

**FOR APPROVAL**

**PUBLIC**

**OPEN SESSION**

**TO:** UTSC Academic Affairs Committee

**SPONSOR:** Prof. Karin Ruhlandt, Vice-Principal Academic and Dean  
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**DATE:** January 8 for January 26, 2026

**AGENDA ITEM:** 8

**ITEM IDENTIFICATION:**

Major Modification: New Freestanding Minor in Artificial Intelligence, Mind, and Society (Arts) (Undergraduate), Department of Philosophy, UTSC (for approval)

**JURISDICTIONAL INFORMATION:**

The UTSC Academic Affairs Committee (AAC) “is concerned with matters affecting the teaching, learning, and research functions of the campus (AAC *Terms of Reference*, Section 4).” Under Section 5.6 of its *Terms of Reference*, the AAC is responsible for the approval of “major and minor modifications to existing degree programs.”

The AAC has responsibility for the approval of major and minor modifications to existing programs as defined by the [University of Toronto Quality Assurance Process](#) (UTQAP, Sections 3.1 and 3.3).

**GOVERNANCE PATH:**

1. **UTSC Academic Affairs Committee [For Approval] (January 26, 2026)**

**PREVIOUS ACTION TAKEN:**

No previous action in governance has been taken on this item.

**HIGHLIGHTS:**

The Department of Philosophy at UTSC is proposing a new freestanding Minor in Artificial Intelligence, Mind, and Society (Arts) (AIMS) to complement its existing undergraduate offerings. The Minor builds on the Department’s established strengths in ethics, philosophy of mind, epistemology, and philosophy of science, while expanding its applied and interdisciplinary programming in a high-demand area. It is

designed to pair effectively with a wide range of programs across UTSC, including Computer and Mathematical Sciences, Psychology, Management, Media Studies, Linguistics, Political Science, Sociology, and health-related programs, thereby broadening students' academic and career pathways.

The Minor forms part of a coordinated cluster of new AI-related initiatives at UTSC, alongside a proposed Minor in Social Data Science and new Artificial Intelligence and Machine Learning streams in Computer Science. While complementary, the AIMS Minor is distinct in its humanistic and philosophical focus, addressing the conceptual, ethical, and societal implications of contemporary AI technologies, including large language models.

The interdisciplinary structure of the Minor enables students from diverse academic backgrounds to develop a non-technical but conceptually rigorous understanding of AI, alongside transferable analytical, ethical, and critical-reasoning skills. Students will examine issues such as bias, fairness, autonomy, privacy, creativity, employment, and environmental impact, while engaging with longstanding philosophical debates about mind, intelligence, language, and agency. This prepares graduates to navigate and respond thoughtfully to AI-driven changes across professional, civic, and personal contexts.

At both the departmental and campus levels, the proposed AIMS Minor aligns closely with the [UTSC Strategic Plan](#) by responding to societal transformations, supporting interdisciplinary program combinations, and enhancing student preparedness for a rapidly changing world. The Minor also supports institutional priorities related to the [Scarborough Academy of Medicine and Integrated Health \(SAMIH\)](#) and the University's tri-campus commitment to the [United Nations Sustainable Development Goals](#), given the growing role of AI in health, environmental science, and sustainability initiatives.

The proposal has benefited from extensive consultation with faculty, students, cognate units at UTSC, and partners across the tri-campus, with feedback strongly supportive of the program's concept, structure, and distinctiveness. Student consultation demonstrated broad interest across disciplines, confirming clear demand for the proposed offering.

Overall, the proposed Minor represents a timely and strategic enhancement to UTSC's undergraduate curriculum, strengthening interdisciplinary education and positioning students to engage critically and responsibly with artificial intelligence and its societal impacts. The Minor in Artificial Intelligence, Mind, and Society (Arts) program is proposed to take effect on September 1, 2026.

## **FINANCIAL IMPLICATIONS:**

There are no significant financial implications to the campus operating budget.

## **RECOMMENDATION:**

Be It Resolved,

THAT the new freestanding Minor in Artificial Intelligence, Mind, and Society (Arts) (Undergraduate), Department of Philosophy, as described in the proposal dated January 6, 2026, be approved, effective Fall 2026 for the 2026-27 academic year.

**DOCUMENTATION PROVIDED:**

1. Proposal - Major Modification to introduce a new freestanding Minor in Artificial Intelligence, Mind, and Society (Arts), Department of Philosophy (January 6, 2026)



## University of Toronto Major Modification Proposal: Add Program Structure (Freestanding Minor, Specialist or Major Where One Exists, Stream, Field or Concentration)

<p><b>Program being modified:</b> Please specify what program and the components being created; e.g., New stream in the Specialist in History called....</p>	<p>New Freestanding Minor in Artificial Intelligence, Mind, and Society (Arts)</p>
<p><b>Program of Study Code(s):</b>  Indicate if new POST is needed</p>	<p>SCMINXXXX – new subject POST code required</p>
<p><b>Proposed major modification:</b></p>	
<p><b>Department/unit (if applicable):</b></p>	<p>Department of Philosophy</p>
<p><b>Faculty/division:</b></p>	<p>University of Toronto Scarborough (UTSC)</p>
<p><b>Dean’s office contact:</b></p>	<p>Maggie Cummings, Special Advisor on Academic Programming &amp; Curriculum Development (<a href="mailto:saprogramming.utsc@utoronto.ca">saprogramming.utsc@utoronto.ca</a>)</p> <p>Kevin Mak, Academic Programs Officer (<a href="mailto:kevin.mak@utoronto.ca">kevin.mak@utoronto.ca</a>)</p>
<p><b>Proponent:</b></p>	<p>Julia Nefsky, Professor and Chair (<a href="mailto:philchair.utsc@utoronto.ca">philchair.utsc@utoronto.ca</a>)</p>
<p><b>Version date:</b> Please update as you edit this proposal.</p>	<p>January 6, 2026</p>

## Framework for UTQAP Major Modifications

The [University of Toronto Quality Assurance Process](#) (UTQAP) supports a structured approach for creating, reflecting on, assessing, and developing plans to change and improve academic programs and units in the context of institutional and divisional commitments and priorities.

The University of Toronto (U of T), in its [Statement of Institutional Purpose](#) (1992), articulates its mission as a commitment "to being an internationally significant research university, with undergraduate, graduate, and professional programs of excellent quality." Thus "quality assurance through assessment of new program proposals and review of academic programs and units in which they reside is a priority for the University..."

The quality of the scholarship of the faculty, and the degree to which that scholarship is brought to bear in teaching are the foundations of academic excellence. More generally, all of the factors that contribute to collegial and scholarly life — academic and administrative complement, research and scholarly activity, infrastructure, governance, etc. — bear on the quality of academic programs and the broad educational experience of students. ([Policy for Approval and Review of Academic Programs and Units](#) (2010))

The University's approach to quality assurance is built on two primary indicators of academic excellence: the quality of the scholarship and research of faculty; and the success with which that scholarship and research is brought to bear on the achievement of Degree Level Expectations. These indicators are assessed by determining how our scholarship, research and programs compare to those of our international peer institutions and how well our programs meet their Degree Level Expectations.

The University of Toronto embraces academic change as a critical part of maintaining and enhancing programs of outstanding quality through a process of continuous improvement.

## Major Modification Proposal

A major modification to an existing program is a restructuring of a program, a merger of or the creation of new elements within existing programs, or a renewal of a program in order to keep it current with its academic discipline or improve student academic experience.

This template should be used to bring forward proposals for major modifications for:

- Creation of a new program of specialization where another with the same designation already exists (e.g., a new specialist program where a major with the same designation already exists).
- Addition of a new major or specialist that does not differ substantially in program requirements or learning outcomes from an existing program.
- Merger of two or more existing programs.
- Creation of a minor where there is no existing program of specialization (i.e., a “freestanding minor”).
- Creation of a field or concentration within an existing graduate program.
- Creation of a stream within an existing undergraduate program.

This template aligns with UTQAP requirements and will help to ensure that all evaluation criteria established by the Quality Council are addressed in bringing forward a proposal. Divisions may have additional requirements that should be integrated into the proposal. Examples of major modifications are provided in [UTQAP 3.1](#). See the [VPAP website](#) for more information on major modifications.

<b>Development and Approval Steps</b>	<b>Date (e.g., of final sign off, governance meeting, inclusion in reports)</b>
Dean’s office sign-off	[date]
VPAP sign-off	[date]
Unit-level approval (if required)	October 6, 2025
Faculty/divisional governance	[date]
Faculty/division submits final proposal to VPAP	[date]
Included in Major Modification Report to AP&P	May 12, 2026
Included in Major Modification Report to Quality Council	July 2026

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## 1 Executive Summary

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Please provide a brief summary of the change being proposed.

This is a proposal to introduce a new freestanding Minor in Artificial Intelligence, Mind, and Society (Arts), which will be housed in the Department of Philosophy at the University of Toronto Scarborough (UTSC). The AIMS minor will be part of a cluster of three proposed new offerings at UTSC that will address the contemporary relevance of, and student interest in, artificial intelligence from distinct disciplinary perspectives. The other offerings include a new freestanding minor in Social Data Science (Department of Sociology), and streams in Artificial Intelligence and Machine Learning within the Specialists (regular and co-op) in Computer Science (Department of Computer and Mathematical Sciences). These three new offerings will be complementary, but each is also unique and approaches the broad issue of artificial intelligence (AI) from a different perspective. While there are related programs at U of T that address cognitive science and the history and philosophy of technology, there is no other program focused on the social and philosophical issues posed by AI offered on the UTSC campus, nor at the St. George (UTSG) or University of Toronto Mississauga (UTM) campuses of University of Toronto, nor

indeed in Canada. Though several philosophy departments in Ontario, including the Faculty of Arts & Science at U of T, have introduced a course in the Philosophy of AI, none have introduced a Minor Program.

The past few years have seen new developments in artificial intelligence, especially in Large Language Models (LLMs) that are already transforming society and that will continue to reshape how we live, work and relate to one another. The rapid development in AI technologies makes it urgent to understand the kind of intelligence and ‘mind’ that these systems have. These systems make age-old questions about the nature of reasoning, language use, consciousness, and agency pressing. The accelerating pace of new AI technologies brings numerous societal changes owing to applications of AI in the workplace, the use of AI in collecting information with resulting issues of privacy and intellectual property, as well the use of AI to inform or manipulate human behavior, belief and decision making. AI technologies can be used in diverse beneficial applications that depend on processing enormous amounts of data with ever improving pattern recognition and prediction. But the use of AI also entrenches and amplifies social inequalities and biases, and has the potential to replace diverse kinds of human employment. Because of the accelerating pace of AI technologies and the widespread changes they bring, it is urgent that students have the opportunity to develop a non-technical understanding of key AI technologies such as LLMs, and of the societal and ethical issues they raise. The Artificial Intelligence, Mind, and Society (AIMS) Minor Program is designed to meet this need for students who are pursuing studies in any discipline or combination of disciplines at UTSC such as computer science, mathematics, statistics, psychology, management, media studies, language studies, etc., offered by diverse departments. It is anticipated that the proposed Minor will appeal to students from the full range of disciplines and departments at UTSC, both within and beyond the humanities and social sciences.

The AIMS Minor Program is distinctive in several respects. First, the proposed minor offers a humanistic and specifically philosophical approach to AI. Philosophy is uniquely poised to ground the study of AI and the societal challenges it poses because philosophy provides training in (i) foundational issues concerning the nature of mind, knowledge, language and science, (ii) ethics, and (iii) analytical and critical thinking. In addition to its philosophical base, the AIMS Minor will give students exposure to interdisciplinary and multidisciplinary approaches to AI through elective courses drawn from a wide range of disciplines.

