

# CGSC 3908A: Honours Seminar in Cognitive Science

## Course Outline

### Fall 2022

*Gratefully adapted from the previous course outline provided by Dr. Olessia Jouravlev.*  
Last revised: 26 August 2022

#### Class Information

Lecture and tutorial dates: Tuesday, Sept. 13 – Wednesday, Dec. 7, 2022  
Lecture time: Tuesdays, 8:35am – 11:25am (synchronous)  
Tutorial time: Wednesdays, 11:35am – 2:25pm (synchronous)  
Location: Dunton Tower (DT) 2203  
Course prerequisites: Third year standing, CGSC 2001 and CGSC 2002, and enrolment in B.Cog.Sc. Honours with a CGPA in the major requirements of 8.0. Precludes additional credit for CGSC 3001 (no longer offered) and CGSC 3002 (no longer offered).  
Course website: Brightspace

#### Instructor Information

Name: Arthur Hamilton  
Office: Dunton Tower (DT) 2224  
E-mail: arthurhamilton@cmail.carleton.ca (emails will only be answered if they come from a Carleton email address)  
Office phone: N/A  
Office hours: Thursdays, 1:30pm – 3:30pm; can also meet via Zoom by appointment

#### Teaching Assistant(s)

Name: Zach Savelson  
E-mail: zachsavelson@cmail.carleton.ca (emails will only be answered if they come from a Carleton email address)  
Office hours: N/A

#### Course Description

The main goal of this course is to prepare you to conduct research for your Honours Thesis or Honours Project. In small groups, you will conduct a small research project from start to finish, culminating in the completion of an APA-style research paper. This course will give you the opportunity to do the following:

1. Identify relevant academic literature through searches of databases.
2. Conduct critical analysis of research papers on various cognitive science topics.
3. Gain an understanding of ethics in research and the process of obtaining research ethics approval.
4. Design a study, recruit research participants, and collect experimental data.
5. Conduct basic descriptive and inferential statistics in JASP.
6. Write an APA-style research paper and present a poster presentation like at an academic conference.

#### Readings

##### *Required*

Selected journal articles. These will all be available through Brightspace. The readings are organized by week.

### Recommended

- American Psychological Association. (2020). *Publication manual of the American psychological association* (7th ed.). <https://doi.org/10.1037/0000165-000> Available here: <https://apastyle.apa.org/products/publication-manual-7th-edition>. You can also access the highlights of APA format at: [https://owl.purdue.edu/owl/research\\_and\\_citation/apa\\_style/apa\\_style\\_introduction.html](https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_style_introduction.html)
- Strunk, W. Jr. & White, E. B. (2000). *The elements of style* (4th ed.). Allyn & Bacon. This handy little book will help you become a better writer.
- Northey, M., & Timney, B. (2012). *Making sense in psychology: A student's guide to research and writing*. Oxford University Press.

### Course Web Page (Brightspace)

The course website is located at <https://brightspace.carleton.ca/>

On this site, you will find the course outline, schedule, grading rubrics, assigned readings, and useful links. We will use the discussion forum to post questions on assigned readings. You will also submit all your assignments online on Brightspace.

### Students with Disabilities

Students registered with the Paul Menton Centre should contact me as soon as possible so that appropriate accommodations can be put in place. Notifying me early on will help ensure that I can provide all students with the opportunity to participate fully in the course. More details are found near the bottom of the syllabus.

### Evaluation

Category	Item	Weight of grade	Due date
Class discussion	Seminar attendance and participation	15	Ongoing
	Discussion lead (once)	10	Sept 20 – Nov 29
Research project	Description of experimental design	5	September 28
	Ethics application	5	October 5
	Introduction (draft)	10	October 12
	Introduction (peer review)	10	November 2
	Methods and results	10	November 23
	Poster presentation (group mark)	10	December 6
	Full research paper (draft – OPTIONAL)	N/A	December 9
	Full research paper (final version)	25	December 22

### Seminar and Tutorial Schedules

Below are two schedules: the schedule for the seminar sessions followed by the schedule for the tutorial sessions. You can see the scheduled topic for the seminar session and the tutorial session for each week below; the schedules should be regarded as tentative, but I will make a strong effort to provide advanced notice should any adjustments be necessary.

#### Seminar Schedule

The following are the topics of the seminar sessions. We will critically analyse research papers on various cognitive science topics (indicated with *italics*) with the goal of becoming familiar with the research paper format. We will also cover various aspects of research design (indicated without *italics*).

