy or Decision

Informal Stage. We in the Psychology Department take great pride in the high quality of our program and our instructors. Though infrequent, we know that students occasionally find themselves in situations of conflict with their instructors over course policies or grade assessments. If such a conflict arises, the Associate Chair for Undergraduate Affairs (Richard Eibach) is available for consultation and to mediate a resolution between the student and instructor: Email: reibach@uwaterloo.ca; Ph 519-888-4567 ext. 38790

### Grievance

A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read [Policy 70 - Student Petitions and Grievances](https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-70), Section 4. When in doubt, please be certain to contact Richard Eibach, the Associate Chair for Undergraduate Affairs who will provide further assistance; reibach@uwaterloo.ca.

### Appeals

A decision made or penalty imposed under Policy 70 - Student Petitions and Grievances (other than a petition) or Policy 71 - Student Discipline may be appealed if there is a ground. A student who believes they have a ground for an appeal should refer to [Policy 72 - Student Appeals](https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-72).

### Note for Students with Disabilities

The [AccessAbility Services](https://uwaterloo.ca/disability-services/) office, located on the first floor of the Needles Hall extension (NH 1401), collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the AS office at the beginning of each academic term.

### If Using Turnitin in your Course

**Turnitin.com:** Text matching software (Turnitin®) may be used to screen assignments in this course. Turnitin® is used to verify that all materials and sources in assignments are documented. Students' submissions are stored on a U.S. server, therefore students must be given an alternative (e.g., scaffolded assignment or annotated bibliography), if they are concerned about their privacy and/or security. Students will be given due notice, in the first week of the term and/or at the time assignment details are provided, about arrangements and alternatives for the use of Turnitin in this course.

It is the responsibility of the student to notify the instructor if they, in the first week of term or at the time assignment details are provided, wish to submit alternate assignment.

## Faculty of Arts-required statements for undergraduate course outlines

### Cross-listed Course (if applicable)

Please note that a cross-listed course will count in all respective averages no matter under which rubric it has been taken. For example, a PHIL/PSCI cross-list will count in a Philosophy major average, even if the course was taken under the Political Science rubric.

### Accommodation for course requirements for Psychology courses.

 *Policies of the Psychology department pertaining to course requirements are available on the* [*department website*](https://uwaterloo.ca/psychology/current-psychology-undergraduate-students/policies)*.*

# Chosen/Preferred First Name

Do you want professors and interviewers to call you by a different first name? Take a minute now to verify or tell us your chosen/preferred first name by logging into [WatIAM](https://idm.uwaterloo.ca/watiam/).

Why? Starting in winter 2020, your chosen/preferred first name listed in WatIAM will be used broadly across campus (e.g., LEARN, Quest, WaterlooWorks, WatCard, etc). Note: Your legal first name will always be used on certain official documents. For more details, visit [Updating Personal Information](https://uwaterloo.ca/the-centre/updating-personal-information).

**Important notes**

* If you included a preferred name on your OUAC application, it will be used as your chosen/preferred name unless you make a change now.
* If you don’t provide a chosen/preferred name, your legal first name will continue to be used.

# Mental Health Support

All of us need a support system. The faculty and staff in Arts encourage students to seek out mental health support if they are needed.

**On Campus**

***Due to COVID-19 and campus closures, services are available only online or by phone.***

* Counselling Services:  counselling.services@uwaterloo.ca / 519-888-4567 ext. 32655
* [MATES](https://wusa.ca/services/uw-mates):  one-to-one peer support program offered by the Waterloo Undergraduate Student Association (WUSA) and Counselling Services

**Off campus, 24/7**

* [Good2Talk](https://good2talk.ca/):  Free confidential help line for post-secondary students. Phone: 1-866-925-5454
* Grand River Hospital: Emergency care for mental health crisis. Phone: 519-749-4300 ext. 6880
* [Here 24/7](https://here247.ca/): Mental Health and Crisis Service Team. Phone: 1-844-437-3247
* [OK2BME](https://ok2bme.ca/): set of support services for lesbian, gay, bisexual, transgender or questioning teens in Waterloo.  Phone: 519-884-0000 extension 213

Full details can be found online on the Faculty of Arts [website](https://uwaterloo.ca/arts/get-mental-health-support-when-you-need-it)

Download [UWaterloo and regional mental health resources (PDF)](https://uwaterloo.ca/arts/sites/ca.arts/files/uploads/files/counselling_services_overview_002.pdf)

Download the [WatSafe app](https://uwaterloo.ca/watsafe/) to your phone to quickly access mental health support information.

# Territorial Acknowledgement

We acknowledge that we are living and working on the traditional territory of the Attawandaron (also known as Neutral), Anishinaabe and Haudenosaunee peoples. The University of Waterloo is situated on the Haldimand Tract, the land promised to the Six Nations that includes ten kilometres on each side of the Grand River.

For more information about the purpose of territorial acknowledgements, please see the [CAUT Guide to Acknowledging Traditional Territory](https://www.caut.ca/content/guide-acknowledging-first-peoples-traditional-territory).

