

Western University
Faculty of Engineering
Department of Electrical and Computer Engineering

ECE 9660b – Artificial Intelligence and Society: Ethical and Legal Challenges

COURSE OUTLINE 2021

DESCRIPTION

The objective of this course is to introduce students to selected ethical and legal frameworks relevant to artificial intelligence, data science and big data in the context of its societal, economic and political applications in contemporary society. The course will be delivered by an interdisciplinary team of academic and industry experts in ethics, law, and artificial intelligence.

The topics covered in this course will include:

- Introduction to ethics: basic concepts, definitions and key works
- Ethics of artificial intelligence: key issues
- Introduction to data privacy and data protection regulations
- Emerging legislative and soft law initiatives concerning AI
- Case studies incorporating the above topics

PREREQUISITES

This course is open to research-based graduate students (MEdSc. and Ph.D.) in the Department of Electrical and Computer Engineering. No specific courses are required. Students are however expected to have previous working knowledge in either analytics, artificial intelligence, data science, or statistical modelling.

ANTIREQUISITES

PHILOSOP 9232

LECTURE SCHEDULE

Lecture times: TBC

Lecture mode: Online. Zoom information will be published in OWL. Recordings of lectures will be made available on the site.

Week	Dates	Topics
1	Jan 11	How to think like an ethicist: introduction to critical thinking and ethical reasoning; why we shouldn't be ethical relativists. (Chomanski)
2	Jan 18	Selected ethical theories: consequentialism and Kantian ethics; introduction to philosophical approaches to law and regulation. (Chomanski)
3	Jan 25	Ethical issues in AI: privacy, transparency, explainability. (Chomanski)

4	Feb 1	Ethical issues in AI: fairness, bias and regulation of AI technologies. (Chomanski)
5	Feb 8	Introduction to Law and AI: application of general principles and emerging regulatory initiatives. (Petrin)
6	Feb 15	Reading week
7	Feb 22	Data protection and privacy aspects (I). (TBC)
8	Mar 1	Data protection and privacy aspects (II). (TBC)
9	Mar 8	Case study 1 (TBC)
10	Mar 15	Case study 2 (TBC)
11	Mar 22	Case study 3 (TBC)
12	Mar 29	Case study 4 (TBC)
13	Apr 5	Class wrap-up and review (TBC)

SPECIFIC LEARNING OUTCOMES

By the end of this course students should be able to:

1. Explain the meaning and purpose of an ethical theory in the context of Artificial Intelligence.
2. Make use of ethical theory to develop a rigorous, multifaceted understanding of ethical issues in the context of the impacts of Artificial Intelligence.
3. Describe selected national and transnational legal frameworks and codes governing artificial intelligence and its applications.
4. Identify consequences following from the implementation of legal frameworks regarding applications of artificial intelligence in organizations.
5. Explain the workings, usefulness and limitations of current technical solutions to fairness, accountability, transparency, and security problems arising in the application of Artificial Intelligence.
6. Develop solutions to specific ethical conflicts arising from the application of Artificial Intelligence.

ASSESSMENTS

- Reading responses: 20% (Weeks 1-4 only)
- Group presentations on case studies: 40%
- Take-home exam: 40%
 - Reading responses will consist of short (about one-page) responses to the readings, consisting of a quick summary and/or including aspects of the reading that you agree with, aspects you disagree with, and any issues that you think will require additional clarification. These responses won't be graded individually but in order to receive full marks, you'll have to complete them all.
 - The group presentations will be oral presentations (recorded or live, as determined by the instructors) on one of the case studies covered in the course.

- The take-home exam will be a 24-hour take home exam with essay and/or problem questions (word limit: 2,000 words, including footnotes)
- Click here for a detailed and comprehensive set of policies and regulations concerning examinations and grading.

ACCOMMODATED EXAMS

- Late assessments without illness self-reports will be subject to a late penalty discount of 10%/day (this means if your coursework gets an 80%, and you submit one day late, your final mark will be 80% - 10% = 70%). The day late starts at the 00:00 of the day after the deadline posted above. There are NO EXCEPTIONS to this policy.
- Late assessments with illness self-reports should be submitted within 24 hours of submission of the last illness self-report.
- An assessment cannot be submitted after it has been returned to the class. A final, summative assessment will be assigned if the assignment is missed.
- If a make-up assessment is missed, the student will receive an INC and complete the task the next time the course is offered.
- If permission to waive the requirement that students receive evaluation on work totaling 15% of their final grade at least three days prior to the deadline for withdrawal without academic penalty has been obtained from the Dean's Office, a statement to this effect must be made.

