

CGSC 3908b

Honours Seminar in Cognitive Science; Winter, 2022

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Course Hours and Locations

The class will be in the blended format. Seminars will take place synchronously via zoom weekly on Wednesdays from 11:35 am to 2:25 pm. Labs will be scheduled on Mondays from 11:35 am to 2:25 pm. Some labs will be held asynchronously (see the schedule below).

Course Prerequisite(s)

Third year standing, CGSC2001 and CGSC2002, and enrolment in B.Cog.Sc. Honours with a CGPA in the major requirements of 8.0.

Precludes additional credit for CGSC3001 (no longer offered) and CGSC3002 (no longer offered).

Course Description: Goals and Objectives

The main goal of this course is to prepare you to conduct research for your honours thesis. The specific skills you will acquire or practice include:

1. Identifying relevant literature through the use of PsychINFO/PsychArticles, Web of Science, and other resources.
2. Critical analysis of research papers.
3. Designing research, with an emphasis on operationalizing hypotheses and creating stimuli and manipulations to test those hypotheses.
4. Implementation of research studies including ethics applications, collecting and analyzing data.
5. Introduction to R statistical software.
6. Writing APA-style research papers.
7. The development of expertise in cognitive science.

Text and Readings

Required

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

Recommended

- American Psychological Association (2010). *Publication Manual of the American Psychological Association* (6th Edition). American Psychological Association. Washington, DC. Available from Indigo or amazon.ca. You can access the highlights of APA format at: <https://owl.english.purdue.edu/owl/resource/560/01/>
- Strunk, W. Jr. & White, E. B. (1999). *The Elements of Style, 4th Edition* by W. Strunk Jr. & E. B. White, 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*. Don Mills, Canada: 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.

Information for Students with Disabilities

Students with a disability who require academic accommodations should discuss these with me as soon as possible.

Course Calendar (second term) and Evaluation Components**Seminars Schedule (meetings are held weekly via zoom):**

Week (Date)	Topics	Assigned Readings
1 (12/01)	Research Ideas and Hypotheses; Reviewing Literature	None
2 (19/01)	Variables and Measures Visual Perception	@Brightspace
3 (26/01)	Within and Between Subjects Design Attention	@Brightspace
4 (2/02)	Experimental Design	None
5 (9/02)	Sampling; Memory	@Brightspace
6 (16/02)	Embodied Cognition; Data Analysis	@Brightspace
7 (23/02)	WINTER BREAK	None
8 (2/03)	Language	@Brightspace
9 (09/03)	NO CLASS / Data Collection (Asynchronous)	None
10 (16/03)	Language and Thought	@ Brightspace
11 (23/03)	Decision Making	@ Brightspace
12 (30/03)	Individual Differences	@ Brightspace
13 (06/04)	Research Projects Poster Presentations	None

Tutorials Schedule

Week (Date)	Topics (Format)	Due
1 (10/01)	Intro	
2 (17/01)	Ethics (Asynchronous)	TCPS Ethics Certificates
3 (24/01)	APA Style & Experimental Design (Blended)	
4 (31/01)	Experimental Design (Synchronous)	Description of your experimental design
5 (7/02)	Writing Introduction and Methods (Blended)	Ethics application

6 (14/02)	Experimental Design (Synchronous)	Introduction
7 (21/02)	WINTER BREAK	
8 (28/02)	Data Collection Lab (Synchronous)	
9 (7/03)	Data Analysis (Synchronous)	Peer Review
10 (14/03)	Writing Results and Discussion (Blended)	
11 (21/03)	Data Analysis	
12 (28/03)	Poster Preparation (Synchronous)	Methods & Results
13 (04/04)	Poster Preparation (Synchronous)	
14 (11/04)	Final paper writing (Asynchronous)	

Evaluation Components

Assignment	Due Dates	Percent of Grade
1. Discussion Lead (once)	January-March	10
2. Seminar Attendance and Participation	ongoing	15
3. Intro (Draft)	14 February	15
4. Intro (Peer Grading)	7 March	10
5. Methods & Results	28 March	10
6. Poster Presentation (group mark)	6 April	10
7. Final version research paper	12 April	30

Written Assignments Evaluation

All written work will be evaluated for content, style, grammar, spelling, and clarity -- the APA manual and Strunk & White will be helpful in this regard. Furthermore, APA format (i.e., the format for much of the work published in cognitive science journals, as specified by the American Psychological Association) will be required and assessed. Further details will be provided on specific guidelines for presentation and writing. All assignments and papers should be typed and double-spaced with 1 inch (2.54 cm) margins. Pages should be numbered consecutively, starting with the title page. Do not include extra white space between sections. If you want to start a new page, use a hard page break.