Date	Seminar topic	Readings
September 13	Introductions; research ideas and hypotheses; reviewing literature	
September 20	Variables and measures; <i>visual perception</i>	@Brightspace
September 27	Within- and between-subjects designs; <i>attention</i>	@Brightspace
October 4	Experimental design	
October 11	Sampling; <i>memory</i>	@Brightspace
October 18	Data analysis; <i>language</i>	@Brightspace
October 25	<b>WINTER BREAK</b>	
November 1	<i>Decision making</i>	@Brightspace
November 8	<b>NO CLASS – DATA COLLECTION</b>	
November 15	<i>Emotion</i>	@Brightspace
November 22	<i>Neurodiverse populations</i>	@Brightspace
November 29	<i>Comparative cognition</i>	@Brightspace
December 6	Student poster presentations	

### Tutorial Schedule

The following are the topics that will be covered in the tutorial. Keep in mind that the purpose of the tutorial is to provide support, advice, and relevant skills as you are working on your research project.

Date	Tutorial topic	Due
September 7	<b>NO TUTORIAL</b>	
September 14	Research ethics	
September 21	APA style; experimental design	Ethics certificate
September 28	Introduction, method, references; experimental design (cont.)	Description of experimental design
October 5	Writing lab	Ethics application
October 12	Writing lab	Introduction
October 19	Data collection; data analysis	
October 26	<b>WINTER BREAK</b>	
November 2	Results, discussion; data analysis (cont.)	Peer review
November 9	Data analysis (cont.); writing lab	
November 16	Writing lab	
November 23	Poster preparation	Method and results
November 30	Poster preparation (cont.)	
December 7	Writing lab	

In addition to the items due that are listed in the tutorial schedule, the final paper is due on December 22, the last day of classes at Carleton for the semester.

## Submitting Assignments

For this course, **all coursework must be submitted through Brightspace**. All items can be submitted at any time up to 11:59pm on their respective due dates.

Late assignments will be penalized at a rate of 5% of the assignment value per day or part day. To be fair to all students, there will be no grace period after the deadline. Therefore, it is strongly recommended that you upload and submit the document prior to the last few minutes before the deadline. To be considered official, all extensions must be obtained in writing from the instructor. If you are running into trouble, please come to me (or the teaching assistant) early on so that we can assist you in getting back on track.

## Email Policy

When emailing the instructor or the TA, you must use your Carleton email address, as is required by the university. Please indicate in the subject heading of your email that your question concerns CGSC 3908. We will answer all emails within 48 hours. Avoid sending last-minute emails as we may not have a chance to reply in time. You can also post on the course discussion board. Questions on the discussion board will be answered within 48 hours as with emails and, in addition, your classmates might be able to give suggestions.

## Class Participation and Attendance

Seminar meetings will typically start with an introductory lecture on a domain of cognitive science research and experimental methods. Most seminar sessions will then feature a brief presentation by a Carleton faculty member on their research; this is a great opportunity for you to become familiar with the different labs in the department and to ask questions to the presenter. Next, there will be a discussion of the week's assigned reading if there is one, directed by that week's discussion leader(s) (see below). This experience of reading and critically analysing papers will help build your familiarity with the research paper format that you will be using for the research project in this course.

To facilitate in-class discussions, there are four formal participation requirements:

1. Read the week's assigned article before coming to class.
2. Submit a discussion question via Brightspace by the end of each Monday (except on the week you lead the discussion).
3. Lead a class discussion once during the term.
4. Attend and actively participate in every class.

The next two sections provide further details about leading and participating in the discussion, respectively. Keep in mind that, as shown above, these requirements will together account for 25% of your final grade.

## Leading Discussion

Each seminar that has an assigned research paper will feature one or more students (usually two) who will lead the section of the seminar covering the research paper. The discussion leader(s) will have 30 minutes maximum for their presentation and 30 minutes maximum for its discussion.

When presenting a paper, the discussion leader(s) should introduce a research question raised in the assigned paper, describe examined hypotheses, describe methodology, cover key findings, discuss theoretical and practical implications. They are **also required to present at least one related article that was not assigned** for reading to broaden the discussion. You may draw on articles that are cited by or cite the assigned reading. The presentation of a paper will be followed by its discussion. The discussion leader(s) will use the discussion

questions that students submitted to Brightspace to stimulate debate, and to coordinate the involvement of all students in active engagement with the major issues raised by assigned readings.

### Discussion Participation

All students are expected to actively participate in class discussions. By the end of Monday (on weeks for which there is an assigned research paper), you must submit one question to the 'Discussion Board' forum on Brightspace for the assigned week. Questions for clarification are permissible, but ideally you will offer a question that leads to exploration and debate. Following your submission, you are encouraged to read what other students have posted. See Brightspace for a document giving advice on how to come up with good questions about research papers.