# Academic freedom at the University of Waterloo

[Policy 33, Ethical Behaviour](https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-33) states, as one of its general principles (Section 1), “The University supports academic freedom for all members of the University community. Academic freedom carries with it the duty to use that freedom in a manner consistent with the scholarly obligation to base teaching and research on an honest and ethical quest for knowledge. In the context of this policy, 'academic freedom' refers to academic activities, including teaching and scholarship, as is articulated in the principles set out in the Memorandum of Agreement between the FAUW and the University of Waterloo, 1998 (Article 6). The academic environment which fosters free debate may from time to time include the presentation or discussion of unpopular opinions or controversial material. Such material shall be dealt with as openly, respectfully and sensitively as possible.” This definition is repeated in Policies 70 and 71, and in the Memorandum of Agreement, Section 6

**Sona Participation and Research Experience Marks
Information and Guidelines**

Experiential learning is considered an integral part of the undergraduate program in Psychology. Research participation is one example of this, article review is another. A number of undergraduate courses have been expanded to include opportunities for Psychology students to earn grades while gaining research experience.

Since experiential learning is highly valued in the Department of Psychology, students may earn a **"bonus" grade of up to 3%** in this course through research experience. Course work will make up 100% of the final mark and a "bonus" of up to 3% may be earned and will be added to the final grade if/as needed to bring your final grade up to 100%.

The two options for earning research experience grades; participation in research through online and remotely operated (replacing in-lab) studies, and article review; are described below. Students may complete any combination of these options to earn research experience grades.

**Option 1: Participation in Psychology Research**

Research participation is coordinated by the Research Experiences Group (REG). Psychology students may volunteer as research participants in remotely operated (replaces in-lab) and/or online (web-based) studies conducted by students and faculty in the Department of Psychology. Participation enables students to learn first-hand about psychology research and related concepts. Many students report that participation in research is both an educational and interesting experience. Please be assured that all Psychology studies have been reviewed and received ethics clearance through a University of Waterloo Research Ethics Committee.

***How to earn extra marks for your Psychology course(s) this term by participating in studies ...***

* You will earn "credits" which will be converted to "marks" (1 credit = 1%)
* You can schedule your remotely operated (replacing in-lab) and ONLINE studies using the "Sona" website.
* **FOR THE WINTER 2021 TERM ALL OF YOUR CREDITS** can be earned through ONLINE AND REMOTELY/ ONLINE OPERATED (replacing in-lab) studies.

***Educational focus of participation in research***

To maximize the educational benefits of participating in research, students will receive feedback information following their participation in each study detailing the following elements:

* Purpose or objectives of the study
* Dependent and independent variables
* Expected results
* References for at least two related research articles
* Provisions to ensure confidentiality of data
* Contact information of the researcher should the student have further questions about the study
* Contact information for the Director of the Office of Research Ethics should the student wish to learn more about the general ethical issues surrounding research with human participants, or specific questions or concerns about the study in which s/he participated.

Participation in remotely operated (replaces in-lab) studies has increment values of 0.75 participation credits (grade percentage points) for each 30-minutes of participation. Participation in ONLINE studies is worth .25 credits for each 15-minutes of participation. Researchers will record student’s participation and at the end of the term the REG Coordinator will provide the course instructor with a credit report of the total credits earned by each student.

***How to participate?***

**Study scheduling, participation and grade assignment is managed using the SONA online system. All students enrolled in this course have been set up with a SONA account.  You must get started early in the term.**

**For instructions on how to log in to your SONA account and for a list of important dates and deadlines please, as soon as possible, go to:**

[Participating/SONA information: How to log in to Sona and sign up for studies](https://uwaterloo.ca/research-experiences-group/welcome-research-experiences-group-and-sona/sona-information)

*\*\*\* Please do not ask the Course Instructor or REG Coordinator for information unless you have first thoroughly read the information provided on this website.\*\*\**

More information about the REG program in general is available at:
[Sona Information on the REG Participants website](https://uwaterloo.ca/research-experiences-group/welcome-research-experiences-group-and-sona/sona-information) or you can check the [Sona FAQ on the REG website homepage](https://uwaterloo.ca/research-experiences-group/sites/ca.research-experiences-group/files/uploads/files/sona_faq_for_fall_2019.pdf) for additional information.

**Option 2: Article Review as an alternative to participation in research**

Students are not required to participate in research, and not all students wish to do so. As an alternative, students may opt to gain research experience by writing short reviews (1½ to 2 pages) of research articles relevant to the course. The course instructor will specify a suitable source of articles for this course (i.e., scientific journals, newspapers, magazines, other printed media). *You must contact your TA to get approval for the article you have chosen before writing the review.* Each review article counts as one percentage point. To receive credit, you must follow specific guidelines. The article review must:

* **Be submitted before the** [last day of lectures](http://www.quest.uwaterloo.ca/undergraduate/dates.html)**. Late submissions will NOT be accepted under ANY circumstances.**
* Be typed
* Fully identify the title, author(s), source and date of the article. A copy of the article must be attached.
* Identify the psychological concepts in the article and indicate the pages in the textbook that are applicable. Critically evaluate the application or treatment of those concepts in the article. If inappropriate or incorrect, identify the error and its implications for the validity of the article. You may find, for example, misleading headings, faulty research procedures, alternative explanations that are ignored, failures to distinguish factual findings from opinions, faulty statements of cause-effect relations, errors in reasoning, etc. Provide examples whenever possible.
* Clearly evaluate the application or treatment of those concepts in the article.
* Keep a copy of your review in the unlikely event we misplace the original.