All written assignments will be submitted via Brightspace. Marked papers with feedback will be returned to you via email. A grading rubric for all assignments will be available at the course webpage and will be discussed in class.

Class Participation and Attendance

Most weekly classes include one assigned reading for discussions. Students will be in charge of leading a discussion of papers. You are expected to attend class every scheduled day and to read all assigned papers.

Seminar meetings will typically start with a brief introductory lecture on various domains of cognitive science research and experimental methods. It will be followed by a discussion of assigned readings. These classes will allow you to develop a deeper understanding of current theory and

research in cognitive science and will provide some of the background you will need to formulate research questions for the research projects.

To facilitate in-class discussions, there are four formal requirements. Meeting these requirements will account for a significant portion of your final grade.

1. **Read** assigned articles before coming to class.
2. Submit **discussion questions** (via Brightspace) **by the end of Monday**.
3. Attend and **actively participate** in every class.
4. **Lead** a class discussion once during the term.

Leading Discussion

Each student will lead one seminar discussion. The Discussion Leaders will have 30 minutes maximum for their presentation and 30 minutes maximum for its discussion. When presenting a paper, the Discussion Leader 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 introduce new, related ideas by presenting at least one article that was not assigned for reading. 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 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**, you must submit one question per paper to the 'Discussion Board' forum for the assigned week on Brightspace. Questions or clarification are permissible, but ideally you will offer a question more amenable to exploration and debate. Following your submission, you are encouraged to read what other students have posted.

After 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 discussion); 3 – Class engagement was adequate (3-2 substantive contributions to discussion); 2 – Class engagement was minimal (1 substantive contribution to discussion); 1 – Submitted questions but did not participate in discussion; 0 - No evidence that you read the articles/Absent*. Your final class participation grade will be based in large part on an average of these scores. Grades are assigned weekly to provide timely feedback; one or two poor marks will not significantly damage a final participation grade. The one absence rule means that I will drop the lowest of the 8 weekly participation marks. Students missing class for a legitimate reason should still submit to the Discussion Board.

When coming up with discussion questions or providing a critical review of the paper, you might decide to present your criticism in one of the following ways:

(1) Clarification request. You claim p, but I don't know what you mean by saying p. Please clarify. Do you mean by this p', p"...?

- (2) Argument request. You claim p. I think I know what you mean by p. But why do you claim p? I don't see any argument for p, and I think you need to give an argument for it.
- (3) Objection. You claim p (and maybe you argue for it). However, I think that p, (or your argument for p), is problematic. Here's my objection to p (or to your argument for p): q. What do you say in response to q?
- (4) Assistance. You claim p. I agree with you that p, but I think the following additional reason (which you do not mention) can be given in support of p: q.
- (5) Competing interpretation. You say that the reading claims that p. However, I don't think that this is exactly what it says. Instead, I think it says p' (and here's why I think this).
- (6) Suggestion of parallels. You claim p. P (or your argument for p) reminds me of so-and-so's claim that q (or his argument for q). Are the two really similar? Does comparing p to q help illuminate p, or is it just misleading?

Lab Participation

Laboratory sessions are compulsory and will be held during the Wednesday time slot. Some sessions will take place synchronously, whereas others will take place asynchronously. Check the lab session website @ Brightspace for more information on the format of each lab session. The teaching assistant will conduct the labs. A schedule for lab activities will be provided but may be modified or updated during the course.

All video lectures will be followed by brief quizzes that should take no longer than 3-5 minutes to complete. These quizzes are optional and are graded as pass (75% of questions answered correctly) or fail (<75% of questions answered correctly). You can earn up to 3 bonus points by completing these quizzes.

Students are required to complete the TCP 2 On line Ethics Tutorial. Ethics will be discussed in the first lab. As noted, please use your Carleton Email when you are completing the tutorial. When you have finished it, provide a copy of the completion certificate to the TA.