The AIMS Minor Program promotes several initiatives in the UTSC Strategic Plan, [\*Inspiring Inclusive Excellence\*](#) (2020-2025, extended to 2030). Study of the societal issues posed by AI technologies prepares students for a rapidly changing world and provides skills for addressing and mitigating inequities that arise with these technological changes. Since AI technologies are becoming an integral part of health services and sciences, the AIMS Minor program supports the Scarborough Academy of Medicine and Integrated Health (SAMIH), which is scheduled to open in 2026. Similarly, since AI technologies are becoming integral to environmental and climate science and initiatives to counter climate change, the AIMS Minor program supports the tri-campus strategic commitment to the [United Nations Sustainable Development Goals](#) (SDGs).

At the departmental level, the AIMS Minor Program builds on strengths in ethics, epistemology, and philosophy of mind. The Minor would expand the Philosophy offerings in a significantly applied area to a wide range of students.

The AIMS Minor will complement existing undergraduate programs offered by the Philosophy Department, including the Minor, Major and Specialist in Philosophy; the Specialist Co-op and Major Co-op in Philosophy; and the Minor in Biomedical Ethics (to be renamed the Minor in Bioethics effective September 2026, pending governance approval). Moreover, the AIMS Minor offers a collaborative, cross-departmental element by integrating select courses offered by the Institute for the History & Philosophy of Science and Technology in the Faculty of Arts & Science as electives.

## 2 Effective Date

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Please indicate when students may first be enrolled in the new structure and the anticipated date of the first review.

Effective date: **September 1, 2026**

Date of first review:

The proposed Minor will be reviewed with programs housed in the Department of Philosophy. A UTQAP review and site visit of the Department and its programs took place in October 2024; the proposed Minor would therefore be reviewed at the next scheduled review of the unit and its programs, which is planned to take place no later than the 2032-33 academic year.

### **3 Current Calendar Copy with Changes Tracked or Highlighted**

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Insert calendar copy, including the program description, with all changes tracked or highlighted.

#### Calendar Program Description

The Minor in Artificial Intelligence, Mind, and Society combines non-technical, foundational understanding of artificial intelligence technologies (including Large Language Models) and their applications, with a focus on their social and ethical impacts. Applications of AI in science, health care, finance, entertainment, and in the workplace more generally, continue to bring transformative societal changes. The collection and use of data challenges accepted norms of privacy, autonomy, and decision making. Students taking the minor will be introduced to discussions about fairness, bias in algorithms, creativity, and the long-term consequences of automation. Students will engage with longstanding philosophical debates about the nature of the mind, language and knowledge, and will also supplement this knowledge with interdisciplinary perspectives from a wide variety of complementary fields of study.

#### Program Requirements

This program requires students to complete a total of 4.0 credits.

1. 0.5 credit:

PHLB18H3 Artificial Intelligence, Mind and Ethics (**EXISTING COURSE WITH PROPOSED MODIFICATION TO TITLE**) \*

2. 1.0 credit in Philosophy of Artificial Intelligence (select from the following courses):

PHLC18H3 Philosophy of Artificial Intelligence (**NEW**)

PHLC19H3 Topics in Philosophy of Artificial Intelligence (**NEW**)

PHLD18H3 Advanced Seminar in Philosophy of Artificial Intelligence (**NEW**)

3. 1.0 credit in Epistemology, Ethics, and Philosophy of Mind (select from the following courses):

PHLB07H3 Ethics

PHLB20H3 Belief, Knowledge, and Truth

PHLB81H3 Theories of Mind

4. 1.5 additional credits from the following courses:

**Note** that additional non-Philosophy credits may have discipline-specific prerequisites. Please consult the relevant program section of the calendar for details.

**Note** that only Philosophy credits not used to satisfy requirements 1, 2, or 3 can be used to satisfy requirement 4.

ANTB12H3 Anthropology of Science Fiction

ANTB33H3 The Future of Work

ANTC65H3 Anthropology of Science, Medicine, and Technology

CSCA20H3 Introduction to Programming

CSCB20H3 Introduction to Databases and Web Applications

CSCC11H3 Introduction to Machine Learning and Data Mining

CSCD03H3 Social Impact of Information Technology

CSCD84H3 Artificial Intelligence

STAA57H3 Introduction to Data Science

STAC58H3 Statistical Inference

STAD68H3 Advanced Machine Learning and Data Mining

STAD78H3 Machine Learning Theory

ENGB40H3 Video Games and Literature

ENGB78H3 The Digital Text: From Digitized Literature to Born-Digital Works

ENGC41H3 Video Games: Exploring the Virtual Narrative  
ENGC49H3 The Digital Self: Social Media & Literary Culture  
ENGD50H3 Fake Friends and Artificial Intelligence: the Human-Robot Relationship  
in Literature and Culture  
HISA02H3 Rise of the Machines: How Technology Remakes the World  
HISB05H3 How We Became Digital: Introduction to our Information Age  
LINA01H3 Introduction to Linguistics  
LINC35H3 Introduction to Computational Linguistics  
PLIC55H3 Psycholinguistics  
PLIC75H3 Language and the Brain  
MDSC28H3 Data and Artificial Intelligence  
MDSB20H3 Media, Science and Technology Studies  
MDSB30H3 Social Media and Digital Culture  
MDSB35H3 Platform Labour  
MDSC24H3 Selfies and Society  
MDSC27H3 Digital Research Ethics  
MDSC28H3 Data and Artificial Intelligence  
MDSC31H3 Platforms and Cultural Production  
MGOC15H3 Introductory Business Data Analytics  
MGSC10H3 Business Strategy in the Digital Age  
MGOD31H3 Advanced Business Data Analytics  
MGSD55H3 Strategy and Technology  
PHLB03H3 Philosophy of Aesthetics  
PHLB07H3 Ethics  
PHLB20H3 Belief, Knowledge, and Truth  
PHLB17H3 Introduction to Political Philosophy  
PHLB81H3 Theories of Mind  
PHLB91H3 Theories of Human Nature  
PHLC05H3 Ethical Theory  
PHLC06H3 Topics in Ethical Theory  
PHLC18H3 Philosophy of Artificial Intelligence **(NEW)**  
PHLC19H3 Topics in Philosophy of Artificial Intelligence **(NEW)**  
PHLC20H3 Theory of Knowledge  
PHLC72H3 Philosophy of Science  
PHLC80H3 Philosophy of Language  
PHLC86H3 Issues in the Philosophy of Mind  
PHLC92H3 Political Philosophy

PHLC93H3 Topics in Political Philosophy  
PHLC95H3 Topics in the Philosophy of Mind  
PHLD05H3 Advanced Seminar in Ethics  
PHLD18H3 Advanced Seminar in Philosophy of Artificial Intelligence **(NEW)**  
PHLD87H3 Advanced Seminar in Philosophy of Mind  
POLC30H3 Law, Politics and Technology  
PSYD52H3 Neural Network Models of Cognition Laboratory\*\*

Electives from IHSPT (Faculty of Arts & Science)\*\*\*

HPS220H1 Machines  
HPS255H1 History and Philosophy of Artificial Intelligence  
HPS340H1 The Limits of Machine Intelligence  
HPS345H1 Quantifying the World: on the Ethical and Epistemic Implications of AI and Automation  
HPS346H1 Modifying and Optimizing Life: on the Peculiar Alliance between AI, Biology and Engineering

5. Of the 4.0 credits required for the Minor, 1.5 credits must be at the C/300- and/or D/400-levels.

\* Students are encouraged to take PHLA10H3 Reason and Truth, and PHLA11H3 Introduction to Ethics as recommended preparation for PHLB18H3.

\*\*Only students enrolled in a Psychology or Mental Health Studies Major or Specialist program are eligible to enroll in PSYD52H3

\*\*\* If a student takes an elective course(s) from HPST in the Faculty of Arts & Science, they should note that, although the course counts as an earned credit, any course from another undergraduate division beyond the 10.0-credit limit will not count toward the 20.0 credits required for a UTSC degree. However, the course will still be included in the Grade Point Average (GPA) calculation, in accordance with the current academic regulation on [Courses in Other Divisions or Faculties](#).

**Note:** The Minor program in Artificial Intelligence, Mind, and Society cannot be combined with the Minor program in Philosophy or the Minor program in Bioethics (formerly the Minor program in Biomedical Ethics); however, students may combine the Minor program in Artificial Intelligence, Mind, and Society with the Major, Major Co-op, Specialist, or Specialist Co-op programs in Philosophy. Students combining

the Minor with the Major, Major Co-op, Specialist, or Specialist Co-op programs in Philosophy may only count 1.0 credit of courses towards the combination of programs.

## 4 Academic Rationale and Program Objectives

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### 4.1 Program Objectives

- a) State the program's objectives.

The primary program objective of the proposed Minor is to provide students with non-technical, conceptual understanding of emerging AI technologies and a humanistic, interdisciplinary, and analytical approach to the societal transformations and challenges they bring.

Students will gain (i) an understanding of AI technologies, including the learning algorithms they use; (ii) applicable knowledge in a range of related philosophical subjects such as ethics and philosophy of mind; (iii) transferable analytical skills provided by philosophy of AI courses; and (iv) acquaintance with diverse approaches to AI from a range of humanities and social science disciplines as well as from Management, Psychology, and Computer and Mathematical Sciences. Addressing new AI technologies with the conceptual frameworks developed in philosophy of mind and ethics, as well as other areas of philosophy, gives students established conceptual tools for understanding and analysing these systems. Students will receive impactful and transferable training in philosophical analysis, argumentation and writing.

### 4.2 Academic Rationale

In a **single** response, please describe the academic rationale for the proposed changes, referring to the calendar copy above, and considering the offering relative to the criteria below.

- a) Discuss the consistency of the program's objectives with the institution's mission and U of T's/the division's/unit's academic plans, priorities and commitments,

- including consistency with any implementation plans developed following a previous review.
- b) Appropriateness of degree or diploma nomenclature given the program's objectives.
  - c) Evidence that the following have been substantially considered in the context of developing the proposed change and its associated resources:
    - i. [Universal design principles](#) and/or the potential need to provide mental or physical disability-related accommodations, reflecting the University's [Statement of Commitment Regarding Persons with Disabilities](#).
    - ii. Support for student well-being and sense of community in the learning and teaching environment, reflecting the work of the [Expert Panel on Undergraduate Student Educational Experience](#) and the commitment to establishing a Culture of Caring and Excellence as recommended by the Presidential and [Provostial Task Force on Student Mental Health](#).
    - iii. Opportunities for removing barriers to access and increasing retention rates for Indigenous students; for integrating Indigenous content into the curriculum in consultation with Indigenous curriculum developers; and for addressing any discipline-specific calls to action, reflecting the commitments made in [Answering the Call: Wecheehetowin: Final Report of the Steering Committee for the University of Toronto Response to the Truth and Reconciliation Commission of Canada](#).
    - iv. Opportunities for removing barriers to access and increasing retention rates for Black students; for promoting intersectional Black flourishing, fostering inclusive excellence and enabling mutuality in teaching and learning, reflecting the commitments made in the [Scarborough Charter](#) and consistent with the recommendations of the [Anti-Black Racism Task Force Final Report](#).
    - v. Opportunities for fostering an equitable, diverse, and inclusive teaching and learning environment, reflecting the values articulated in existing institutional documents such as the [Statement on Equity, Diversity, and Excellence](#), the [Antisemitism Working Group Final Report](#), the aforementioned reports and future institutional reports related to equity, diversity and inclusion.
  - d) Where appropriate, discuss unique curriculum or program innovations, creative components, significant high-impact practices relative to the change proposed.
  - a) Provide a statement on the way in which the proposed major modification will improve the student experience (required).

