

***CGSC 2002 (B): Theories and Methods in Cognitive Science*****Course Outline  
Winter 2020****Class Information**

Dates: Wednesday and Friday  
Time: 11:35 am - 12:55 pm  
Location: Mackenzie Building 3235

**Instructor Information**

Instructor: Dr. Nadiya Slobodenjuk  
Office: Dunton Tower 2207  
Phone: 613-520-2600 ext. 4210  
E-mail: NadiyaSlobodenjuk@cunet.carleton.ca  
Office Hours: Monday 11 am – 1 pm  
Thursday 12 pm – 4 pm  
+ by appointment  
+ whenever my door is open

**1. Course Overview & Objectives:**

This course provides an overview of theories and methods in Cognitive Science. The focus is on research methodology used in cognitive psychology, linguistics, philosophy of mind, computer science, neuroscience, and other related disciplines. The labs for this course provide students with an opportunity to learn to evaluate the suitability of a given methodology, practice designing scientific experiments and analyzing the data.

Prerequisite(s): CGSC 1001 or FYSM 1607, second year standing, or permission of the Institute. Restricted to students enrolled in B.Cog.Sc. General or Honours.

**2. Student Learning Outcomes:**

By the end of the course you will:

1. gain factual knowledge about some research methods in cognitive science
2. gain subject matter expertise

You will also be able to:

3. analyze from the methodological standpoint and critically evaluate empirical research
4. apply your knowledge of research methods to design experiments for various disciplines in cognitive science
5. conduct some statistical analyses using SPSS

### 3. Course Structure:

This is a lecture course with a lab component. Labs are designed to help you master the lecture material, extend your knowledge of specific methodologies, and acquire research skills.

Attendance of both lecture classes and labs is mandatory.

### 4. Lecture & Lab Schedule:

#### **Week 1**

Lecture dates	Lecture Topics	Labs*
January 8 January 10	Introduction to CGSC 2002  <b>Cognitive psychology:</b> <ul style="list-style-type: none"><li>- Direct / indirect measures of cognitive processes</li><li>- Models of information processing and reaction time</li></ul> <b>Case study:</b> Sense of agency and body ownership	-----

#### **Week 2**

Lecture dates	Lecture Topics	Lab
January 15 January 17	<b>Research methodology:</b> <ul style="list-style-type: none"><li>- Research design</li><li>- Sampling</li><li>- Quantitative methods</li><li>- Descriptive and inferential statistics</li></ul>	Cognitive psychology

#### **Week 3**

Lecture dates	Lecture Topics	Lab
January 22 January 24	<b>Research methodology:</b> <ul style="list-style-type: none"><li>- Qualitative methods</li></ul> <b>Case study:</b> Sensory substitution	Statistics

#### **Week 4**

Lecture dates	Lecture Topics	Lab
January 29	Review and quiz 1 preparation	Statistics
January 31	<b>Quiz 1</b> <b>Topics: Cognitive Psychology, Quantitative Methods</b>	

#### **Week 5**

Lecture dates	Lecture Topics	Lab
February 5 February 7	<b>Linguistics</b> <ul style="list-style-type: none"><li>- Experimental methods in cognitive linguistics</li></ul> <b>Case study:</b> Music and language: A resource sharing framework	Statistics

#### **Week 6**

Lecture dates	Lecture Topics	Lab
February 12 February 14	<b>Neuroscience:</b> - Overview of brain imaging techniques - Methodological and conceptual issues in brain imaging - ERPs analysis	Qualitative research

#### Week 7

Lecture dates	Lecture Topics	Lab
<b>February 19</b> <b>February 21</b>	<b>Winter break, no classes.</b>	-----

#### Week 8

Lecture dates	Lecture Topics	Lab
February 26	<b>Quiz 2</b> <b>Topics: Qualitative methods, Linguistics, Neuroscience</b>	Linguistics
February 28	<b>Philosophy of mind:</b> - Types of thought experiments and objections to thought experiments - Experimental philosophy	

#### Week 9

Lecture dates	Lecture Topics	Lab
March 4 March 6	<b>Artificial intelligence:</b> - Research methods in AI - Machine learning	Neuroscience

#### Week 10

Lecture dates	Lecture Topics	Lab
March 11 March 13	<b>Evolutionary Approach:</b> - Experimental methods in evolutionary cognitive science  <b>Case study:</b> Evolution of musicality	Philosophy of mind

#### Week 11

Lecture dates	Lecture Topics	Lab
March 18	<b>Evolutionary Approach:</b> - Comparative methodology and the study of cognition	AI
March 20	<b>Quiz 3</b> <b>Topics: Philosophy of Mind, Artificial Intelligence, Evolutionary Approach</b>	

#### Week 12

Lecture dates	Lecture Topics	Lab
March 25 March 27	<b>Ethics in research</b>	Evolutionary approach

#### Week 13

Lecture dates	Lecture Topics	Lab
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April 1 April 3	<b>Good and bad research practices</b> Review and final exam preparation	Ethics
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**\*This course consists of lectures and weekly 2-hour lab sessions.** Another 11 hours of the lab time will be allocated for optional study sessions before each quiz. The schedule for the study sessions will be determined later in the term.

