

COMP 4701 for Fall 2022

Computing, Society and Ethics

Course Outline

Course Information

Instructor: Alan Tsang (<https://people.scs.carleton.ca/~alantsang/>)

Contact: Alan.Tsang@carleton.ca

Course Website: <https://brightspace.carleton.ca>

Lectures: **1305-1425** (**Tues, Thurs** for Section A; **Weds, Fri** for Section B)

Office Hours: **1430-1600** (**Tues** prioritized for Section A; **Weds**, for Section B)

*You may book additional appointments (including Zoom meetings) via email. Emails and Discord messages during this hour will be replied to promptly. If you have questions that may be useful for the rest of the class, **please post them online** so your classmates can benefit from the discussion.*

Required Tools: Discord

Last Revised:

Teaching Assistants

A list of teaching assistants will be posted once the course starts.

Course Calendar Description

This course examines ethical questions raised by computing technologies -- both motivated by recent developments, and through the lens of science fiction literature. Students will learn how to identify ethical issues that may arise in future technologies and evaluate the merits and pitfalls of different solutions using formal ethical frameworks.

Format: Blended, Flipped Classroom

Prerequisites: Any two of the following: COMP 3004, COMP 3005, COMP 3008, COMP 3105, COMP 3106, COMP 3109, COMP 3308, COMP 3804.

Learning Outcomes

By the end of this course, you will be able to...

- Understand and apply the core concepts of three commonly used ethical theories
- Identify and articulate ethical risks emerging in computer science domains
- Identify and critique poor ethical decision making
- Weigh and explain decisions using ethical frameworks

Course Format and Attendance

COMP 4701 for Fall 2022

Computing, Society and Ethics

The course has **two in-person sessions every week**. As the course is heavily discussion based, **regular attendance** is expected (health related absences excepted). Lectures will not be recorded and it will be your responsibility to catch up on missed material.

The course operates primarily in a flipped classroom format (especially Weeks 6 and onwards), where you will be expected to read materials in preparation for classroom discussions. Most of these materials are short stories or shows, so hopefully they will be fun to consume! Engaging with the reading materials through critical examination, thoughtful reflection, and challenging discussions is the central mode of learning in this course. But you must read them before the class to benefit from the discussions.

Health

If you feel ill or exhibit COVID-19 symptoms, please do not come to class. While Carleton has paused the COVID-19 Mask policy, students are encouraged to wear a mask in the classroom in order to protect the vulnerable and each other. Presentation speakers (including the instructor) can feel free to eschew masking for clarity of speech. This is a trade-off between health precautions and quality of the education experience. This section may be updated according to new health recommendations. See the Special Information section for additional details.

Inquiries

If you have questions about the course (ex: clarification on readings, discussion about something said during class, questions about assignments) that may be helpful to other students, **post them online** so other students may benefit from the discussion. If your questions are particular to your situation or involve your assessments, you may email the instructor directly, or drop-in during office hours.

Textbook(s) and Other Resources

The course will be using selected readings and multimedia content that will be made available through Brightspace. This includes draft chapters from *Understanding Technology Ethics through Science Fiction* by Burton, Goldsmith, Mattei, Siler, Swiatek, used with permission of the authors.

Topics Covered

Please note that ethical quandaries invariably involve sensitive subject matter that may be difficult to broach and stressful to discuss. Nonetheless, this is the very reason why discourse and discussion are needed in these matters. The course aims to provide a safe space to discuss these challenging topics. If you feel distressed at any time during the course, please contact your instructor or seek assistance through [university resources](#).

COMP 4701 for Fall 2022

Computing, Society and Ethics

Most of the course will operate in the style of a flipped classroom. **Students must perform the required readings prior to class** (listed below as “Read”). These readings are short stories or multimedia content that will form the basis of the discussion and exercises for the indicated class. *The specific readings in the second half of the course are not finalized. Check Brightspace.*

Topics	Content
1	Introduction: Why Ethics? Codes of Conduct and Ethical Theory (A Brief Overview) Recommended: <i>Understanding Technology Ethics</i> Chapter 1 Read: ACM Code of Ethics Read: IEEE Code of Ethics
2	Virtue Ethics Recommended: <i>Understanding Technology Ethics</i> Chapter 2.4 Read: The Machine Stops (Forster)
3	Deontology Recommended: <i>Understanding Technology Ethics</i> Chapter 2.3 Read: Dolly (Bear)
4	Utilitarianism Recommended: <i>Understanding Technology Ethics</i> Chapter 2.2 Read: "Repent, Harlequin!" Said the Ticktockman (Ellison)
5	Managing Knowledge Read: The Gambler (Bacigalupi)
6	Data, Bias, and Unintended Consequences Read: Asleep at the Wheel (Boyle)
7	Privacy and Surveillance Read: Here-and-Now (Liu) Watch: Arkangel (Black Mirror S4E2)
8	Selfhood, Care. And Education Read: Lacuna Heights Read: Today I am Paul Read: Not Smart, Not Clever (Saxey)
9	Conflict and Disruption Read: Codename Delphi (Nagata) Read: The Dead Past (Asimov)

Other important dates and deadlines can be found [here](#), including class suspension for fall and winter break.