For each seminar class, your class participation will be assessed on a four-point scale:

- 4 – Class engagement was sustained (4 or more substantive contributions to the discussion)
- 3 – Class engagement was adequate (2-3 substantive contributions to the discussion)
- 2 – Class engagement was minimal (1 substantive contribution to the discussion)
- 1 – A question was submitted on Brightspace but did not participate in the discussion
- 0 – No evidence that you read the articles / absent

Participation grades will be assigned weekly to provide timely feedback; one or two poor marks will not significantly damage a final participation grade. Students missing class for a legitimate reason should still submit a question to the Discussion Board. The *one absence rule* means that I will drop the lowest of the eight weekly participation marks.

### Tutorial Participation

Tutorial sessions are compulsory and will be held on Wednesdays in the same room as the seminar sessions. The teaching assistant will conduct the tutorials. The purpose of the tutorial sessions is to help you gain the skills you will use for the research project and support you as you undertake the project.

### Ethics Training

Students are required to complete the TCPS 2: CORE-2022 online ethics tutorial. You will need to create an account; please use your Carleton email address when you are completing the tutorial. When you have finished it, you will need to submit a copy of your completion certificate together with your ethics application for your research project (on September 28). You can access the ethics tutorial by clicking the following link: <https://tcps2core.ca/welcome>

### Research Project

The centrepiece of the course will be designing, executing, and writing up your own empirical research project. Although not all students will end up doing empirical work as part of their Honours Thesis, everyone will read empirical articles – and the best way to learn about the process of empirical science is to try doing it yourself! A list of potential topics for your experiment will be provided. You will form small groups of 4-5 people and choose a topic. Various aspects of methodology, design, ethics, data collection, and so on will be discussed in the tutorials and seminar sessions so that everyone is prepared to complete the project.

You will design your experiment, collect data, and perform statistical analyses as a group. Nonetheless, **each written component must be submitted individually by each student**. For certain components, it is perfectly acceptable for different group members to make submissions that are partially or entirely the same (i.e., you can just change the name and student number). For other components, this is NOT allowed. Further

information about the different components of the research project, including rubrics, will be made available on Brightspace.

## REGULATIONS AND INFORMATION COMMON TO ALL COGNITIVE SCIENCE COURSES

### Grading system

In accordance with the Carleton University Undergraduate Calendar (p 34), the letter grades assigned in this course will have the following percentage equivalents:

A+ = 90-100	B+ = 77-79	C+ = 67-69	D+ = 57-59
A = 85-89	B = 73-76	C = 63-66	D = 53-56
A - = 80-84	B - = 70-72	C - = 60-62	D - = 50-52
F = Below 50			

Grades entered by Registrar:

WDN = Withdrawn from the course

DEF = Deferred

### Plagiarism

The University Academic Integrity Policy defines plagiarism as “*presenting, whether intentionally or not, the ideas, expression of ideas or work of others as one’s own.*” This includes reproducing or paraphrasing portions of someone else’s published or unpublished material, regardless of the source, and presenting these as one’s own without proper citation or reference to the original source. Examples of sources from which the ideas, expressions of ideas or works of others may be drawn from include but are not limited to: books, articles, papers, literary compositions and phrases, performance compositions, chemical compounds, artworks, laboratory reports, research results, calculations and the results of calculations, diagrams, constructions, computer reports, computer code/software, material on the internet and/or conversations.

Examples of plagiarism include, but are not limited to:

- any submission prepared in whole or in part, by someone else;
- using ideas or direct, verbatim quotations, paraphrased material, algorithms, formulae, scientific or mathematical concepts, or ideas without appropriate acknowledgment in any academic assignment;
- using another’s data or research findings without appropriate acknowledgement;
- submitting a computer program developed in whole or in part by someone else, with or without modifications, as one’s own; and
- failing to acknowledge sources through the use of proper citations when using another’s work and/or failing to use quotations marks.

Plagiarism is a serious offence that cannot be resolved directly by the course’s instructor. The Associate Dean of the Faculty conducts a rigorous investigation, including an interview with the student, when an instructor suspects a piece of work has been plagiarized. Penalties are not trivial. They can include a final grade of “F” for the course.

