Course description (calendar)

Assessment of reasoning and the development of cogent patterns of thinking. Reference to formal logic is minimal. Practice in criticizing examples of reasoning and in formulating one’s own reasons correctly and clearly. Open to first-year students.

Content

In this course, you will learn the basics to assess the strength of arguments and analyze how they are conducted. You will evaluate ideas, beliefs, opinions using tools favouring the practice of critical thinking or, to paraphrase Noam Chomsky, intellectual self-defence. We will explore these ideas under four broad themes.

The first theme is the basis of argumentation: what an argument is, how to identify it within a text, how to formalize and analyze it. Many types of arguments will be seen (deductive, inductive, abductive), and we will analyze short argumentative essays. We will also see some notions related to how we use language, its ambiguity, but also reasoning errors and common paralogisms. The second theme is mathematical tools, including statistics. We will explore essential mathematical ideas needed to think critically.

The third theme is the psychology of reasoning. The tools seen in the first two sections are hard to master, and it can be very hard to use them in day-to-day reasoning. They are demanding to use, and this is seemingly related to the very way human cognition works. We will look at various experiments and their results, and we will discuss ways of taking stock of this literature to help us become better critical thinkers. We will look at both individual and group strategies that can be used to avoid what psychologists have called cognitive biases.

The last theme will be the practical, applied, aspect of the course. We will apply the tools and the strategies detailed above in various contexts. We will look at the epistemology of testimony, notably how such notions can be applied to analyze what is going on in social networks like Facebook and Twitter, then we will analyze the media and, finally, we will look at science and the scientific method, but also how to assess news reports about scientific discoveries.
Course requirements

Classes will usually be divided in two kinds: during the first kind (usually on Monday), the lecturer will introduce theoretical notions and will invited students to ask questions and to contribute to ongoing discussions. This part will be mostly lecture-based. The second kind (usually on Wednesday) will be dedicated to workshops, individually or in small groups, designed to help students put in practice the notions seen in the first kind of class meetings.

These workshops will come in different forms, from group discussion to individual assignments. For some of these workshops, students will need to have read carefully the assigned readings. Thus, it is crucial that you do the readings prior to class. Some additional readings might be suggested to improve your understanding of the notions and techniques we will discuss.

Normand Baillargeon’s *A Short Course in Intellectual Self-Defense* (SCID) is required for this course. You can buy it at the university bookstore or online (there are electronic versions available). Other readings will be made available online (cuLearn).


New York: Seven Stories Press. 9781583227657

In addition to reading the book and the assigned papers, you are expected to read on a regular basis national media—online or on paper. Look especially for columnists and spend some time analyzing their arguments, the way they defend their position, etc. It might not always be good … Keep in mind that late November and early December, you will be asked to find examples of science reporting while the last assignment is one where you will compare headlines across media.

Accessibility, inclusion, expectations

It is crucial that respecting and listening to what others have to say be central in this course. No matter what others believe and how different other students are. Please note that sexist, homophobic, transphobic, ableist, or racist comments will not be accepted.

Students who have difficulties, especially if they are caused by a confirmed or suspected learning disability, are encouraged to inform the instructor and/or the university’s disability services. Measures to help students will be put in place to maximize everyone’s participation and success in this course. Students encountering special life circumstances that may affect their performance are also encouraged to inform the instructor. The instructor is also available to discuss with parent students to help them succeed by putting in place various accommodations. The university also offers multiple resources to students—use them! More information: [https://carleton.ca/academics/support/](https://carleton.ca/academics/support/)

A variety of pedagogical approaches will be used to help students learn. Students are encouraged to tell the instructor if a method that helps them learn is not being used. Parts of some of the Powerpoint presentations will be made available online (cuLearn), but not before lecture.

All my grading is anonymous. When submitting your papers, please do not write your name on them; only your Student ID, the course code, and my name should be on top of the page (no cover page needed). Assignments submitted without respecting this requirement might be penalized.
The instructor expects that every student will be ready to pay attention to class, come to all lectures and participate fully in discussions and workshops. Taking notes is strongly encouraged. If you miss a class, it is your responsibility to get the material or information you missed from your classmates. Yes, you will be missing “something important” (at least, from my perspective!).

Please abstain from using your cellphone. Students may use laptop computers or tablets to take notes, but are requested to sit either towards the back or the sides of the classroom in order to avoid distracting other students.