## Context

Artificial Intelligence (AI) is transforming all dimensions of human life. The impacts of greatly improved AI technologies, including Large Language Models (LLMs) are already being felt in the workplace and in personal life. These transformative developments are both beneficial and harmful. In the workplace, for example, AI is beginning to provide powerful diagnostic benefits in health care, as well as increased monitoring and modelling capability in dealing with climate change. But AI technologies are also taking away large areas of employment while changing the nature of work across ‘blue collar,’ ‘white collar’ and creative artistic occupations. The impacts on personal life are no less significant. For example, AI technologies accumulate and store information, posing challenges to accepted norms of privacy, autonomy and decision making. Moreover, LLMs have a very large carbon and water footprint, which raises significant ecological concerns. AI technologies make real, immediate, and pressing long-standing, conceptual and normative – or philosophical – questions about the nature of mind, intelligence, creativity, autonomy and responsibility. The stakes for understanding and managing these technologies and their diverse impacts are enormous and unavoidable.

The proposed Minor in AI, Mind, and Society (AIMS) will give students a foundational understanding of AI technologies (including LLMs) and the social and ethical issues they raise so students make more informed and responsible choices as they navigate the changing nature of work, citizenship and personal life. The program will address students’ interest in AI and its impacts, and it will prepare them to participate and take leadership roles in a changing world. According to the [World Economic Forum’s Future of Jobs Report 2025](#), skills that complement technology-related training in AI and big data, such as “*creative thinking, resilience, flexibility and agility, along with curiosity and lifelong learning, are...expected to continue to rise in importance over the 2025-2030 period.*” The AIMS Minor, which will equip students with such skills, will improve students’ credentials in an ever more competitive employment market.

The proposed Minor is aimed at students with a variety of backgrounds in sciences, social sciences, arts, and humanities. The study of AI and society intersects with a range of disciplines – such as computer science, mathematics, statistics, psychology, management, media studies, and language studies – and the AIMS Minor is designed to complement any Specialist or Major Program or combination of

Major and Minor Programs at UTSC. (See earlier note regarding the restriction in combining with the Minor in Philosophy.)

### **Distinctiveness**

At U of T, there are related programs in the Faculty of Arts & Science that address cognitive science and the history and philosophy of technology. We believe the proposed Minor will complement the aforementioned programs in that it will provide a non-technical, humanistic understanding of AI, Mind, and Society that is (i) grounded in philosophy and (ii) supports a broad range of inter-disciplinary and multi-disciplinary electives from a variety of disciplines. The strong inter- and multi-disciplinary nature of the program is achieved by a wide range of electives that includes courses from the departments of Arts, Culture and Media; Anthropology; English; Linguistics; Management; Philosophy; Political Science; Psychology; and Computer and Mathematical Sciences at UTSC, as well as IHPST in the Faculty of Arts & Science.

### **Fit with Departmental and Campus Academic Mission**

The AIMS Minor is consistent with and promotes the department's academic priorities. The AIMS Minor:

- Builds on the department's strengths in ethics and philosophy of mind, as well as philosophy of language and logic, which make up the core areas concerning the foundations and impacts of AI.
- Fills important knowledge gaps concerning the conceptual, normative and societal issues posed by AI that philosophy addresses.
- Provides a coherent and cohesive structure for interdisciplinary and multidisciplinary learning that combines core courses in the philosophy of AI and in related areas such as ethics, epistemology, and philosophy of mind with elective courses in philosophy as well as a range of disciplines such as literature, anthropology, media studies, political science, computer science, mathematics, and more.
- Allows the department – which shows consistent growth in enrolment and student interest – to take a leadership role at UTSC in promoting the role of the humanities as providing core analytical skills and knowledge for students across disciplines and programs.

- Offers a Philosophy program that – like our existing Major and Minor programs – augments any field of study or degree program at UTSC.
- Follows up on the department’s highly successful Biomedical Ethics Minor program with a second ‘applied’ interdisciplinary program. The success of the Biomedical Ethics Minor, as well as student feedback, suggests that there is a strong interest for students from science disciplines in complementing their studies with a relevant study stream or minor in Philosophy.
- Improves and enriches student experience by supporting student need to understand AI and the issues it raises.
- Enriches career development and employment prospects for students since all workplace contexts increasingly have to take AI technology into account.
- Complements degrees related to policy and prepares students for policy related work.
- Attracts domestic and international students from a variety of backgrounds.

The AIMS Minor also supports and promotes the following strategic directions and initiatives at UTSC:

1. The AIMS Minor supports the following strategic directions and initiatives from the UTSC Strategic Plan, [\*Inspiring Inclusive Excellence \(2020-25, now extended to 2030\)\*](#):
  - Develop new programs and review existing programs/curricula with consideration for their responsiveness to developments in relevant fields, transformations in society more broadly, and the realization of learning outcomes that give our graduates the competencies needed to be successful in their careers and to adapt to a dynamic world (1.2.i).
  - Create select programs to enhance education required to facilitate career transitions in the new economy (1.4.iii).
  - Enhance and grow current and emerging areas of research strength that will establish University of Toronto Scarborough as a global research leader in those fields (2.1).
2. The AIMS Minor supports the recent UTSC objective to enhance interdisciplinary program development and to promote degree programs that combine two majors or a major and two minor programs. The AIMS Minor will provide a valuable opportunity for combination with a degree in any discipline

at UTSC.

3. The AIMS Minor will support SAMIH, scheduled to open in 2026, as it will be relevant to students with interests across a range of programs related to the health sciences. The AIMS Minor also contributes to the tri-campus commitment and strategic initiatives related to the United Nations Sustainable Development Goals (SDGs). Given the large role already played by AI in both health and sustainability-related fields, the proposed Minor will provide transferable skills for students pursuing health studies, environmental studies, and environmental science. For example, AIMS students will develop understanding of the diagnostic and modelling capacities AI and of ethical issues they raise specifically with respect to health and climate change.

## 5 Program Design

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### 5.1 Admission Requirements

Please describe any proposed changes to admission requirements by considering the changes tracked in the calendar copy relative to the following:

- a) Discuss the appropriateness of the program's admission requirements as they are articulated in section 3 above, given the program's objectives and program-level learning outcomes.
- b) Provide a sufficient explanation of alternative requirements, if applicable, for admission into a graduate, second-entry or undergraduate program (e.g., minimum grade point average, additional languages or portfolios, and how the program recognizes prior work or learning experience).

The proposed Minor will be unlimited enrolment, and this program can be selected at any time through ACORN, the University of Toronto's student information system. Given the interdisciplinary structure of the program, the unlimited structure enables students to combine it with a variety of different programs. As this program may attract significant interest from students, we intend to monitor program enrolment to ensure our capacity supports student interest. Please see Section 8 Enrolment of the proposal for details regarding our enrolment projections for the Minor.

## 5.2 Program Structure and Requirements

Addressing the prompts below in **one response**, please discuss the proposed changes to requirements, including any changes to milestone assessments, by considering the changes relative to the following criteria:

### 5.3 All Programs

- a) With reference to the change proposed, discuss the appropriateness of the offering's structure and the requirements to meet its objectives and program-level learning outcomes, including the structure and requirements of any identified streams (undergraduate), fields or concentrations (graduate).
- b) Appropriateness of the offering's structure, requirements and program-level learning outcomes in meeting the institution's applicable [undergraduate or graduate Degree Level Expectations](#).
- c) State the mode of delivery and the appropriateness and effectiveness of the mode(s) of delivery (i.e., means or medium used in delivering a program; e.g., lecture format, distance, online, synchronous/asynchronous, problem-based, compressed part-time, flexible-time, multi-campus, inter-institutional collaboration or other non-standard forms of delivery) to facilitate students' successful completion of the program-level learning outcomes.
- d) If the offering's structure will be an online or hybrid mode of delivery, please discuss the following as appropriate:
  - i. Maintenance of and/or changes to the program objectives and program-level learning outcomes
  - ii. Adequacy of the technological platform and tools
  - iii. Sufficiency of support services and training for teaching staff
  - iv. Sufficiency and type of support for students in the new learning environment
  - v. Access
- e) Discuss the ways in which the proposed curriculum addresses the current state of the discipline or area of study and is appropriate for the level of the program.
- f) Please provide details on any experiential learning that is part of the offering, including confirmed and interested partners, duration of experiential learning component in a program, and anticipated number of placements.

### Program-level Learning Outcomes

Upon completion of the proposed Minor, students will be able to:

**PLO1: (i)** Understand basic concepts of Generative Artificial Intelligence including neural network architecture, learning algorithms, natural language comprehension.

**(ii)** Understand basic ethical concepts concerning moral value, justice, autonomy, equality and equity. **(iii)** Understand fundamental concepts pertaining to human mind such as rationality, consciousness, language use and agency.

**PLO2:** Apply knowledge of Generative AI technologies, ethical theory and theory of mind to understand the impacts of such technologies in social, workplace, and personal spheres.

**PLO3:** Especially with reference to the problems and benefits of AI technologies: Analyze concepts, definitions, arguments and problems; make fine grained distinctions between theories, proposals or hypotheses, as well as discover common ground between opposing positions; write clearly in essay or article form (i) to explain a problem or a theoretical approach; (ii) to analyze strengths and weaknesses of different positions or methodologies; and (iii) to evaluate the overall cogency of a proposal, argument or position.

**PLO4:** Apply their conceptual knowledge of Generative AI models, mind and ethics to evaluate impacts on our evolving conception of mind, rationality, language, creativity, as well as on autonomy, responsibility, fairness and equity; and to address critical questions with regards to these impacts.

**PLO5:** Use foundational knowledge and critical skills from philosophy and other disciplines to assess impacts of AI on a range of sectors – science, health care, finance, entertainment, transportation – and to develop decision making skills to frame solutions.

## **Requirements and Structure of the AIMS Minor**

The proposed Minor requires students to complete a total of 4.0 credits, including a minimum of 1.5 credits at the C- and D- levels. These requirements meet the UTSC expectations for a Minor program of a minimum of 4.0 credits (and no more than 5.0 credits total), including at least 1.0 credit at the C- and/or D-level.

The AIMS Minor requires a higher than minimum number of credits at C- and D- levels because of its specialized topic, which is addressed through specific core courses and electives in philosophy as well as other disciplines.

The minor offers a sequence of four core 0.5-credit courses on the Philosophy of AI (listed as requirements 1 and 2) from the B- through to the D-levels from which the

students must complete 1.5 credits. Students will also choose 2 of 3 possible 0.5-credit courses at the B-level pertaining to epistemology, ethics, and philosophy of mind (requirement 3). This sequence of core courses is necessary for the specialized and diverse knowledge students will acquire from the AIMS Minor. Core AIMS Minor courses are open to students outside the Minor Program. The department is prepared to manage heightened enrolment for the core courses to be offered to students pursuing the proposed Minor.

Core and elective courses completed as part of the AIMS Minor may be counted towards degree requirements for other program or certificate requirements, subject to existing divisional regulations about the number of distinct credits required for the degree, and subject to existing program or certificate requirements.

The Minor is divided into 3 parts:

- (i) 1.5 credits in required core AIMS courses;
- (ii) 1.0 credits in required philosophy courses in the most relevant philosophy courses in Epistemology, Ethics, and Philosophy of Mind;
- (iii) 1.5 credits from elective courses in philosophy and/or other disciplines.

The 1.5 credits in elective courses consist of especially relevant philosophy courses, such as theories of human nature, philosophy of science, political philosophy, mind, ethics – and relevant courses from other departments at UTSC such as Arts, Culture and Media; Computer and Mathematical Sciences; English; Linguistics; Management; Psychology and more; the electives also include courses offered by at the Institute for History & Philosophy of Science & Technology (IHPST) in the Faculty of Arts & Science.

This structure of required and elective courses will provide students with foundational knowledge on AI, Mind and Ethics in the first two years of the program. Then, in the third and fourth years, students will build their knowledge and skills with additional core courses and further electives.

Students will begin by taking 1.5 to 2.0 credits at the B level in their first one or two years of the program (Requirements 1 and 3):

- PHLB18H3 Artificial Intelligence, Mind and Ethics, which is the core gateway course for the program;

- 2 of 3 foundational philosophy courses covering subjects such as epistemology, ethics, and philosophy of mind – PHLB07H3 Ethics, PHLB20H3 Belief, Knowledge, and Truth, PHLB81H3 Theories of Mind;
- a range of electives in Philosophy and/or other disciplines.