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## Statement on Student Mental Health

As a university student you may experience a range of mental health challenges that significantly impact your academic success and overall well-being. If you need help, please speak to someone. There are numerous resources available both on- and off-campus to support you. Here is a list that may be helpful:

**Emergency Resources (on and off campus):** <https://carleton.ca/health/emergencies-and-crisis/emergency-numbers/>

### Carleton Resources:

- Mental Health and Wellbeing: <https://carleton.ca/wellness/>
- Health & Counselling Services: <https://carleton.ca/health/>
- Paul Menton Centre: <https://carleton.ca/pmc/>
- Academic Advising Centre (AAC): <https://carleton.ca/academicadvising/>
- Centre for Student Academic Support (CSAS): <https://carleton.ca/csas/>
- Equity & Inclusivity Communities: <https://carleton.ca/equity/>

### Off Campus Resources:

- Distress Centre of Ottawa and Region: (613) 238-3311 or TEXT: 343-306-550, <https://www.dcottawa.on.ca/>
- Mental Health Crisis Service: (613) 722-6914, 1-866-996-0991, <http://www.crisisline.ca/>
- Empower Me: 1-844-741-6389, <https://students.carleton.ca/services/empower-me-counselling-services/>
- Good2Talk: 1-866-925-5454, <https://good2talk.ca/>
- The Walk-In Counselling Clinic: <https://walkincounselling.com>

## Statement on Pandemic Measures

It is important to remember that COVID is still present in Ottawa. The situation can change at any time and the risks of new variants and outbreaks are very real. There are [a number of actions you can take](#) to lower your risk and the risk you pose to those around you including being vaccinated, wearing a mask, staying home when you're sick, washing your hands and maintaining proper respiratory and cough etiquette.

**Feeling sick?** Remaining vigilant and not attending work or school when sick or with symptoms is critically important. If you feel ill or exhibit COVID-19 symptoms do not come to class or campus. If you feel ill or exhibit symptoms while on campus or in class, please leave campus immediately. In all situations, you should follow Carleton's [symptom reporting protocols](#).

**Masks:** Masks are no longer mandatory in university buildings and facilities. However, we continue to recommend masking when indoors, particularly if physical distancing cannot be maintained. We are aware that personal preferences regarding optional mask use will vary greatly, and we ask that we all show consideration and care for each other during this transition.

**Vaccines:** While proof of vaccination is no longer required to access campus or participate in in-person Carleton activities, it may become necessary for the University to bring back proof of vaccination requirements on short notice if the situation and public health advice changes. Students are strongly encouraged to get a full course of vaccination, including booster doses as soon as they are eligible and submit their booster dose information in [cuScreen](#) as soon as possible. Please note that Carleton cannot guarantee that it will be able to offer virtual or hybrid learning options for those who are unable to attend the campus.

All members of the Carleton community are required to follow requirements and guidelines regarding health and safety which may change from time to time. For the most recent information about Carleton's COVID-19 response and health and safety requirements please see the [University's COVID-19 website](#) and review the [Frequently Asked Questions \(FAQs\)](#). Should you have additional questions after reviewing, please contact [covidinfo@carleton.ca](mailto:covidinfo@carleton.ca).

## **Requests for Academic Accommodations**

### **ACADEMIC ACCOMMODATION**

You may need special arrangements to meet your academic obligations during the term. For an accommodation request the processes are as follows:

**Pregnancy obligation:** write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For accommodation regarding a formally-scheduled final exam, you must complete the Pregnancy Accommodation Form ([click here](#)).

**Religious obligation:** write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details [click here](#).

**Academic Accommodations for Students with Disabilities:** The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or [pmc@carleton.ca](mailto:pmc@carleton.ca) for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your Letter of Accommodation at the beginning of the term, and no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with me to ensure accommodation arrangements are made. Please consult the PMC website for the deadline to request accommodations for the formally-scheduled exam (if applicable).

### **Survivors of Sexual Violence**

As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and where survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: <https://carleton.ca/equity/sexual-assault-support-services>

### **Accommodation for Student Activities**

Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation will be provided to students who compete or perform at the national or international level. Write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. <https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf>



## Important Information

- Students must always retain a hard copy of all work that is submitted.
  - All final grades are subject to the Dean's approval.
  - For us to respond to your emails, we need to see your full name, CU ID, and the email must be written from your valid CARLETON address. Therefore, in order to respond to your inquiries, please send all email from your Carleton CMail account. If you do not have or have yet to activate this account, you may wish to do so by visiting <http://carleton.ca/ccs/students/>
  - The last day for academic withdrawal for Fall courses is November 15th, 2022.
  - For a list of dates and deadlines, including holidays and exam dates, please visit: <https://calendar.carleton.ca/academicyear/>
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