

CGSC 3908b Honours Seminar in Cognitive Science; Winter, 2024

Professor: Olessia Jouravlev DT 2209 520-2600 x.4148
Office hours: By Appointment
Email: olessia.jouravlev@carleton.ca
Teaching Assistant: Zach Savelson
Office hours: By Appointment
Email: ZachSavelson@cmail.carleton.ca

Course Hours and Locations

The class consists of seminars and labs. Seminars will take place weekly on Mondays from 11:35 am to 2:25pm. Labs are scheduled on Fridays from 8:35 am to 11:25 am.

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 experimental research in cognitive science for your honours thesis. The specific skills you will acquire or practice include:

1. Identifying relevant literature through the use of Google Scholar, PsychINFO, 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 analysing data.
5. Introduction to JASP statistical software.
6. Writing APA-style research papers.
7. The development of expertise in cognitive science.

Text and Readings

All required seminar and tutorial materials will be freely available to you throughout the term. You do not need to purchase any additional materials to fully participate in this course. A complete outline, with links to all materials and assignments is available via Brightspace.

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 and Evaluation Components

Seminars Schedule:

| Week (Date) | Topics |
|-------------|---|
| 1 (8/01) | <ul style="list-style-type: none"> • NO CLASS |
| 2 (15/01) | <ul style="list-style-type: none"> • Research Fundamentals: Theory & Experiments • Research Fundamentals: Embodied cognition • Paper: Norman & Peleg (2022). The reduced embodiment of a second language. |
| 3 (22/01) | <ul style="list-style-type: none"> • Research Fundamentals: Variables & Measures • Research Fundamentals: Experimental Designs • Paper: Koster et al. (2019). Mental simulation of object orientation and size: A conceptual replication with second language learners. |
| 4 (29/01) | <ul style="list-style-type: none"> • Paper: Pexman (2019). The role of embodiment in conceptual development • Research Project: Each group discusses their proposed research project with Dr. Jouravlev |
| 5 (5/02) | <ul style="list-style-type: none"> • Research Fundamentals: Literature Search • Due: List of papers relevant to your research project with brief description of each paper (1 per group) • Research Project: Study Design |
| 6 (12/02) | <ul style="list-style-type: none"> • Research Fundamentals: Scientific Writing – Guiding Principles • Paper: Gernsbacher (2018). Writing empirical articles: Transparency, reproducibility, clarity, and memorability • Research Fundamentals: Scientific Writing - Introduction |
| 7 (19/02) | WINTER BREAK (NO CLASS) |
| 8 (26/02) | <ul style="list-style-type: none"> • Due: Introduction (1 per group) – email to Zach Savelson • Introduction: Peer Review • Introduction: Responses to Peer Review • Due: Introduction - Peer Review |
| 9 (4/03) | <ul style="list-style-type: none"> • Research Fundamentals: Analyzing your data • Writing Fundamentals: Methods & Results Sections • Paper: Nuzzo (2014). Statistical errors: P values are not as reliable as many scientists assume • Writing: Work on your Methods & Results Sections |
| 10 (11/03) | <ul style="list-style-type: none"> • Writing Fundamentals: Discussion |

| | |
|------------|---|
| | <ul style="list-style-type: none"> • Paper: Clarke et al. (2023). Looking our limitations in the eye. • Writing: Work on your Methods & Results |
| 11 (18/03) | <ul style="list-style-type: none"> • Research Fundamentals: Replication crisis • Paper: Bishop (2018). The psychology of experimental psychologists. • Work on your Discussions |
| 12 (25/03) | <ul style="list-style-type: none"> • Work on your Discussion • Poster Preparation • What is next? |
| 13 (01/04) | <ul style="list-style-type: none"> • Work on your Discussion • Poster Preparation |
| 14 (8/04) | <ul style="list-style-type: none"> • Poster Presentations • Due: Group participation assessments • Due: Discussion – Responses to Peer Review |

Tutorials Schedule

| Week (Date) | Topics |
|-------------|---|
| 1 (12/01) | <ul style="list-style-type: none"> • Introduction |
| 2 (19/01) | <ul style="list-style-type: none"> • Research Fundamentals: Ethics • Due: TCPS Ethics Certificate Group • <u>Research Project:</u> Brainstorm Session |
| 3 (26/01) | <ul style="list-style-type: none"> • <u>Research Project:</u> Study Design • <u>Research Project:</u> Ethics application • Due: Description of your experimental design (1 per group) • Due: Ethics application (1 per group) |
| 4 (2/02) | <ul style="list-style-type: none"> • <u>Research Project:</u> Study Design • Research Fundamentals: Data Collection & SONA |
| 5 (9/02) | <ul style="list-style-type: none"> • Writing Fundamentals: Introduction to APA, Formatting, Citing, and References • Writing Fundamentals: Words & Sentences • <u>Research Project:</u> Be ready to launch your study on SONA |
| 6 (16/02) | <ul style="list-style-type: none"> • Writing Fundamentals: Paragraphs • Writing Fundamentals: Work on your Introductions |
| 7 (23/02) | WINTER BREAK (NO CLASS) |