<http://www.pre.ethics.gc.ca/eng/education/tutorial-didacticiel/>

Research Project

You will be required to execute and write-up a research project. A list of potential experiments will be provided. You will form small groups of between 4-5 people and choose a project. Groups will implement the experiment and collect the data together and prepare a methods/results section, however, **each student will hand in a separate paper at the end of the term**. Various aspects of methodology, design, ethics, data collection, and so on will be discussed in the labs and class so that everyone is prepared to complete the project. Although not all students will end up doing empirical work as part of their honours thesis, everyone will read empirical articles -- the best way to learn about it is to do it!

1. The group will need to prepare an informed consent and debriefing form that must be approved by the professor before data can be collected.
2. The group will prepare the experiment and administer it to other classmates, friends, etc.
3. The group will enter the data, as directed in the data entry lab.

4. Each individual will participate in the data analysis lab, and analyse their data (descriptive and inferential statistics).
5. Each individual will prepare an APA-style introduction section, which will be marked by your peers.
6. Each individual will peer review introduction sections of 2 other students.
7. Each individual will prepare an APA-style method and results section, which will be marked by the TA.
8. On the last day of class, each group will present their findings in the form of a poster presentation, similar to those you would see at academic conferences. The 'poster production' lab will provide all the information students need to prepare a poster.
9. The final paper, complete and in APA format, is due to the professor by submitting it through Brightspace on the last day of classes (December 10th). Late submission of the final paper will incur 10% penalty per day.

REGULATIONS AND INFORMATION COMMON TO ALL COGNITIVE SCIENCE COURSES

Grades

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

Academic Regulations, Accommodations, Etc.

University rules regarding registration, withdrawal, appealing marks, and most anything else you might need to know can be found on the university's website.

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 more details see the Student Guide

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 see the Student Guide

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 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 an accommodation from PMC, meet with me to ensure accommodations arrangements are made. Please consult the PMC website for the deadlines to request accommodations for the formally - scheduled exam (if applicable).

Plagiarism: The University Senate defines plagiarism as “presenting, whether intentionally or not, the ideas, expression of ideas or work of others as one’s own.” This can include: • 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; • submitting a take-home examination, essay, laboratory report or other assignment written, in whole or in part, by someone else; • using ideas or direct, verbatim quotations, or paraphrased material, concepts, or ideas without appropriate acknowledgment in any academic assignment; • using another’s data or research findings; • failing to acknowledge sources through the use of proper citations when using another’s works and/or failing to use quotation marks; • handing in "substantially the same piece of work for academic credit more than once without prior written permission of the course instructor in which the submission occurs."

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.

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/>

For a list of dates and deadlines, including holidays and exam dates, please visit:
<https://carleton.ca/registrar/registration/dates-and-deadlines/>

COVID-19

All members of the Carleton community are required to follow COVID-19 prevention measures and all mandatory public health requirements (e.g. wearing a mask, physical distancing, hand hygiene, respiratory and cough etiquette) and [mandatory self-screening](#) prior to coming to campus daily. If you feel ill or exhibit COVID-19 symptoms while on campus or in class, please leave campus immediately, self-isolate, and complete the mandatory [symptom reporting tool](#). For purposes of contact tracing, attendance will be recorded in all classes and labs. Participants can check in using posted QR codes through the cuScreen platform where provided. Students who do not have a smartphone will be required to complete a paper process as indicated on the [COVID-19 website](#). All members of the Carleton community are required to follow guidelines regarding safe movement and seating on campus (e.g. directional arrows, designated entrances and exits, designated seats that

maintain physical distancing). In order to avoid congestion, allow all previous occupants to fully vacate a classroom before entering. No food or drinks are permitted in any classrooms or labs. For the most recent information about Carleton's COVID-19 response and required measures, please see the [University's COVID-19 webpage](#) and review the [Frequently Asked Questions \(FAQs\)](#). Should you have additional questions after reviewing, please contact covidinfo@carleton.ca. Please note that failure to comply with University policies and mandatory public health requirements and endangering the safety of others are considered misconduct under the [Student Rights and Responsibilities Policy](#). Failure to comply with Carleton's COVID-19 procedures may lead to supplementary action involving Campus Safety and/or Student Affairs.