Students will then take 2.0 to 2.5 credits in more advanced courses at the C and D levels in the last two years of the program (Requirements 2, 4, and 5):

- 1.0 FCE from three more advanced AIMS core courses\*:
  - PHLC18H3 Philosophy of Artificial Intelligence; PHLC19H3 Topics in Philosophy of Artificial Intelligence which are core courses that broaden and deepen student knowledge of AI and the issues it poses
  - PHLD18H3 Advanced Seminar in Philosophy of Artificial Intelligence, which is a capstone seminar for the program
- remaining credits from a range of elective courses in Philosophy and other disciplines

\*If a student does not take one of PHLC18H3 or PHLC19H3 or PHLD18H3 and/or one of PHLB07H3, PLHB20H3 or PHLB81H3 as part of their respective required selections, they may include them as electives.

This sequence of courses provides students with a clear progression that builds their knowledge of AI, the issues it poses, the most relevant philosophical subjects, and diverse electives drawn from humanities and social science disciplines as well as courses offered by the Departments of Computer and Mathematical Sciences (CMS), Management, Psychology at UTSC, and IHPST in the Faculty of Arts and Science.

Some of the elective courses offered by CMS, Management and Psychology are open only to their own students. The effect is that a student majoring or specializing in programs offered by these units can complete the AIMS Minor with the relevant courses contributing to both the AIMS Minor and their non-Philosophy program.

As per Section 3: Current Calendar Copy of the proposal (above), the proposed minor will have 4 clear “packages” of required and elective courses. This is the same approach we have taken in our successful Biomedical Ethics Minor Program.

### **Mode of Delivery**

The program mode of delivery will be in-person, as the primary mode of delivery of the core and elective philosophy courses in the AIMS Minor will be in-person, with effective use of current technology.

The Philosophy Department has found that students develop philosophical knowledge and skills better in in-person classes that promote active analytical participation in real time – students are encouraged to ask and answer questions; to analyze, criticize and debate class materials.

In addition, in-person Philosophy classes use a range of online resources to improve flexibility for students. For example, instructors offer some class components in an asynchronous online format that adds flexibility to students' learning experiences.

While the majority of courses will be in-person, some courses will be offered online to facilitate program completion. To start, PHLB18H3 will be the only required PHL course for the Minor to be offered in an online format (even though it has also been approved to be delivered in person).

In sum, though philosophical knowledge and skills are best acquired in in-person classes, we are also committed to providing some online classes and some hybrid courses with asynchronous course components to increase access and facilitate the completion of the program for students with diverse needs, especially during the summer.

Students may also experience a variety of modes of delivery and pedagogical techniques in their elective courses in other participating departments.

The Philosophy Department at UTSC remains committed to teaching students how to write effectively in short and long formats such as – blog posts, short reports, and short as well as long essays or articles – and uses a range of techniques to promote and develop writing skills.

**Table 1: Degree Level Expectations, Program Learning Outcomes and Requirements**

Degree Level Expectations For an Undergraduate Minor	Program Learning Outcomes (e.g. what students will know or be able to do at the completion of the Minor program)	How the Program Design/Structure of the Required Courses and Other Learning Activities Supports the Achievement of Program Learning Outcomes
<p><b>Expectations: This Artificial Intelligence, Mind, and Society Minor is awarded to students who have demonstrated the following program objectives:</b></p>		
<p><b>1. Depth and Breadth of Knowledge</b></p> <p>Depth of Knowledge: Programs of study will attain depth through a progression of introductory, core and specialized courses. Specialized courses will normally be at the C and D levels. This basic requirement is further refined in the three sections Knowledge of Methodologies, Application of Knowledge and Awareness of Limits of Knowledge.</p>	<p>Depth and Breadth of Knowledge is defined in the Minor in Artificial Intelligence, Mind, and Society as (i) non-technical, conceptual understanding of Artificial Intelligence Technologies, including Neural Network Computational Architecture and Principles of Deep Learning, and (ii) critical understanding of social and ethical issues posed by recent developments of these technologies.</p> <p>This is reflected in students who are able to: <b>PLO1 (i)</b> Understand basic concepts of Generative Artificial Intelligence including</p>	<p>The program design and requirements that ensure these student outcomes (PLO1) for depth and breadth of knowledge are:</p> <p>1) the three part division into (i) core AIMS courses, (ii) required relevant philosophy courses and (iii) a broad selection of elective courses in philosophy and disciplines related to AI.</p> <p>2) the clear structured progression of courses in first and second years, and then in third and fourth years.</p> <p>Students take the gateway course PHLB18H3 as well as the relevant</p>

Degree Level Expectations For an Undergraduate Minor	Program Learning Outcomes (e.g. what students will know or be able to do at the completion of the Minor program)	How the Program Design/Structure of the Required Courses and Other Learning Activities Supports the Achievement of Program Learning Outcomes
<p>Breadth of Knowledge: In the course of their studies, students will gain an appreciation of the variety of modes of thinking, methods of inquiry and analysis, and ways of understanding the world that underpin different intellectual fields. Through courses within or outside of their programs of study, students will be exposed to an appropriate balance of: the arts, literature and history of human cultures, the social and behavioral sciences, the natural sciences, and quantitative reasoning.</p>	<p>neural network architecture, learning algorithms, natural language comprehension. <b>(ii)</b> Understand basic ethical concepts concerning moral value, justice, autonomy, equality and equity. <b>(iii)</b> Understand fundamental concepts pertaining to human mind such as rationality, consciousness, language use and agency.</p>	<p>foundational courses in philosophy, PHLB07H3, PHLB20H3 or PHLB81H3, as well as electives. This provides basic knowledge and skills that courses in the third and fourth year build on: core AIMS courses PHLC18H3, PHLC19H3 or PHLD18H3, along with numerous advanced electives in philosophy and relevant disciplines.</p>
<p><b>2. Knowledge of Methodologies</b></p>	<p>Knowledge of Methodologies is defined in the Minor in Artificial Intelligence, Mind, and</p>	<p>The program design and requirements that ensure these student outcomes</p>

Degree Level Expectations For an Undergraduate Minor	Program Learning Outcomes (e.g. what students will know or be able to do at the completion of the Minor program)	How the Program Design/Structure of the Required Courses and Other Learning Activities Supports the Achievement of Program Learning Outcomes
<p>Students will have a working knowledge of different methodologies and approaches relevant to their area of study. They will be able to evaluate the efficacy of different methodologies in addressing questions that arise in their area of study.</p>	<p>Society as the ability to apply different philosophical and humanistic methodologies and approaches relevant to the analysis of impacts of AI technologies. For example, students use conceptual analysis and informal argumentative techniques to approach social impacts of AI technologies.</p> <p>This is reflected in students who are able to:</p> <p><b>PLO3</b> Especially with reference to the problems and benefits of AI technologies: Analyze concepts, definitions, arguments and problems; make fine grained distinctions between theories, proposals or hypotheses, as well as discover common ground between opposing positions; write clearly in essay or article form (i) to explain a problem or a theoretical approach; (ii) to analyze strengths and</p>	<p>(PLO3) for knowledge and methodologies are:</p> <p>Students gain working knowledge and skills in philosophical methodology through B, C, and some D level courses – the core AIMS courses, PHLB18H3, PHLC18H3, PHLC19H3 and PHLD18H3, as well as numerous required and elective courses in philosophy.</p> <p>Students gain acquaintance and some methodological skill in a variety of disciplines through a large number of electives (see list in section 3).</p>

Degree Level Expectations For an Undergraduate Minor	Program Learning Outcomes (e.g. what students will know or be able to do at the completion of the Minor program)	How the Program Design/Structure of the Required Courses and Other Learning Activities Supports the Achievement of Program Learning Outcomes
	weaknesses of different positions or methodologies; and (iii) to evaluate the overall cogency of a proposal, argument or position.	
<p><b>3. Application of Knowledge</b></p> <p>Within their area of study students will be able to frame relevant questions for further inquiry. They will be familiar with or will be able to seek the tools with which they can address such questions effectively.</p>	<p>Application of Knowledge is defined in the Minor in Artificial Intelligence, Mind, and Society as the ability to frame critical questions about impacts of AI technologies and to critically assess proposals about such impacts.</p> <p>This is reflected in students who are able to:</p> <p><b>PLO2</b> Apply knowledge of Generative AI technologies, ethical theory and theory of mind to understand the impacts of such technologies in social, workplace, and personal spheres.</p>	<p>The program design and requirements that ensure these student outcomes (PLOs 2 and 4) for application of knowledge are:</p> <p>The specialized AIMS core courses at the C and D levels in the third and fourth year of the program (PHLC18H3, PHLC19H3, PHLD18H3) will equip students to critically analyze and offer solutions to ethical and social challenges and problems across various sectors – such as health care; data collection and use; environmental and other scientific</p>

Degree Level Expectations For an Undergraduate Minor	Program Learning Outcomes (e.g. what students will know or be able to do at the completion of the Minor program)	How the Program Design/Structure of the Required Courses and Other Learning Activities Supports the Achievement of Program Learning Outcomes
	<p><b>PLO4</b> Apply their conceptual knowledge of Generative AI models, mind and ethics to evaluate impacts on our evolving conception of mind, rationality, language, creativity, as well as on autonomy, responsibility, fairness and equity; and to address critical questions with regards to these impacts.</p>	<p>modelling and implementation; and arts. The wide electives across disciplines, especially at the C and D levels, will give students more detailed and specific knowledge of the diverse. Issues posed by AI so that they can offer more informed analyses and apply solutions.</p>
<p><b>4. Awareness of Limits of Knowledge</b></p> <p>Students will gain an understanding of the limits to their own knowledge. They will also gain an appreciation of the uncertainty, ambiguity, and limits to our collective knowledge and how these might influence analyses and interpretations.</p>	<p>N/A</p>	<p>N/A</p>
<p><b>5. Communications Skills</b></p>	<p>N/A</p>	<p>N/A</p>

Degree Level Expectations For an Undergraduate Minor	Program Learning Outcomes (e.g. what students will know or be able to do at the completion of the Minor program)	How the Program Design/Structure of the Required Courses and Other Learning Activities Supports the Achievement of Program Learning Outcomes
<p>Students will be able to communicate information, arguments, and analyses accurately and reliably, both orally and in writing. Students will learn to read and to listen critically.</p>		
<p><b>6. Autonomy and Professional Capacity</b></p> <p>In a broader context, the education students receive while pursuing their degrees has three further goals: to give students the skills and knowledge they need to become informed, independent and creative thinkers; to instill</p>	<p>Autonomy and Professional Capacity is defined in the Minor in Artificial Intelligence, Mind, and Society as the ability to <i>integrate</i> knowledge of AI models and philosophical understanding of mind and ethics with applied knowledge of impacts of AI; including transmission of bias in big data, challenges to privacy and autonomous decision making, diagnostic use in health care, modeling in sciences, and in traditionally creative endeavours in arts and design.</p>	<p>The program design and requirements that ensure these student outcomes (PLO5) for autonomy and professional capacity are: The core AIMS courses and philosophy required courses provide non-technical, conceptual understanding of AI technologies and of fundamental issues concerning minds, knowledge and ethics that will equip students to apply this knowledge independently to issues</p>

Degree Level Expectations For an Undergraduate Minor	Program Learning Outcomes (e.g. what students will know or be able to do at the completion of the Minor program)	How the Program Design/Structure of the Required Courses and Other Learning Activities Supports the Achievement of Program Learning Outcomes
<p>the awareness that knowledge and its applications are influenced by and contribute to society; and to lay the foundation for learning as a life-long endeavour.</p>	<p>This is reflected in students who are able to:  <b>PLO5:</b> Use foundational knowledge and critical skills from philosophy and other disciplines to assess impacts of AI on a range of sectors – science, health care, finance, entertainment, transportation – and to develop decision making skills to frame solutions.</p>	<p>and problems in the workplace or private sphere beyond those they encounter in their courses. The program is carefully scaffolded to ensure that students can effectively build the basic knowledge and analytical skills from their B level courses (PHLB18H3, PHLB07H3, PHLB20H3, PHLB81H3) to more advanced courses that probe the changes brought by AI and require students to work independently to provide written or oral analyses that are original and that offer novel solutions to problems. This careful scaffolding across the AIMS program gives students knowledge and skills that are transferable to the workplace.</p>

## 6 Assessment

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- a) Discuss the appropriateness of the methods for assessing student achievement of the program-level learning outcomes and degree level expectations.
- b) Discuss the appropriateness of the plans to monitor and assess the following:
  - i. The overall quality of the offering's structure
  - ii. Whether the program and/or the offering within the program is achieving in practice its proposed objectives
  - iii. Whether its students are achieving the program-level learning outcomes
  - iv. How the resulting information will be documented and subsequently used to inform continuous program improvement.