**Please note the time change for labs (B2 will start later and B1 will end earlier - see the schedule below).**

Weekly Labs time and schedule:	
CGSC 2002 – B1	Tuesday 2:35 pm - 4:25 pm; Southam Hall 413
CGSC 2002 – B2	Monday 9:35 am - 11:25 am; Southam Hall 413

## 5. Text & Resources:

There is no textbook for this course which is both bad news and good news... This means you will need to read original research and take notes in class. The readings will be assigned on a weekly basis. The assigned readings will be available to you on the course cuLearn webpage. Lecture slides and slides from tutorials will be available on cuLearn as well.

## 6. Assessment:

Quiz 1	<b>14%</b>	Quizzes will be held during regularly scheduled class time. They will consist of multiple-choice questions and short open-ended questions. Study guides for the quizzes will be available to you on the course webpage. Quizzes will be based on the material covered in class and in labs.  Detailed information about the quizzes will be provided along with the study guides and marking rubrics on the course cuLearn page.
Quiz 2	<b>17%</b>	
Quiz 3	<b>17%</b>	
Final exam	<b>30%</b>	This is a <b><u>cumulative exam</u></b> scheduled at the end of the term by the Registrar's office. The format of the exam will be similar to the format of the quizzes.
Labs	<b>22%</b>	You can earn 2 points for each of the 11 labs. See the details below.
<b>TOTAL</b>	<b>100%</b>	

### Labs:

The labs are designed to provide hands-on experience with various research methods. **Attendance of ALL labs is required. Due to space limitations, you must attend the lab section you are registered in.**

All work for the labs must be completed within the actual lab session. At the end of each lab, you will submit a reflection worksheet. The TA will mark your reflection worksheet and overall lab performance. For each of the 11 labs you can receive 0, 1, or 2 points. 0 means you did nothing or a very poor job, 1 is partial credit (e.g., did some work on the lab but arrived late or left before the lab session ended; spent part of the lab session working on other classes or surfing the internet; did not answer or answered many of the reflection sheet questions incorrectly), and 2 is full credit.

Please do arrive for the labs on time – this will be taken into account when the grade is assigned. **If you miss the lab, you lose 2 points that count towards your final course mark. There are no alternative ways of gaining lab points other than attending the labs and completing the work!**

## 7. Important Dates:

Last day for registration for winter term courses. Last day to change courses or sections (including auditing) for winter term courses.	January 17
<b>Quiz1</b>	<b>January 31</b>
Last day for withdrawal from winter term and winter portion of fall/winter courses with full fee adjustment. Withdrawals after this date will result in a permanent notation of WDN on the official transcript.	January 31
<b>Quiz 2</b>	<b>February 26</b>
Last day to request Formal Examination Accommodation Forms for April examinations to the Paul Menton Centre for Students with Disabilities.	March 13
<b>Quiz 3</b>	<b>March 20</b>
<b>Final exam</b>	<b>April examination period (TBA)</b>

## 8. Course Policies:

- **Attendance**

Regular class attendance is required. Some information covered in class will not be available in the assigned readings. Without attending the classes, you will be prepared for the exams poorly.

- **Use of mobile phones**

Strictly prohibited.

- **Use of laptops, tablets**

Allowed for taking notes.

- **Extra credit**

There is no extra credit in this course. Your final grade is a result of your performance on the exams and labs.

- **Communication**

I will be available for any questions, feedback, and help with the course material during my regular office hours. If necessary, extra office hours will be scheduled before and after each exam and major assignment. You are also welcome to pass by with any course-related questions or to talk about the meaning of life whenever my door is open. Please feel free to send me an e-mail on any course-related matter. I usually reply promptly and will certainly reply within 24 hours. I might not be able to reply during the weekend.

**Note that I will respond only to e-mails sent from your official Carleton University e-mail account containing your full name.**

If you do not have or have yet to activate your Carleton account, you may wish to do so by visiting <http://carleton.ca/ccs/students/>

**Outside the classroom, e-mail is the main means of communication in this course. You will receive regular updates and reminders on your e-mail. It is your responsibility to check your e-mail regularly.**

- **Missed classes**

If you miss a class, please consult your classmates and ask for their notes. If there is a need, I can also discuss with you the material covered in class during my office hours.

- **Marking**

Students have the right to see their marked work during the regular office hours.