CONTACT INFORMATION

Course instructor: Bartek Chomanski

Email address: bchomans@uwo.ca

Teaching Assistants: TBC

Email address: TBC

Office Hours:

TBC

Students must use their Western (@uwo.ca) email addresses when contacting their instructors. We strive to answer all emails within 24 business hours.

REQUIRED TEXTBOOK

There is no required textbook. Course materials or links to them will be provided on OWL.

OPTIONAL COURSE READINGS

List optional textbook(s) and other course reading material

- Chudnoff, "Argumentation"; Pynn "Introduction to Critical Thinking"; Johnson, "Ethics and Information Technology" part 1 (from Johnson, Computer Ethics)

- Johnson, “Ethics and Information Technology” part 2; Brennan and Surprenant, “What should be a crime?” (from Brennan and Surprenant, *Injustice for All*); Internet Encyclopedia of Philosophy, “Normative Jurisprudence”; Macnish “Introduction to privacy”
- Wildman et al. “The ethics of data acquisition”; Zerilli, “Transparency in algorithmic and human decision-making: is there a double standard”; Robbins “A Misdirected Principle with a Catch: Explicability for AI”
- Wong, “Democratizing Algorithmic Fairness”; Douglas, “Biased Algorithms”; Pasquale *The Scored Society* (excerpts); Haggendorff “The Ethics of AI Ethics”; Bartneck et al. “Risk in the Business of AI” (from Bartneck et al. *An Introduction to Ethics in Robotics and AI*)

Instructors may assign additional reading; Full reading list will be available on OWL

CHEATING, PLAGIARISM/ACADEMIC OFFENCES

Academic integrity is an essential component of learning activities. Students must have a clear understanding of the course activities in which they are expected to work alone (and what working alone implies) and the activities in which they can collaborate or seek help; see information above under “Assessments” and ask instructor for clarification if needed. Any unauthorized forms of help-seeking or collaboration will be considered an academic offense. University policy states that cheating is an academic offence. If you are caught cheating, there will be no second warning. Students must write their essays and assignments in their own words. Whenever students take an idea or a passage of text from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. Plagiarism is a major academic offence. Academic offences are taken seriously and attended by academic penalties which may include expulsion from the program. Students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence (see Western's scholastic discipline regulations for graduate students).

SYNCHRONOUS LEARNING ACTIVITIES

Students are expected to participate in synchronous learning activities as outlined in the course syllabus and/or described by the instructor. If you have issues that will impede your ability to participate in synchronous activities, please discuss with the course instructor at the beginning of the course.

CONDUCT

Students are expected to follow proper etiquette during synchronous and asynchronous activities to maintain an appropriate and respectful academic environment. Any student who, in the opinion of the instructor, is not appropriately participating in the synchronous and asynchronous learning activities and/or is not following the rules and responsibilities associated with the online learning activities, will be reported to the Associate Dean (Graduate) (after due warning has been given). On the recommendation of the Department concerned, and with the permission of the Associate Dean (Graduate), the student could be debarred from completing the assessment activities in the course as appropriate.

HEALTH/WELLNESS

As part of a successful graduate student experience at Western, we encourage students to make their health and wellness a priority. Western provides several health and wellness related services (remotely accessible) to help you achieve optimum health and engage in healthy living while pursuing your graduate degree. Information regarding health- and wellness-related services available to students may be found at <http://www.health.uwo.ca/>.

Students seeking help regarding mental health concerns are advised to speak to someone they feel comfortable confiding in, such as their faculty supervisor, their program director (graduate chair), or other relevant administrators in their unit. Campus mental health resources may be found at http://www.health.uwo.ca/mental_health/resources.html
<https://www.uwo.ca/health/psych/index.html>

SICKNESS

Students should immediately consult with the Instructor (for a particular course) or Associate Chair (Graduate) (for a range of courses) if they have problems that could affect their performance. The student should seek advice from the Instructor or Associate Chair (Graduate) regarding how best to deal with the problem. Failure to notify the Instructor or the Associate Chair (Graduate) immediately (or as soon as possible thereafter) will have a negative effect on any appeal. Obtaining appropriate documentation (e.g., a note from the doctor) is valuable when asking for accommodation due to illness.

ACCESSIBILITY

Please contact the course instructor if you require material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Accessible Education at 661-2111 x 82147 or http://academicsupport.uwo.ca/accessible_education/index.html, for any specific question regarding an accommodation.