The methods of assessment in the core AIMS courses and the required and elective philosophy courses in the proposed Minor will include: midterm tests, final exams, written assignments and papers, oral presentations, case studies, proposal writing, class discussions and debates. Experiential learning elements are embedded within these methods of assessment.

DLE 1, *depth and breadth of knowledge*, and its related PLO1, will be developed throughout the proposed Minor with assessments in the core AIMS courses, required philosophy courses and elective courses in philosophy and participating departments at the B, C and D levels. In particular, class discussions, debates and written assignments will develop students' ability to analyze, think critically, and question current approaches to AI and its impacts as well as their own understanding of these approaches and issues.

DLE 2, *knowledge of methodologies*, linked to PLO3, will be developed and assessed throughout the program in B, C and D-level courses in philosophy and cognate disciplines in the electives by means of written assignments, tests, and oral presentations, each of which will assess students ability to critically analyze AI-related issues using philosophical tools and concepts, and to evaluate strengths and weakness of different methodologies in different scenarios.

DLE 3, *application of knowledge*, and related PLOs 2 and 4, will be assessed in courses at all levels through a similar full range of written assignments, tests and

presentations, or debates, each of which will assess the ability to apply philosophical theories and methodologies to address contemporary challenges posed by AI.

Assessments in C- and D-level core and other philosophy courses will, additionally, emphasize DLE 6, *autonomy and professional capacity*, which is developed through PLO 5 and will be assessed through essays, proposal-writing, case studies, tests, and oral presentations. Each these methods will be used to assess students' ability to evaluate the impacts of AI on a range of professional sectors and to posit solutions to various challenges posed by AI.

In addition to the emphasis on analytical, argumentative writing and oral presentation that is at the core of all philosophy courses, elective courses from other departments will bring diverse acquaintance with methodologies and methods of assessments specific to those disciplines.

The ongoing success of the Minor will be assessed through regular review by the Program Director and the Department's Curriculum Committee; analysis of course evaluations; and tracking of program enrolments and completion rates, in coordination with the Dean's Office as appropriate. Within the Department of Philosophy, the Departmental Administrator plays a key role in monitoring the health of all programs by regularly tracking and analyzing enrolments and other indicators.

As part of the regular cyclical review process, the Department administers a student survey and works with the Dean's Office to review both course-level and program-level indicators and metrics when preparing the self-study. This process enables the Department to identify and analyze trends, assess student satisfaction with program offerings, and evaluate the program's effectiveness in supporting students' achievement of the stated program-level learning outcomes.

## 7 Need and Demand

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Provide a brief description of the need and demand for the proposed offering, including information on student demand and internal cognate and external comparator programs as relevant.

## **Societal Need**

Rapidly developing AI technologies are being applied in all sectors of society – from transportation, engineering, science, health care, education, and finance, to marketing, management, entertainment and the arts. There is a growing need for AI literacy in the workplace as well as in personal and community life. AI literacy involves understanding the nature and functioning of AI technologies, how they gather and analyze large bodies of data in diverse applications, and the potential benefits and disruptions that diverse applications bring across sectors. The proposed minor addresses this social need by providing non-technical, conceptual understanding of AI technologies and their social and ethical impacts for students from any background and pursuing programs and degree(s) in any discipline. Students will acquire foundational knowledge and analytical skills to understand AI technologies and their applications across a range of domains so that they can make informed decisions and better participate in their chosen professions.

## **Student Need and Demand**

Enrolments in Philosophy Major and Minor Programs are steady over the past 5 years with excellent growth in the Biomedical Ethics Minor which is the directly comparable program to the proposed AIMS Minor. The Biomedical Ethics Minor is also an ‘applied’ program that focuses on the ethical and social issues concerning health and medicine.

The Biomedical Ethics Minor was introduced in 2019-20 with an enrolment of 33 and grew to 210 in 2024-25. The growth in this Minor demonstrates high student interest and demand for a philosophy minor program that is aimed at an area of scientific and societal importance such as health care.

Since the Biomedical Ethics Minor and the proposed AIMS Minor are very different in their subject matter, students would be able to do both Minor Programs without overlap in their courses.

The AIMS Minor will meet two types of student needs. First, the study of AI and its societal consequences will be of broad interest since AI intersects with a wide range of disciplines – indeed with all disciplines at UTSC since AI technologies are being applied across various walks of life. Second, students are increasingly enrolling in

combinations of majors and minors from various disciplines. This is an approach which UTSC is actively promoting as a way of supporting cross-departmental and interdisciplinary synergies. Putting these two factors together, we propose that the AIMS Minor will meet student need to be literate about AI and its applications, and to diversify and combine their degree programs.

The AIMS Minor will contribute to and enhance students' academic studies, and it will contribute positively to their employment opportunities. Students graduating with the proposed Minor and analytical knowledge of AI will be more competitive in employment sectors impacted by AI. Recent [research](#) suggests that “upskilling” workers to compete in a job market increasingly shaped by automation and artificial intelligence, in STEM fields and beyond, means acquiring and improving soft skills. Moreover, recent research found that “[nesting](#)” of skills provides the basis upon which future technical skills acquisition, and thus career mobility and growth, are built. Those soft skills that provide the nesting structure that enables future success include those emphasized in philosophy courses that comprise the proposed AIMS minor: critical thinking, clear communication, and analytic skills.

The Philosophy Department conducted a poll of all students in our Specialist, Major and Minor Programs to gauge interest in the proposed AIMS Minor. We also polled students enrolled in courses more relevant to the AIMS Minor, namely PHLB18H3, PHLB81H3 and PHLB07H3.

The results of our poll asking students whether they would be – or would have been – interested in enrolling in the AIMS Minor indicate strong interest: 83% expressed interest and 17% did not. A total of 109 students responded, with 91 indicating interest and 18 not. Overall, students from 16 departments participated in the poll.

Student interest is particularly high in the eight departments with the largest response rates, including Philosophy, Biological Sciences, Psychology, Computer and Mathematical Sciences, Health and Society, Political Science, Sociology, and Arts, Culture and Media. Six of these departments reported interest levels of 80% or higher, and two reported levels above 70%, reflecting broad support across the humanities, social sciences, and sciences.

## 8 Enrolment

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- a) Please provide details regarding the anticipated in-take by year, reflecting the expected increases to reach steady state. Include approximate domestic/international mix. This table should reflect normal estimated program length. (Please adjust the table as necessary.)
- b) Please provide an explanation of the numbers shown and their relationship to the Faculty/division's enrolment plan. Please be specific where this may differ from approved enrolment plans.

**Table 1: Enrolment Projections\***

Year of Study	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33
Year 1	2	5	10	10	15	20	20
Year 2	20	40	40	45	45	60	60
Year 3		20	30	35	40	40	50
Year 4			20	30	35	40	45
Total	22	65	100	120	130	140	150

The AIMS Minor Program expects to reach steady state by 2031-32.

Initial enrolment in the Minor is anticipated to be around 20-25 students, across all 4 years of undergraduate study, with steady growth thereafter to a steady state of 150 students. The enrolment projections and growth pattern in Table 1 are modelled on the enrolment trends we observed in the Biomedical Ethics Minor introduced in 2019. However, we are projecting the total program enrolment will be slightly lower: 150 in the proposed AIMS Minor rather than 200 in Biomedical Ethics. The enrolment and growth patterns are adjusted accordingly to yield the lower total program enrolment of 150 students. We are choosing a more conservative prediction to underestimate rather than overestimate the total enrolment. While we expect some movement among Philosophy's existing program numbers with the introduction of the proposed new Minor, as with the Biomedical Ethics Minor, we expect that this program will primarily attract students who are not currently studying philosophy to the department, offering students a unique opportunity to combine

programs within Philosophy and across disciplines. We believe the AIMS Minor will contribute to growth in our department's enrolments and help attract net new students to UTSC, supporting progress toward the campus's existing enrolment targets. While the program's unlimited structure is intended to support access to the program, we will monitor capacity based on student demand.

## 9 Impact of the Change

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- a) Please assess the impact the proposed modification will have on the program's students and/or other units or divisions.

Students in their first or second year in the academic year 2026-2027 would be able to enroll in the AIMS Minor.

It would also be possible for students in their third year in 2026-2027 to enroll in the AIMS Minor if they had already taken PHLB18H3, which is a required gateway course offered every year by the Philosophy department since 2023-2024.

## 10 Resources

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### 10.1 Faculty

Please fill out the table below.

## Table 2: Faculty Complement (please list alphabetically)

**\* please note that 3 new courses projected for the AIMS Minor are included in the table: PHLC18H3, PHLC19H3 and PHLD18H3**

Name	Unit of Primary Budgetary Appt and %	Unit of Other Budgetary Appt and % (if applicable)	Graduate Faculty Membership Status and Graduate Unit (e.g., EEB, Associate member)	Commitment to Other Programs (Please list other programs in which the person routinely teaches/ supervises.)	Nature of Contribution to This Program (Course instructor [CI], thesis supervision [TS], clinical or practice supervisor [C/PS]. Please list the courses each member will teach.)
<b>Tenure Stream: Full Professor</b>					
Benj Hellie	Department of Philosophy, UTSC 100%		Full Member Graduate Department of Philosophy	All UTSC Philosophy programs: Specialist, Specialist (Co-op), Major, Major (Co-op), Minor in Philosophy, and	Philosophy of Mind – course instructor; courses vary; eg. PHLB81H3; PHLC86H3; PHLC95H3; PHLD95H3

<b>Name</b>	<b>Unit of Primary Budgetary Appt and %</b>	<b>Unit of Other Budgetary Appt and % (if applicable)</b>	<b>Graduate Faculty Membership Status and Graduate Unit (e.g., EEB, Associate member)</b>	<b>Commitment to Other Programs (Please list other programs in which the person routinely teaches/ supervises.)</b>	<b>Nature of Contribution to This Program (Course instructor [CI], thesis supervision [TS], clinical or practice supervisor [C/PS]. Please list the courses each member will teach.)</b>
				Minor in Biomedical Ethics; MA and PhD in Philosophy	
Philip Kremer	Department of Philosophy, UTSC 100%		Full Member Graduate Department of Philosophy	All UTSC Philosophy programs: Specialist, Specialist (Co-op), Major, Major (Co-op), Minor in Philosophy, and Minor in Biomedical Ethics; MA and PhD in Philosophy	Logic and Philosophy of Language – course instructor; courses vary; eg. PHLB50H3; PHLC51H3; PHLC80H3; PHLC19H3