- **Carleton grading system**

Letter grades assigned in this course will have the following percentage equivalents:

A+ = 90-100      B = 73-76      C - = 60-62

A = 85-89      B - = 70-72      D+ = 57-59

A - = 80-84      C+ = 67-69      D = 53-56

B+ = 77-79      C = 63-66      D - = 50-52

F      Failure. No academic credit

ABS      Absent from the final examination

DEF      Official deferral (see "Petitions to Defer")

FND      "Failed, no Deferral" – assigned when the student is absent from the final exam and has failed the course on the basis of inadequate term work as specified in the course outline.

Standing in a course is determined by the course instructor, subject to the approval of the Chair and Faculty Dean.

All final grades are subject to the Dean's approval.

- **Makeup policy**

If health-related or unforeseeable personal circumstances prevent you from attending the test, you are expected to inform me before the test. Any supporting documents must be presented in a timely manner as well. You will be given a chance to retake the missed exams at a time agreed upon with the instructor.

If you receive zero for cheating or plagiarism on one of the assignments or an exam, you will NOT be given a second chance to fix your grade.

- **Request for 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

Please contact your instructor 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, visit the Equity Services website: [carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf](http://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf)

Religious obligation

Please contact your instructor 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, visit the Equity Services website: [carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf](http://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf)

Academic Accommodations for Students with Disabilities

If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or [pmc@carleton.ca](mailto:pmc@carleton.ca) for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC 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 your instructor as soon as possible to ensure accommodation arrangements are made. [carleton.ca/pmc](http://carleton.ca/pmc)

### 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 its 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: [carleton.ca/sexual-violence-support](http://carleton.ca/sexual-violence-support)

### 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 must be provided to students who compete or perform at the national or international level. Please contact your instructor 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>

For more information on academic accommodation, please contact the departmental administrator or visit: [students.carleton.ca/course-outline](http://students.carleton.ca/course-outline)

- ***Learning support services***

Centre for Student Academic Support and Student Academic & Career Development Services offer a variety of services designed to support student learning. For example, they offer group study rooms, free drop-in sessions with study skills specialists and writing tutors, free academic skills workshops, networked computers, a tutor referral service, and supportive peer helpers. Visit their websites for more information:

<https://carleton.ca/csas/>

<https://carleton.ca/sacds/>

- ***Official final examinations period***

Fall 2019 courses: Dec. 9-21, 2019 and Winter 2019 courses: April 13-25, 2020 (may include evenings & Saturdays or Sundays)

For more information on the important dates and deadlines of the academic year, consult the Carleton 2019-2020 Calendar: <http://calendar.carleton.ca/academicyear/>

- ***Petitions to defer***

Students unable to complete a final term paper or write a final examination because of illness or other circumstances beyond their control or whose performance on an examination has been impaired by such circumstances may apply within five working days to the Registrar's Office for permission to extend a term paper deadline or to write a deferred examination. The request must be fully and specifically supported by a medical certificate or other relevant documentation. Only deferral petitions submitted to the Registrar's Office will be considered.

- ***Academic integrity***

The University Senate defines plagiarism as “presenting, whether intentional 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, which cannot be resolved directly with the course's instructor. The Associate Deans of the Faculty conduct 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 range from a mark of zero for the plagiarized work to a final grade of "F" for the course, and even suspension from all studies or expulsion from the University.

To learn more, please see the section on academic integrity on the Registrar's webpage:

<https://carleton.ca/registrar/academic-integrity/>

- **Copyright policy**

**Student or professor materials created for this course (including presentations and posted notes, labs, case studies, assignments, and exams) remain the intellectual property of the author(s). They are intended for personal use and may not be reproduced or redistributed without prior written consent of the author(s). The PowerPoint presentations, lectures notes, and other materials available to you on cuLearn MAY NOT be distributed online.**

- **ICS Resources (613-520-2600, phone ext. 2522)**

Department of Cognitive Science (2522)	2201 DT (Dunton Tower)
Registrar's Office (3500)	300 Tory
Student Academic and Career Development Services (7850)	302 Tory
Paul Menton Centre (6608)	501 University Centre
Writing Tutorial Service (1125)	4th floor Library
Learning Support Services (1125)	4th floor Library

- **Academic advising**

Visit the Cognitive Science Undergraduate Office, DT 2201 to discuss your program. Advisors can answer questions concerning:

- Course selection and meeting program requirements
- Your audit and transfer credits
- Gaining access to courses that are closed
- Information concerning prerequisites and preclusions
- Course equivalencies and substitutions
- Information about whether to pursue the (Honours Project Course) or the Thesis stream and CGPA requirements
- Community Practicum Course
- Concentrations
- Exchanges and course selection



- ***Departmental Drop Box policy (Located outside 2202A DT)***

Mail received prior to 8:30am will be date stamped with yesterday's date. Mail received before 8:30am on Monday's will be date stamped with the previous Friday's date.

Please include your name, student number, course code and instructor's name. If any of this information is missing it may delay getting your paper to your instructor.