COMP 4701 for Fall 2022

Computing, Society and Ethics

Assessment Scheme

35% -- Final Project

25%*	Final project (report, video or presentation)
3%*	Project Proposal, due mid Oct
7%**	Project Peer Feedback & Review

30% -- In-class Debate

5%†	Topic Proposal (share between both teams), due early Oct
15%†	Debate Performance (team-based)
10%†	Wrap-up Report (team-based)

30% -- Assignments

20%	Four (4) Written Assignments
10%	Reflection Activities

5% -- Participation

* Grade is shared with your group (2-4 students per group)

** Grade is shared with your table (4-6 students per table)

† Specific teams TBA (may be based on groups or tables)

Final Project (35%)

You will work in groups of 2-4. You may choose your own groups if you have preferred partners. The project can take a number of forms – you may choose to submit a survey paper that summarizes several papers, you may write an analytical paper that explores the ethical ramifications of an emerging technology, you may review a piece of science fiction literature in depth, or create an original work of fiction that highlights interesting ethical dilemmas.

In place of a paper, you may choose to give an in-class presentation and submit a short written report. This option is not available for works of fiction. The papers / reports presentation will be submitted during the scheduled final exam slot for this course. The “live” presentations will take place in the last week of class

The final product will constitute 25% of your grade, which may be adjusted based on peer evaluations of your group members (submitted in Week 12). An additional 3% will be based on your Project Proposal (due **mid Oct**), which will outline the nature of your chosen project. Because of the varied nature of the possible projects, this is a chance to clarify with the instructor what constitutes an acceptable final project. The proposal will act as a promise of deliverables in the final product.

COMP 4701 for Fall 2022

Computing, Society and Ethics

During the semester, there will be scheduled sessions of peer review where you will present your in-progress paper or research to other groups for feedback. 7% of your final grade will be based both on your progress so far, and on the quality of feedback you provide for other groups.

Students working in groups are expected to collaborate and divide the work in an equal and fair manner. A peer evaluation system, to be submitted near the end of the term, will determine if group members have been eschewing their responsibilities. If this is the case, a hearing will be conducted with the group, which may lead to grade adjustments.

In-class Debate (30%)

In the second half of the semester, students take turns leading organized debates around topics important to them. Two teams draft a Topic Proposal which outlines a Resolution for debate (ex: "Should AI institutions be banned from pursuing research on General Artificial Intelligence?"), with one team taking the "Pro" position, and the other the "Con" position. The Proposal also outlines preliminary references for research, and ensures debates cover a wide range of topics. The Topic Proposal constitutes 5% of the final grade (shared between both teams).

After Topic Proposals are approved, teams will be assigned specific dates to host the debate. The debate takes place within a 30-minute period during class, where teams present and defend their case, using the ethical theory from class. Students from the class will be invited to ask questions to explore their respective positions. The debating teams will be graded based on the thoroughness of their research, soundness of their arguments, and the quality of their presentation and QA. This constitutes 15% of the final grade (shared by the team, barring exceptional circumstances).

Assignments (30%)

Most of the major assignments take place in the first half of the term, with smaller writing tasks (Reflections Activities) taking place throughout the term. The specific breakdown may be adjusting during the semester.

Participation (5%)

You will be graded based on your participation in organized activities, and your contribution to discussions with your peers within the classroom (or in online environments, as applicable). The *modal* participation grade of 3.5/5 reflects regular attendance (a basic expectation of the course) with occasional contributions to in-class discussions in a respectful and thoughtful manner. A higher grade can be earned by engaging extensively with discussions, stimulating

COMP 4701 for Fall 2022

Computing, Society and Ethics

interesting discourse, and actively facilitating a collegial and welcoming classroom environment.

Writing and Academic Integrity

This course includes significant written and oral evaluation components. This may be the first time you have written long form prose in some time. Nonetheless, clear and concise written communication is a valuable skill for computer scientists. All written and oral communications should be **in your own words** (with several clearly marked and referenced quotations).