<b>Name</b>	<b>Unit of Primary Budgetary Appt and %</b>	<b>Unit of Other Budgetary Appt and % (if applicable)</b>	<b>Graduate Faculty Membership Status and Graduate Unit (e.g., EEB, Associate member)</b>	<b>Commitment to Other Programs (Please list other programs in which the person routinely teaches/ supervises.)</b>	<b>Nature of Contribution to This Program (Course instructor [CI], thesis supervision [TS], clinical or practice supervisor [C/PS]. Please list the courses each member will teach.)</b>
Sonia Sedivy	Department of Philosophy, UTSC 100%		Full Member of Graduate Department of Philosophy	All UTSC Philosophy programs: Specialist, Specialist (Co-op), Major, Major (Co-op), Minor in Philosophy, and Minor in Biomedical Ethics; MA and PhD in Philosophy	Philosophy of Mind and Aesthetics – course instructor, courses vary, eg. PHLB03H3; PHLB91H3; PHLC03H3; PHLC86H3; PHLC19H3, PHLC95H3; PHLD95H3
Jessica Wilson	Department of Philosophy, UTSC 100%		Full Member of Graduate Department of Philosophy	All UTSC Philosophy programs: Specialist,	Philosophy of Science and Metaphysics – course instructor,

<b>Name</b>	<b>Unit of Primary Budgetary Appt and %</b>	<b>Unit of Other Budgetary Appt and % (if applicable)</b>	<b>Graduate Faculty Membership Status and Graduate Unit (e.g., EEB, Associate member)</b>	<b>Commitment to Other Programs (Please list other programs in which the person routinely teaches/ supervises.)</b>	<b>Nature of Contribution to This Program (Course instructor [CI], thesis supervision [TS], clinical or practice supervisor [C/PS]. Please list the courses each member will teach.)</b>
				Specialist (Co-op), Major, Major (Co-op), Minor in Philosophy, and Minor in Biomedical Ethics; MA and PhD in Philosophy	courses vary, eg. PHLC72H3
<b>Tenure Stream: Associate Professor</b>					
Julia Nefsky	Department of Philosophy, UTSC 100%		Full Member of Graduate Department of Philosophy	All UTSC Philosophy programs: Specialist, Specialist (Co-op), Major, Major (Co-op), Minor in	Ethics, course instructor, courses vary, eg. PHLB07H3, PHLC05H3, PHLC06H3,

<b>Name</b>	<b>Unit of Primary Budgetary Appt and %</b>	<b>Unit of Other Budgetary Appt and % (if applicable)</b>	<b>Graduate Faculty Membership Status and Graduate Unit (e.g., EEB, Associate member)</b>	<b>Commitment to Other Programs (Please list other programs in which the person routinely teaches/ supervises.)</b>	<b>Nature of Contribution to This Program (Course instructor [CI], thesis supervision [TS], clinical or practice supervisor [C/PS]. Please list the courses each member will teach.)</b>
				Philosophy, and Minor in Biomedical Ethics; MA and PhD in Philosophy	PHLC19H3, PHLD05H3
* allocated position in Political Philosophy, to be searched in 25-26	Department of Philosophy, UTSC 100%		Full Member of Graduate Department of Philosophy		Political Philosophy; course instructor, courses vary, eg. PHLB17H3, PHLC92H3, PHLC93H3
<b>Tenure Stream: Assistant Professor</b>					
Nathan Howard	Department of Philosophy, UTSC 100%		Associate Member of the Graduate	All UTSC Philosophy programs:	Ethics, Bioethics; course instructor; courses vary, eg.

<b>Name</b>	<b>Unit of Primary Budgetary Appt and %</b>	<b>Unit of Other Budgetary Appt and % (if applicable)</b>	<b>Graduate Faculty Membership Status and Graduate Unit (e.g., EEB, Associate member)</b>	<b>Commitment to Other Programs (Please list other programs in which the person routinely teaches/ supervises.)</b>	<b>Nature of Contribution to This Program (Course instructor [CI], thesis supervision [TS], clinical or practice supervisor [C/PS]. Please list the courses each member will teach.)</b>
			Department of Philosophy	Specialist, Specialist (Co-op), Major, Major (Co-op), Minor in Philosophy, and Minor in Biomedical Ethics; MA and PhD in Philosophy	PHLB07H3, PHLC05H3, PHLC06H3; PHLD05H3
Andrew Lee	Department of Philosophy, UTSC 100%		Associate Member of Graduate Department of Philosophy	All UTSC Philosophy programs: Specialist, Specialist (Co-op), Major, Major (Co-op), Minor in	Mind and Consciousness, course instructor, courses vary, eg. PHLB81H3, PHLC86H3,

<b>Name</b>	<b>Unit of Primary Budgetary Appt and %</b>	<b>Unit of Other Budgetary Appt and % (if applicable)</b>	<b>Graduate Faculty Membership Status and Graduate Unit (e.g., EEB, Associate member)</b>	<b>Commitment to Other Programs (Please list other programs in which the person routinely teaches/ supervises.)</b>	<b>Nature of Contribution to This Program (Course instructor [CI], thesis supervision [TS], clinical or practice supervisor [C/PS]. Please list the courses each member will teach.)</b>
				Philosophy, and Minor in Biomedical Ethics; MA and PhD in Philosophy	PHLC95H3, PHLC19H3
Christian Tarsney	Department of Philosophy, UTSC 100%		Associate Member of the Graduate Dept. of Philosophy	All UTSC Philosophy programs: Specialist, Specialist (Co-op), Major, Major (Co-op), Minor in Philosophy, and Minor in Biomedical Ethics; MA and PhD in Philosophy	Political Philosophy; Bioethics, AI; courses vary, eg. PHLB18H3, PHLC18H3, PHLC19H3, PHLD18H3, PHLB17H3, PHLC92H3, PHLC93H3

<b>Name</b>	<b>Unit of Primary Budgetary Appt and %</b>	<b>Unit of Other Budgetary Appt and % (if applicable)</b>	<b>Graduate Faculty Membership Status and Graduate Unit (e.g., EEB, Associate member)</b>	<b>Commitment to Other Programs (Please list other programs in which the person routinely teaches/ supervises.)</b>	<b>Nature of Contribution to This Program (Course instructor [CI], thesis supervision [TS], clinical or practice supervisor [C/PS]. Please list the courses each member will teach.)</b>
<b>Teaching Stream (CLTA, Part-time)</b>					
Position 1 * see explanation below	Philosophy 72%, 3 year maximum term limited				Course instructor, in any area as needed at time of employment
<b>Non-Tenure Stream (CLTA, Part-time)</b>					

## 10.2 Resources: All Programs

Given the offering's planned/anticipated class sizes and cohorts as well as its program-level learning outcomes please discuss:

- b) Participation of a sufficient number and quality of core (i.e., appointed) faculty who are competent to teach and/or supervise in and achieve the goals of the offering and foster the appropriate academic environment.

The AIMS Minor can be launched and supported by the core faculty – listed in Table 2 above – who will be available to teach either required or elective courses. There are eight 100% appointed faculty in total that will support the program, including four tenure stream Professors, 1 tenure stream Associate Professor, and three tenure stream Assistant Professors. This core group of faculty represents the right mix of faculty to support the Minor, given their expertise in areas such as Philosophy of Mind, Philosophy of Language, Ethics, and Philosophy of Artificial Intelligence, all directly relevant to the Minor. Teaching responsibilities will be managed within the UTSC Department of Philosophy's workload policy. Regarding the two future hires mentioned in Table 2 above, while these searches have yet to take place, these hires are not critical to the launch of the Minor.

Given the small size of the Philosophy Department, in the future the long-term success and growth of the AIMS Minor would benefit from a dedicated tenure-stream position in Philosophy of Mind and Artificial Intelligence, in addition to the FTE noted in the above in "political philosophy." A growth position in Philosophy of Mind and Artificial Intelligence is one of the key parts of the Philosophy Department Strategic Plan. The Department continues to be in dialogue with the Dean's office about long-term hiring needs. The search for the part-time CLTA position represents an important step toward the department's longer-term goal of securing a permanent hire in the area of political philosophy or history of philosophy.

For context, the Philosophy Department's need for additional positions was emphasized by the External Review in 2024 as the primary requirement for ensuring the future flourishing of the highly successful department. The Philosophy Department was the only humanities unit at UTSC awarded a search for 2025-26, as a reflection of this. This new hire will replace Avia Pasternak who is leaving our department. Note that we hired Christian Tarsney this year for our search in Political

Philosophy (with a research connection to health). These additional hires are not required for the launch of the program, and their potential contribution to the proposed Minor will depend on the individuals' areas of expertise. This line will also support and enable the contribution of other faculty members to the proposed new program.

- c) If applicable, discuss the role and approximate percentage of adjunct and sessional faculty/limited term appointments used in the delivery of the offering and the associated plans to ensure the sustainability of the offering and quality of the student experience.

As indicated in Table 2 above, the Philosophy Department has part-time teaching stream assistant professor positions that are term limited with a maximum of three years. These rotating positions round out our program and provide stable course offerings for students. We have three of these positions, and one will contribute to ensuring stable course offerings for the AIMS Minor as needed. This support is in addition to and supplements the teaching contributions of the core faculty.

- d) If required, provision of supervision of experiential learning opportunities.

Not applicable.

- e) Adequacy of the administrative unit's planned utilization of existing human, physical and financial resources.

There are no new requirements for physical facilities, administrative staff, equipment or other existing resources.

- f) Evidence that there are adequate resources to sustain the quality of scholarship and research activities produced by students, including library support, information technology support, and laboratory access.

There are no significant resource implications for library resources, space or student services.

Library resources, space, equipment, technological support and student services that support existing Philosophy programs will be sufficient to support the proposed AIMS Minor.

- g) If necessary, additional institutional or divisional resource commitments to support the offering in step with its ongoing implementation.

Not applicable.

## 11 Consultation

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Describe consultation with internal (faculty, students, cognate units, etc., as appropriate) and external stakeholders (alumni, community, or professional organizations, etc., as appropriate).

### **Consultation within the Department of Philosophy**

The Department of Philosophy discussed the proposed AIMS Minor as part of its departmental planning and external review in 2022-23 and 2023-24, with external reviewers noting the department's "considerable strength in Consciousness Studies and the Philosophy of AI" in their report. The department believes that this is an important addition to our program offerings and an important contribution to programs at UTSC. Discussion in relation to the development of this proposal and its associated courses has taken place regularly since 2024-25.

### **Consultation with Cognate Units**

The Chair of the Department of Philosophy consulted with all department chairs at UTSC in February 2025. She received positive supportive feedback from all chairs along with suggestions for elective courses from their respective departments to include in the proposed AIMS Minor. The proposed minor is part of a cluster of three proposed new offerings at UTSC that address the contemporary relevance of and student interest in artificial intelligence from distinct disciplinary perspectives, including a freestanding minor in Social Data Science (Sociology), and streams (regular and co-op) in Artificial Intelligence and Machine Learning for the Specialists (regular and co-op) in Computer Science (Computer and Mathematical Sciences).

There has been ongoing discussion and consultation with the Chairs of Sociology and CMS to ensure that cluster of initiatives are complementary but also distinct. A pair of History courses were added as electives on November 4, 2025 after consultation between the Department of Philosophy and the Department of Historical and Cultural Studies.

The Chair of Philosophy also consulted with department chairs of the most cognate departments at STG and UTM, such as Philosophy, Psychology and Computer Science in March 2025. All feedback was supportive. On October 7, 2025, the chair consulted with IHPST (FAS), and also received supportive feedback, including several electives for inclusion in the program. Based on subsequent consultation with the FAS Dean's Office, we received confirmation on December 8, 2025 that the listing of IHPST courses as electives for the proposed Minor will not impact the existing IDT agreement between FAS and UTSC.

There are no similar or competing programs that the AIMS Minor would impact.

### **Consultation with Philosophy Students**

All of the students currently enrolled in Philosophy Department Specialist, Major and Minor Programs were polled as discussed above. We also polled students enrolled in courses more relevant to the AIMS Minor, namely PHLB18H3, PHLB81H3 and PHLB07H3. The results of the poll were positive with 91 out of 109 or 83% students interested in the AIMS Minor. Please see the detailed data on pages 39-42, in Section 7: Need and Demand of this proposal.