| | |
|------------|--|
| 8 (01/03) | <ul style="list-style-type: none"> • Due: Introduction - Responses to Peer Review • Research Fundamentals: Sampling • Paper: Henrich (2010). The weirdest people in the world. • |
| 9 (8/03) | <ul style="list-style-type: none"> • Research Fundamentals: Data preparation and analysis in JASP • Work on analysing your data • Work on your Methods & Results sections |
| 10 (15/03) | <ul style="list-style-type: none"> • Due: Methods & Results (1 per group) • Work on your Discussion |
| 11 (22/03) | <ul style="list-style-type: none"> • Work on your Discussion |
| 12 (29/03) | Good Friday (NO CLASS) |
| 13 (5/04) | <ul style="list-style-type: none"> • Due: Discussion (1 per group) • Discussion: Peer Review • Discussion: Responses to Peer Review • Due: Discussion – Peer Review |
| 14 (10/04) | <ul style="list-style-type: none"> • Final Paper Preparation • Due: Final Paper |

Evaluation Components

| Assignment | Due Dates | Percent of Grade |
|--|-------------|------------------|
| 1. Discussion Lead (once) | ongoing | 10 |
| 2. Introduction – First Draft (Group Mark) | 26 February | 10 |
| 3. Introduction (Peer Review) | 26 February | 5 |
| 4. Introduction – Review Response (Group Mark) | 1 March | 5 |
| 5. Methods & Results (Group Mark) | 15 March | 10 |
| 6. Discussion – First Draft (Group Mark) | 5 April | 10 |
| 7. Discussion (Peer Review) | 5 April | 5 |
| 8. Discussion – Review Response | 8 April | 5 |
| 9. Research project group participation | 8 April | 10 |
| 10. Poster Presentation (Group mark) | 8 April | 10 |
| 11. Final version research paper (Group mark) | 10 April | 20 |

Seminar Participation and Attendance

Most weekly seminars include one assigned reading for discussions. See the schedule of activities planned for each week above. Please note that there might be changes in the schedule during the course. 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/discussion on various topics related to 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 issues in experimental cognitive science and will provide some of the background you will need to formulate research questions for the research projects.

Leading Discussion

Each student will lead one seminar discussion of an assigned paper. The Discussion Leader is expected to summarize the paper and engage other students in discussion.

Lab Participation

Laboratory sessions are compulsory. The teaching assistant will conduct the labs. A schedule for lab activities is provided above but may be modified or updated during the course.

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 conduct a research project that will be an extension of work described in Boduch-Grabka & Lev-Ari, 2022. In small groups of 4-5 people, you will design a research project, collect and analyse the data, write a manuscript, and prepare a research poster based on your project. Various aspects of methodology, design, ethics, data collection, scientific writing etc. be discussed during seminars and labs so that everyone is prepared to complete the project.

1. The group will need to prepare an informed consent form that must be approved by the professor before data can be collected.
2. The group will prepare the experiment that could be done online. Participants for the experiment will be recruited from the Department's subject pool.
3. The group will analyse the data using JASP software package.
4. The group will prepare an APA-style introduction section, which will be marked by your peers.
5. Each group will peer review an introduction section of another group.
6. Each group will respond to peer reviews and make revisions to their introductions.
7. Each group will prepare an APA-style method and results section, which will be marked by the TA.
8. The group will prepare an APA-style discussion section, which will be marked by your peers.
9. Each group will peer review a discussion section of another group.
10. Each group will respond to peer reviews and make revisions to their discussion section.
11. 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.

12. 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.

Written Assignments Evaluation

All written work will be evaluated for content, style, grammar, spelling, and clarity -- the APA manual and mat 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. A grading rubric for all assignments will be available at the course webpage and will be discussed in class.

REGULATIONS AND INFORMATION COMMON TO ALL COGNITIVE SCIENCE COURSES

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, including the unauthorized use of generative AI tools (e.g., ChatGPT);
- 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.

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: 343-306-5550, <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>

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 for a formal evaluation. If you are already registered with the PMC, please request your accommodations for this course through the [Ventus Student Portal](#) 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*). Requests made within two weeks will be reviewed on a case-by-case basis. For final exams, the deadlines to request accommodations are published in the [University Academic Calendars](#). 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.
- Standing in a course is determined by the course instructor subject to the approval of the Faculty Dean. This means that grades submitted by the instructor may be subject to revision. No grades are final until they have been approved by the Dean

- 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/>
- November 15, 2023: Last day for academic withdrawal from full fall and late fall classes
- March 15, 2024: Last day for academic withdrawal from full winter, late winter and fall/winter courses.

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