Marks will be deducted for grammar, spelling, and punctuation errors, and other mangled misuse of language. You are expected to follow academic integrity guidelines, particularly the section on plagiarism. Plagiarism is often *very obvious* to the grader. Don't do it!

Other academic boilerplate:

If you are unsure of the expectations regarding academic integrity (how to use and cite references, how much collaboration with lab- or classmates is appropriate), ASK your instructor. Sharing assignment or quiz specifications or posting them online (to sites like Chegg, CourseHero, OneClass, etc.) is considered academic misconduct. You are never permitted to post, share, or upload course materials without explicit permission from your instructor. Academic integrity offences are reported to the office of the Dean of Science. Penalties for such offences can be found on the ODS webpage: <https://science.carleton.ca/academic-integrity/>.

Late Policy

Late assignments are **never** accepted for any reason. Assignments submissions are handled electronically (i.e., through Brightspace) and there is no "grace period" with respect to a deadline - an assignment submitted even one minute after the deadline is late and will receive a mark of zero.

Technical problems do not exempt you from this requirement, so if you wait until the last minute and then have issues with your connection, you will still receive a mark of zero.

Consequently, you are advised to:

- Periodically upload your progress (e.g. upload your progress at least daily)
- Attempt to submit your final submission at least one hour in advance of the due date and time

Undergraduate Academic Advisor

The Undergraduate Advisor for the School of Computer Science is available in Room 5302C HP; by telephone at 520-2600, ext. 4364; or by email at undergraduate_advisor@scs.carleton.ca.

COMP 4701 for Fall 2022

Computing, Society and Ethics

The undergraduate advisor can assist with information about prerequisites and preclusions, course substitutions/equivalencies, understanding your academic audit and the remaining requirements for graduation. The undergraduate advisor will also refer students to appropriate resources such as the Science Student Success Centre, Learning Support Services and Writing Tutorial Services.

SCS Computer Laboratory

SCS students can access one of the designated labs for your course. The lab schedule can be found at: <https://carleton.ca/scs/tech-support/computer-laboratories/>. All SCS computer lab and technical support information can be found at: <https://carleton.ca/scs/technical-support/>. Technical support is available in room HP5161 Monday to Friday from 9:00 until 17:00 or by emailing support@scs.carleton.ca.

University Policies

For information about Carleton's academic year, including registration and withdrawal dates, see [Carleton's Academic Calendar](#).

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 [Equity Services](#).

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 [Equity Services](#).

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 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. For more details, visit the [Paul Menton Centre](#) website.

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 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

COMP 4701 for Fall 2022

Computing, Society and Ethics

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. For more details, see [the policy](#).

Student Academic Integrity Policy. Every student should be familiar with the Carleton University student academic integrity policy. A student found in violation of academic integrity standards may be awarded penalties which range from a reprimand to receiving a grade of *F* in the course or even being expelled from the program or University. Examples of punishable offences include: plagiarism and unauthorized co-operation or collaboration. Information on this policy may be found [here](#).

Plagiarism. As defined by Senate, "plagiarism is presenting, whether intentional or not, the ideas, expression of ideas or work of others as one's own". Such reported offences will be reviewed by the office of the Dean of Science. Standard penalty guidelines can be found [here](#).

Unauthorized Co-operation or Collaboration. Senate policy states that "to ensure fairness and equity in assessment of term work, students shall not co-operate or collaborate in the completion of an academic assignment, in whole or in part, when the instructor has indicated that the assignment is to be completed on an individual basis". Please refer to the course outline statement or the instructor concerning this issue.

Special Information

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 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 must follow Carleton's symptom reporting protocols.

Masks: Carleton has paused the COVID-19 Mask policy, but continues to strongly recommend masking when indoors, particularly if physical distancing cannot be maintained. It may become necessary to quickly reinstate the mask requirement if pandemic circumstances were to change.

COMP 4701 for Fall 2022

Computing, Society and Ethics

Vaccines: While proof of vaccination is no longer required as of May 1 to attend campus or in-person activity, 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 website and review the Frequently Asked Questions (FAQs). Should you have additional questions after reviewing, please contact covidinfo@carleton.ca.

Doctor's note or medical certificate: in effect for Fall 2022 term. In place of a doctor's note or medical certificate, students are advised to complete the [self-declaration form](#) available on the Registrar's Office website to request academic accommodation for missed course work including exams and assignments. Students should also discuss with the course instructor the required accommodations arising from the COVID-19 situation.

Acknowledgements

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