### **Consultation with other University of Toronto Divisions**

A draft version of this proposal was presented at the October 16, 2025 meeting of the Tri-campus Deans. The Tri-campus Deans Group of colleagues expressed clear support for the concept and structure of the program. Based on this group's feedback suggesting that this program will attract significant interest from students, we have updated Section 5.1 Admission Requirements of the proposal to explicitly note our intention to monitor enrolment and student interest over time. There was also a question about the new courses being added in relation to the program. For clarity, we have indicated more clearly where the new courses are situated in both

the proposed calendar copy and in Appendix A and intend to share the three new course proposals for feedback and consultation as soon as they are available.

A copy of this proposal was circulated to the Faculty of Arts & Science and the University of Toronto Mississauga on October 27, 2025 for consultation and feedback.

Of the 17 academic units in the Faculty of Arts & Science with which the proposal was shared, responses were received from four parties. The Department of Philosophy and the Department of Linguistics indicated that they had no feedback or concerns to share. University College expressed interest in further consultation, noting potential mutual benefit in listing a few lower-level Cognitive Science courses as electives for the proposed Minor. Our department met with the Director of Cognitive Science programming on December 2, 2025. The FAS Cognitive Science program expressed support for the proposed Minor and highlighted synergies between their program and ours. However, they did not wish to formally contribute courses to the Minor at this time. That decision will be revisited after the launch of the program, allowing more time to determine the best approach for cross-promoting programs and courses to students.

We also received feedback from the FAS Dean's Office, which suggested that a set of introductory computation and data science courses could be valuable additions to our program. At this point, based on departmental consultations, we are not proceeding with those additions. (The suggested courses are more directly relevant to the related new Minor program in development at UTSC focused on Social Data Science.)

Of the three academic units at the University of Toronto Mississauga with which the proposal was shared, responses were received from two parties. The Department of Philosophy expressed support, and the Department of Mathematical and Computational Sciences indicated that the program, though interesting, does not intersect with the department's current offerings. The UTM Dean's Office was also supportive of the proposal, with a suggestion to align the program design narrative more clearly with the proposed calendar copy.

This feedback has been very generative in refining and finalizing the proposal.

## Appendix A: Courses

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### Core/Required Courses:

#### PHLB07H3 - Ethics

What is the difference between right and wrong? What is 'the good life'? What is well-being? What is autonomy? These notions are central in ethical theory, law, bioethics, and in the popular imagination. In this course we will explore these concepts in greater depth, and then consider how our views about them shape our views about ethics.

**Breadth Requirements:** History, Philosophy and Cultural Studies

#### PHLB18H3 - Artificial Intelligence, Mind and Ethics **(EXISTING COURSE WITH PROPOSED MODIFICATION TO TITLE)**

This course will provide an accessible understanding of AI systems, such as ChatGPT, focusing on the ethical issues raised by ongoing advances in AI. These issues include the collection and use of big data, the use of AI to manipulate human beliefs and behaviour, its application in the workplace and its impact on the future of employment, as well as the ethical standing of autonomous AI systems.

**Recommended Preparation:** PHLA10H3 or PHLA11H3. These courses provide an introductory background of philosophical reasoning and core background concepts, which would assist students taking a B level course in Philosophy.

**Breadth Requirements:** History, Philosophy and Cultural Studies

**Course Experience:** University-Based Experience

(Course modification proposal to be approved through governance during the 2025-26 academic year.)

#### PHLB20H3 - Belief, Knowledge, and Truth

An examination of the nature of knowledge, and our ability to achieve it. Topics may include the question of whether any of our beliefs can be certain, the problem of scepticism, the scope and limits of human knowledge, the nature of perception, rationality, and theories of truth.

**Exclusion:** (PHL230H)

**Breadth Requirements:** History, Philosophy and Cultural Studies

#### PHLB81H3 - Theories of Mind

An examination of questions concerning the nature of mind. Philosophical questions considered may include: what is consciousness, what is the relation between the mind and the brain, how did the mind evolve and do animals have minds, what is thinking, what are feelings and emotions, and can machines have minds.

**Exclusion:** PHL240H

**Breadth Requirements:** History, Philosophy and Cultural Studies

PHLC18H3 - Philosophy of Artificial Intelligence **(NEW)**

This course examines core philosophical issues raised by advances in artificial intelligence. Topics include the possibility that AI systems may have consciousness and understanding; ethical issues related to the collection and use of data to train AI systems; and the potential impacts of AI on interpersonal relationships, employment and the economy, as well as democratic government.

**Prerequisite:** Any 4.5 credits and an additional 1.5 credits in PHL courses, of which 0.5 credit must be from the Mind, Metaphysics and Epistemology area of focus

**Recommended Preparation:** PHLB18H3

**Breadth Requirements:** History, Philosophy & Cultural Studies

(New course proposal to be approved through governance during the 2025-26 academic year.)

PHLC19H3 - Topics in Philosophy of Artificial Intelligence **(NEW)**

This course offers a focused examination of a few selected topics in philosophy of artificial intelligence. Topics vary from year to year but may include questions about AI minds (such as whether LLMs have beliefs or desires); whether human minds can be described as computer programs; issues of fairness and bias in AI; the use of AI in health care; AI and creativity; or AI and the future of work.

**Prerequisite:** Any 4.5 credits and an additional 1.5 credits in PHL courses, of which 0.5 credit must be from the Mind, Metaphysics and Epistemology area of focus

**Recommended Preparation:** PHLB18H3

**Breadth Requirements:** History, Philosophy & Cultural Studies

**Course Experience:** University-Based Experience

(New course proposal to be approved through governance during the 2025-26 academic year.)

PHLD18H3 - Advanced Seminar in Philosophy of Artificial Intelligence **(NEW)**

This course addresses core issues in the philosophy of artificial intelligence at an advanced level. Topics will vary from year to year.

**Prerequisite:** 3.0 credits in PHL courses, including [PHLC18H3 or PHLC19H3] and 0.5 credit at the C-level.

**Recommended Preparation:** PHLB18H3

**Breadth Requirements:** History, Philosophy & Cultural Studies

(New course proposal to be approved through governance during the 2025-26 academic year.)

### **Elective Courses:**

#### Anthropology

##### ANTB12H3 - Anthropology of Science Fiction

This course is about science fiction as a form of cultural and political critique. The course will explore themes that are central to both ethnography and science fiction, including topics such as colonialism, gender, and the climate crisis, while reflecting on the power of writing and myth-making to produce meaning and the future.

**Breadth Requirements:** Social and Behavioural Sciences

##### ANTB33H3 - The Future of Work

This course explores a pressing issue facing contemporary life: “the future of work.” It examines how work has been and continues to be transformed by automation, digital technologies, climate change, pandemics, the retrenchment of the welfare state, deindustrialization, global supply chains, and imperial and colonial rule. All kinds of media (e.g., academic texts, corporate publications, policy reports, activist literature, cinema) will be utilized to demonstrate how these transformations are not limited to work or labour but reverberate across social, political, and economic life.

**Recommended Preparation:** ANTA02H3

**Breadth Requirements:** Social and Behavioural Sciences

##### ANTC65H3 - Anthropology of Science, Medicine, and Technology

This course is an enquiry into the social construction of science and scientific expertise, with a particular focus on medicine and health. The interdisciplinary field of Science and Technology Studies (STS) opens up a very different perspective from what gets taught in biology classes about how medical knowledge is created, disseminated, becomes authoritative (or not), and is taken up by different groups of people. In our current era of increasing anti-science attitudes and “alternative facts,”

this course will offer students an important new awareness of the politics of knowledge production.

**Prerequisite:** [ANTB19H3 and ANTB20H3] or [any 4.0 credits]

**Exclusion:** Students who enrolled in ANTC69H3 in Fall 2023 may not take this course for credit.

**Breadth Requirements:** Social and Behavioural Sciences

## Computer Science

### CSCA20H3 - Introduction to Programming

An introduction to computer programming, with an emphasis on gaining practical skills. Introduction to programming, software tools, database manipulation. This course is appropriate for students with an interest in programming and computers who do not plan to pursue a Computer Science program.

**Exclusion:** CSCA08H3, CSC108H, CSC110H, CSC120H. CSC110H cannot be taken after or at the same time as CSC111H.

**Breadth Requirements:** Quantitative Reasoning

**Note:** This course does not require any prior exposure to computer programming.

### CSCB20H3 - Introduction to Databases and Web Applications

A practical introduction to databases and Web app development. Databases: terminology and applications; creating, querying and updating databases; the entity-relationship model for database design. Web documents and applications: static and interactive documents; Web servers and dynamic server-generated content; Web application development and interface with databases.

**Prerequisite:** Some experience with programming in an imperative language such as Python, Java or C.

**Exclusion:** This course may not be taken after - or concurrently with - any C- or D-level CSC course.

**Recommended Preparation:** CSCA08H3 or CSCA20H3

**Breadth Requirements:** Quantitative Reasoning

### CSCC11H3 - Introduction to Machine Learning and Data Mining

An introduction to methods for automated learning of relationships on the basis of empirical data. Classification and regression using nearest neighbour methods, decision trees, linear and non-linear models, class-conditional models, neural networks, and Bayesian methods. Clustering algorithms and dimensionality

reduction. Model selection. Problems of over-fitting and assessing accuracy.  
Problems with handling large databases.

**Prerequisite:** MATB24H3 and MATB41H3 and STAB52H3 and [CGPA of at least 3.5 or enrolment in a CSC Subject POST or enrolment in a non-CSC Subject POST for which this specific course is a program requirement].

**Exclusion:** CSC411H, (CSCD11H3)

**Recommended Preparation:** CSCC37H3

**Breadth Requirements:** Quantitative Reasoning

CSCD03H3 - Social Impact of Information Technology

The trade-offs between benefits and risks to society of information systems, and related issues in ethics and public policy. Topics will include safety-critical software; invasion of privacy; computer-based crime; the social effects of an always-online life; and professional ethics in the software industry. There will be an emphasis on current events relating to these topics.

**Prerequisite:** 14.0 credits and enrolment in a Computer Science Subject POST. Restricted to students in the Specialist/Specialist Co-op programs in Computer Science or in the Specialist/Specialist Co-op programs in Management and Information Technology

**Exclusion:** CSC300H

**Breadth Requirements:** Social and Behavioural Sciences

**Course Experience:** University-Based Experience

CSCD84H3 - Artificial Intelligence

A study of the theories and algorithms of Artificial Intelligence. Topics include a subset of: search, game playing, logical representations and reasoning, planning, natural language processing, reasoning and decision making with uncertainty, computational perception, robotics, and applications of Artificial Intelligence. Assignments provide practical experience of the core topics.

Assignments provide practical experience of the core topics.

**Prerequisite:** STAB52H3 and CSCB63H3 and [a CGPA of 3.5 or enrolment in a CSC subject POST]

**Exclusion:** CSC484H, CSC384H

**Breadth Requirements:** Quantitative Reasoning

Statistics

STAA57H3 - Introduction to Data Science

Reasoning using data is an integral part of our increasingly data-driven world. This course introduces students to statistical thinking and equips them with practical tools for analyzing data. The course covers the basics of data management and visualization, sampling, statistical inference and prediction, using a computational approach and real data.

**Prerequisite:** CSCA08H3

**Exclusion:** STAB22H3, STA130H, STA220H

**Breadth Requirements:** Quantitative Reasoning

**Course Experience:** Partnership-Based Experience

STAC58H3 - Statistical Inference

Principles of statistical reasoning and theories of statistical analysis. Topics include: statistical models, likelihood theory, repeated sampling theories of inference, prior elicitation, Bayesian theories of inference, decision theory, asymptotic theory, model checking, and checking for prior-data conflict. Advantages and disadvantages of the different theories.