Making appointments with the instructor to discuss notions that are not well understood is the student’s responsibility. The instructor will be available for questions after class, or by appointment.

Please make sure that, when contacting the instructor, you use the course code in the subject line of the email. The body of your email should also include your full name and your Student ID so that your records can be accessed quickly. The instructor will not reply to emails not containing all of these—course code in the subject line, full name, and Student ID.

Note that many questions received over email could be answered quickly, on one’s own. Before sending your instructor an email, you might want to wonder if the information is available in the syllabus, online, or from another student. For longer questions or interactions, it might also be better to set up an appointment: I am happy to meet with students.

Course assessment

(1) Participation in the nine small group workshops (3% each; work submitted by each group). 30%
   In class, you will form small groups to discuss questions distributed by the instructor. One member of the group will have to write down answers clearly and submit them at the end of the workshop (on paper or electronically). Make sure the student number of every participant is written down.
   When the workshop involves a preparation (Sept. 19, Nov. 21, Dec. 5), print it before class and submit it alongside your group work. At 1% each, this will count for the remaining 3%.

(2) Two media assignments (5% each). 10%

(3) Midterm exam. 20%

(4) Final exam. 40%

Schedule of topics, readings, and assignments

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Content</th>
<th>Readings, assignments</th>
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<tbody>
<tr>
<td>1</td>
<td>Sept. 5</td>
<td>General introduction.</td>
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<tr>
<td>2</td>
<td>Sept. 10</td>
<td>Playing with words.</td>
<td>SCID, Introduction and §1-1.1 (1-49).</td>
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<td>Sept. 12</td>
<td>Workshop 1.</td>
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<td>3</td>
<td>Sept. 17</td>
<td>Analyzing texts and their argumentative structure, part 1</td>
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<tr>
<td>Date</td>
<td>Event</td>
<td>Notes</td>
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<td>Sept. 19</td>
<td><strong>Workshop 2.</strong></td>
<td>Workshop preparation (excerpt from Russell).</td>
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<td>Sept. 26</td>
<td><strong>Workshop 3.</strong></td>
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<td>Oct. 1</td>
<td><strong>Bad ways to persuade.</strong></td>
<td>SCID, §1.2 (49-85).</td>
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<td>Oct. 3</td>
<td><strong>Workshop 4.</strong></td>
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<td>Oct. 8</td>
<td><strong>Statutory holiday. University closed.</strong></td>
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<tr>
<td>Oct. 10</td>
<td>Numbers and letters.</td>
<td>SCID, §2.1 (87-110).</td>
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<td>Oct. 15</td>
<td>Understanding stats, 100%. <strong>Workshop 5.</strong></td>
<td>SCID, §2.2 (110-168).</td>
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<td>Oct. 17</td>
<td>Midterm (20%).</td>
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<td>Oct. 22 &amp; 24</td>
<td><strong>Fall Break.</strong></td>
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<td>Nov. 5</td>
<td><strong>How the mind works(?)</strong></td>
<td>SCID, §3.3 (171-196).</td>
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<td>Nov. 7</td>
<td>The structure of thinking.</td>
<td>Evans.</td>
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<td>Nov. 12</td>
<td>Thinking clearly, because (and despite) cognitive biases.</td>
<td>SCID, §3.3 (196-222).</td>
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<td>Nov. 14</td>
<td><strong>Workshop 6.</strong></td>
<td>Linker.</td>
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<td>Nov. 19</td>
<td><strong>How to fight cognitive biases.</strong></td>
<td>Kenyon &amp; Beaulac.</td>
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<td>Nov. 21</td>
<td><strong>Workshop 7.</strong></td>
<td>Workshop preparation (IAT).</td>
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<td>Nov. 26</td>
<td>Spreading science.</td>
<td>SCID, §4-4.4 (223-266).</td>
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<td>Nov. 28</td>
<td><strong>Workshop 8.</strong></td>
<td>Workshop preparation (scientific discovery).</td>
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<td>Dec. 3</td>
<td>Against media illusions.</td>
<td>SCID, §5-5.2 (267-289).</td>
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<td>Dec. 5</td>
<td><strong>Workshop 9.</strong></td>
<td>Submit Assignment 2 (5%).</td>
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<td>(Friday) Dec. 7</td>
<td><strong>Don't believe everything you see on Facebook.</strong></td>
<td>SCID, §5.3 &amp; Conc. (290-308).</td>
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<td>Dec. 9-21</td>
<td>Final exam (40%).</td>
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**NOTE:** IN THE EVENT OF EXTRAORDINARY CIRCUMSTANCES BEYOND THE UNIVERSITY'S CONTROL, THE CONTENT AND/OR EVALUATION SCHEME IN THIS COURSE IS SUBJECT TO CHANGE.
Assignments:

Unless specifically told otherwise by their instructors, students:
- Must not use a plastic or cardboard cover or paper clips.
- Must staple the paper (there is a stapler on the essay box).
- Must include the following on the first page: student name and number; course name and number; instructor’s name.
- No assignments will be accepted after the last day for handing in term work – see dates below.
- Assignments handed in through the essay box (just inside the glass doors, Paterson Hall, Floor 3A) must be dropped into the box by **4:15** on a regular business day in order to be date-stamped with that day’s date. Assignments handed in after 4:15 or on a non-business day will be stamped as having been handed in on the next business day.
- Students are required to keep copies of their assignments. If your paper is lost at any point, you will be considered not to have submitted it if you cannot produce a copy immediately on request.

Evaluation:

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.

Deferrals for Final Exams:

If you miss a final examination (formally scheduled or take-home) because of circumstances beyond your control, you may apply for a deferral. You must apply within 3 working days after the scheduled date of your formally scheduled exam or within 3 working days after the due date of a take-home exam. Visit the Registrar’s Office for more information: [http://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/acadregsuniv2/#2.5](http://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/acadregsuniv2/#2.5)

Plagiarism:

It is the responsibility of each student to understand the meaning of ‘plagiarism’ as defined in the Undergraduate or Graduate Calendars, and to avoid both committing plagiarism and aiding or abetting plagiarism by other students. [https://carleton.ca/registrar/academic-integrity/](https://carleton.ca/registrar/academic-integrity/)

Academic Accommodation:

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

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)

Pregnancy obligation: write to your professor 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: [http://www2.carleton.ca/equity/](http://www2.carleton.ca/equity/)

Religious obligation: write to your professor 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: [http://www2.carleton.ca/equity/](http://www2.carleton.ca/equity/)

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 is 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

Important Dates:

Sept. 5 Classes start.
Sept. 18 Last day for registration and course changes for fall term and fall/winter (two-term) courses.
Sept. 30 Last day for entire fee adjustment when withdrawing from fall term or two-term courses. Withdrawals after this date will result in a permanent notation of WDN on the official transcript.
Oct. 8 Statutory holiday. University closed.
Oct. 22-26 Fall Break – no classes.
Nov. 23 Last day for summative tests or examinations, or formative tests or examinations totaling more than 15% of the final grade, before the official examination period.
Dec. 7 Last day of fall term classes. Classes follow a Monday schedule. Last day for academic withdrawal from fall term courses. Last day for handing in term work and the last day that can be specified by a course instructor as a due date for term work for a fall term course.
Dec. 9-21 Final examinations for fall term courses and mid-term examinations in two-term courses. Examinations are normally held all seven days of the week.
Dec. 21 All take-home examinations are due.

Jan. 7 Classes begin.
Jan. 18 Last day for registration and course changes in the winter term.
Jan. 31 Last day for a full fee adjustment when withdrawing from winter term courses or from the winter portion of two-term courses. Withdrawals after this date will result in a permanent notation of WDN on the official transcript.
Feb. 18-22 Winter Break – no classes.
Mar. 26 Last day for summative tests or examinations, or formative tests or examinations totaling more than 15% of the final grade, in winter term or fall/winter courses before the official examination period.
Apr. 9 Last day of two-term and winter term classes. Last day for academic withdrawal from fall/winter and winter courses. Last day for handing in term work and the last day that can be specified by a course instructor as a due date for two-term and for winter term courses.
Apr. 12-27 Final examinations for winter term and two-term courses. Examinations are normally held all seven days of the week.
Apr. 19-21 Statutory holiday. University closed. No examinations take place.
Apr. 27 All take-home examinations are due on this day.

Addresses:

Department of Philosophy: 3A35 Paterson Hall
www.carleton.ca/philosophy
520-2110

Registrar’s Office: 300 Tory
www.carleton.ca/registrar
520-3500

Academic Advising Centre: 302 Tory
www.carleton.ca/academicadvising
520-7850

Writing Services: 4th Floor, Library
http://www.carleton.ca/csas/writing-services/
520-3822

MacOdrum Library http://www.library.carleton.ca/
520-2735