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: Mondays & Wednesdays, 0835 – 0955
Office Hours: **Wednesdays, 1330-1500 **changed**
Required Tools: Zoom (using registered account), and Discord
*During office hours, the instructor will be available on Zoom for drop-in sessions to discuss matters related to the course. Link will be available on Brightspace. Messages on Discord and emails during this hour will be replied to promptly. You may also schedule an appointment by emailing the instructor; if you have questions that may be useful for the rest of the class, **please post them to Brightspace or Discord** so your classmates can benefit from the discussion.*
Last Revised: 2021-09-02

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: There are no formal prerequisites to this course but the course material assumes a mature understanding of computing technologies. This course is recommended for upper year students in computer science, and will have significant written and oral communications components.

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

The course has **two synchronous sessions every week**. Links will be posted on Brightspace. Attendance in all sessions is **mandatory**.

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.

Use of Webcams

The majority of the course is structured around discussions through synchronous sessions. Body language and facial cues are essential in facilitating effective communications. Therefore, students are **encouraged** to turn on their web cams during synchronous sessions, particularly during group discussions and when presenting results to the rest of the class. If you have difficulties or concerns with regular use of your webcam, please contact the instructor.

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 to Brightspace** 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.

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: *Understanding Technology Ethics* Chapter 1 Read: ACM Code of Ethics Read: IEEE Code of Ethics
2	**Virtue Ethics** Recommended: *Understanding Technology Ethics* Chapter 2.4 Read: The Machine Stops (Forster)
3	**Deontology** Recommended: *Understanding Technology Ethics* Chapter 2.3 Read: Dolly (Bear)
4	**Utilitarianism** Recommended: *Understanding Technology Ethics* 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)
	Fall Break (No Classes)
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) Thurs: Project Peer Review
10	**Project Week** Student Presentations
	Exam Period: **Final Project due**

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

Assessment Scheme

35% -- Final Project

	25%*	Final project (report, video or presentation), **submitted during your final exam time slot**
	3%*	Project Proposal, **due Oct 19**
	7%**	Project Peer Feedback & Review

25% -- News Discussion (Lead and Comment)

	15%**	Lead one (1) News Discussion and Perspective Statements
	10%	Participation in Other News Discussions

30% -- Assignments

	20%	Five (5) Written Assignments
	10%	Reflections / Discussion Write-ups**

10% -- Participation

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

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

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 "live" presentation or a pre-recorded presentation, and submit a short written report. This option is not available for the work of fiction. The papers / pre-recorded 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 Oct 19), 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.

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 conduct with the group, which may lead to grade adjustments.

News Discussion (25%)

Each week, a table of 4-6 students will be assigned to lead a news discussion on the Brightspace forum. If your table is assigned for the week, you must collectively find a recent news item with 3 reliable sources, and present the item to the class for discussion. You should include a summary and two statements representing competing perspectives on the issue, justified using the ethical frameworks discussed in class. This constitutes 15% of your grade.

Once the news item is live on Brightspace, the entire class is invited to comment and discuss the news item and the competing perspectives. Your participation in these discussions throughout the term will be worth 10%.

Assignments (30%)

Most of the major assignments will take place in the first half of the term, with smaller writing tasks (Reflections and Discuss Write-ups) taking place throughout the term.

Participation (10%)

You will be graded based on your participation in synchronous session activities, as well as asynchronous discussions on Brightspace.

Writing and Academic Integrity

This course includes significant written evaluated components. This may be the first time you have written long form prose in a while. Nonetheless, clear and concise written communications are a valuable skill for computer scientists. 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 you 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. 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](#)

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.

Acknowledgements

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