**Prerequisite:** STAB57H3 and STAC62H3

**Exclusion:** STA352Y, STA422H

**Breadth Requirements:** Quantitative Reasoning

STAD68H3 - Advanced Machine Learning and Data Mining

Statistical aspects of supervised learning: regression, regularization methods, parametric and nonparametric classification methods, including Gaussian processes for regression and support vector machines for classification, model averaging, model selection, and mixture models for unsupervised learning. Some advanced methods will include Bayesian networks and graphical models.

**Prerequisite:** CSCC11H3 and STAC58H3 and STAC67H3

**Breadth Requirements:** Quantitative Reasoning

STAD78H3 - Machine Learning Theory

Presents theoretical foundations of machine learning. Risk, empirical risk minimization, PAC learnability and its generalizations, uniform convergence, VC dimension, structural risk minimization, regularization, linear models and their generalizations, ensemble methods, stochastic gradient descent, stability, online learning.

**Prerequisite:** STAB57H3 and STAC62H3

**Recommended Preparation:** STAC58H3 and STAC67H3

**Breadth Requirements:** Quantitative Reasoning

English

ENGB40H3 - Video Games and Literature

What is the relationship between “literature” and video games? This class will explore how we can read this relatively new – but increasingly dominant – media against and alongside more established literary forms like prose, poetry, and film, and will give students the opportunity to practice critical close reading skills. The course will focus on thematic and formal resonances between digital texts (“games”) and traditional texts (“literature”), and will also explore questions of direct adaptation (books that become games, games that become film, etc.).

**Exclusion:** SMC198

**Recommended Preparation:** ENGA01H3

**Breadth Requirements:** Arts, Literature and Language

ENGB78H3 - The Digital Text: From Digitized Literature to Born-Digital Works

This course explores the creative, interpretive, social, and political effects of our interactions and experiments with digital forms of literature: novels, short stories, plays, and poems, but also video games, online fan fiction, social media posts, and other texts typically excluded from the category of the “literary.” The course attends both to texts written before the digital turn and later digitized, as well as to “born-digital” texts. It surveys the history of shifts within the media landscape - from oral to written, from manuscript to print, from print to digital. Over the course of the semesters, we will explore a variety of questions about digital literary culture, including: How does a text's medium - oral, manuscript, print and/or digital - affect its production, transmission, and reception? How do writers harness, narrate, and depict the use of digital technologies? How does digital textuality challenge earlier conceptions of “literature”? How does digitization shape our work as readers and critics? By reading “traditional” literary forms alongside newer ones, we will investigate how the digital age impacts literature, and how literature helps us grapple with the implications of our digitized world.

**Exclusion:** ENG287H1, ENG381H5

**Breadth Requirements:** Arts, Literature and Language

### ENGC41H3 - Video Games: Exploring the Virtual Narrative

How do video games connect to English literature? In what ways can they be “read” and assessed as storytelling texts? How do video game narratives reflect historical, cultural, and social concerns? Although active playing will be a required part of the course, students of all video game experience levels are welcome.

**Prerequisite:** Any 6.0 credits

**Recommended Preparation:** ENGA01H3 and ENGA02H3

**Breadth Requirements:** Arts, Literature and Language

### ENGC49H3 - The Digital Self: Social Media & Literary Culture

This course explores social media’s influence on literary culture and our personal lives. Engaging with contemporary novels, essays and films that deal with the social media, as well as examining social media content itself (from early web blogs, to Facebook, Twitter, Instagram and TikTok), over the course of the semester, we will consider how social media shapes literary texts and our emotional, social and political selves.

**Prerequisite:** Any 6.0 credits

**Recommended Preparation:** ENGB78H3

**Breadth Requirements:** Arts, Literature and Language

### ENGD50H3 - Fake Friends and Artificial Intelligence: the Human-Robot Relationship in Literature and Culture

This course will explore the portrayal of the human-robot relationship in conjunction with biblical and classical myths. The topic is timely in view of the pressing and increasingly uncanny facets of non-divine, non-biological creation that attend the real-world production and marketing of social robots. While the course looks back to early literary accounts of robots in the 1960s, it concentrates on works written in or after the 1990s. The course aims to analyze how a particular narrative treatment of the robot-human relationship potentially alters our understanding of its mythical intertext and, by extension, notions of divinity, humanity, gender, animality, disability, and relations of kinship and care.

**Prerequisite:** 1.0 credit at the C- level in ENG courses

**Breadth Requirements:** Arts, Literature and Language

## History

### HISA02H3 - Rise of the Machines: How Technology Remakes the World

We live in a world that has been profoundly altered by technology. Our homes, our work, our relationships, even our bodies all give evidence of our complex historical and cultural relationship with the tools we use. In this course, we examine how technology makes our world by studying pivotal moments in which technology has deeply transformed economic, social, and cultural relationships. We end by considering some of the ways in which contemporary technology is changing how we think and act. Students will explore theories of technological change and apply them to historical and cultural analysis, including an examination of their own experience. We pay particular attention to the ways that information technology both enable and constrain our work as investigators of historical and cultural phenomena, and we make extensive use of tools from the digital humanities to enhance our understanding and abilities.

**Breadth Requirements:** History, Philosophy and Cultural Studies

HISB05H3 - How We Became Digital: Introduction to our Information Age

This course provides a general introduction to digital methods in History through the study of the rise of information as a concept and a technology. Topics include the history of information theory, the rise of digital media, and, especially, the implications of digital media, text processing, and artificial intelligence for historical knowledge. Using simple tools, students learn to encode texts as data structures and transform those structures programmatically.

**Exclusion:** DHU235H1

**Recommended Preparation:** 0.5 credit at the A or B-level in CLA, FST, GAS, HIS or WST courses

**Breadth Requirements:** History, Philosophy and Cultural Studies

Linguistics

LINA01H3 - Introduction to Linguistics

An introduction to the various methods and theories of analyzing speech sounds, words, sentences and meanings, both in particular languages and language in general.

**Exclusion:** (LIN100Y), LIN101H, LIN102H

**Breadth Requirements:** Arts, Literature and Language

LINC35H3 - Introduction to Computational Linguistics

This course focuses on computational methods in linguistics. It is geared toward students with a background in linguistics but minimal background in computer science. This course offers students a foundational understanding of two domains of computational linguistics: cognitive modeling and natural language processing. Students will be introduced to the tools used by computational linguists in both these domains and to the fundamentals of computer programming in a way that highlights what is important for working with linguistic data.

**Prerequisite:** LINB30H3 or with permission of instructor

**Corequisite:** LINB29H3

**Exclusion:** (LINB35H3), LIN340H5(UTM), LIN341H5(UTM)

**Breadth Requirements:** Quantitative Reasoning

#### PLIC55H3 - Psycholinguistics

Experimental evidence for theories of how humans produce and understand language, and of how language is represented in the mind. Topics include speech perception, word retrieval, use of grammar in comprehension and production, discourse comprehension, and the role of memory systems in language processing.

**Prerequisite:** LINB06H3 or LINB09H3

**Corequisite:** LINB29H3

**Exclusion:** JLP374H

**Breadth Requirements:** Natural Sciences

#### PLIC75H3 - Language and the Brain

An introduction to neurolinguistics, emphasizing aphasia and healthy individuals. We will introduce recent results understanding how the brain supports language comprehension and production. Students will be equipped with necessary tools to critically evaluate the primary literature. No prior knowledge of brain imaging is necessary.

**Prerequisite:** PLIC55H3

**Breadth Requirements:** Social and Behavioural Sciences

#### Media Studies

##### MDSB20H3 - Media, Science and Technology Studies

This course offers an introduction to the field of Science and Technology Studies (STS) as it contributes to the field of media studies. We will explore STS approaches to media technologies, the materiality of communication networks, media ecologies,

boundary objects and more. This will ask students to consider the relationship between things like underground cables and colonialism, resource extraction (minerals for media technologies) and economic exploitation, plants and border violences, Artificial Intelligence and policing.

**Prerequisite:** [Enrolment in the Major program in Media and Communication Studies and [MDSA10H3 or (MDSA01H3)] and MDSA11H3 and [MDSA12H3 and [MDSA13H3 or (MDSA02H3)] ] or [JOUA01H3 and JOUA02H3] ] or [Enrolment in the Minor Program in Media Studies and MDSA11H3 and [MDSA13H3 or (MDSA02H3)]

**Exclusion:** (MDSB20H3)

**Breadth Requirements:** History, Philosophy and Cultural Studies

### MDSB30H3 - Social Media and Digital Culture

This course introduces students to the interdisciplinary and transnational field of media studies that helps us to understand the ways that social media and digital culture have impacted social, cultural, political, economic and ecological relations. Students will be introduced to Social Media and Digital Cultural studies of social movements, disinformation, changing labour conditions, algorithms, data, platform design, environmental impacts and more

**Prerequisite:** [Enrolment in the Major program in Media and Communication Studies and [MDSA10H3 or (MDSA01H3)] and MDSA11H3 and [MDSA12H3 and [MDSA13H3 or (MDSA02H3)] ] or [JOUA01H3 and JOUA02H3] ] or [Enrolment in the Minor Program in Media Studies and MDSA11H3 and [MDSA13H3 or (MDSA02H3)]

**Exclusion:** CCT331H5, (MDSB15H3)

**Breadth Requirements:** Arts, Literature and Language

### MDSB35H3 - Platform Labour

The course explores the different types of platform labour around the world, including micro-work, gig work and social media platforms. It presents aspects of the platformization of labour, as algorithmic management, datafication, work conditions and platform infrastructures. The course also emphasizes workers' organization, platform cooperativism and platform prototypes.

**Prerequisite:** [Enrolment in the Major program in Media and Communication Studies and [MDSA10H3 or (MDSA01H3)] and MDSA11H3 and [MDSA12H3 and [MDSA13H3 or (MDSA02H3)] ] or [JOUA01H3 and JOUA02H3] ] or [Enrolment in the Minor Program in Media Studies and MDSA11H3 and [MDSA13H3 or

(MDSA02H3)]

**Breadth Requirements:** Arts, Literature and Language

MDSC24H3 - Selfies and Society

Selfies are an integral component of contemporary media culture and used to sell everyone from niche celebrities to the Prime Minister. This class examines the many meanings of selfies to trace their importance in contemporary media and digital cultures as well as their place within, and relationship to, historically and theoretically grounded concepts of photography and self portraiture.

**Prerequisite:** [2.0 credits at the B-level in MDS courses] or [2.0 credits at the B-level in JOU courses] or [4.5 credits from the Major (Joint) program in New Media Studies Group I and Group II courses]

**Exclusion:** (MDSC66H3)

**Breadth Requirements:** History, Philosophy and Cultural Studies

MDSC27H3 - Digital Research Ethics

This course will examine ethical considerations for conducting digital research with a focus on privacy, consent, and security protections, especially as these issues affect underrepresented and minoritized communities.

**Prerequisite:** [Enrolment in the Major program in Media and Communication Studies and 3.0 credits at the MDS B-level] or [Enrolment in the Minor program in Media Studies and 2.0 credits at the MDS B-level]

**Breadth Requirements:** Arts, Literature and Language

MDSC28H3 - Data and Artificial Intelligence

The course explores critical data studies and considers critical understandings of artificial intelligence, with a focus on topics that may include algorithmic fairness, data infrastructures, AI colonialism, algorithmic resistance, and interplays between race/gender/sexuality issues and data/artificial intelligence.

**Prerequisite:** [3.0 credits at MDS B-level and enrolment in Major program in Media and Communication Studies - Media Studies stream] or [3.0 credits at MDS B-level/JOU B-level and enrolment in Major program in Media and Communication Studies - Journalism Studies stream] or [2.0 credits at the MDS B-level and enrolment in the Minor program in Media Studies]

**Breadth Requirements:** Arts, Literature and Language

MDSC31H3 - Platforms and Cultural Production

This course focuses on the process of platformization and how it impacts cultural production. It provides an introduction into the fields of software, platform, and app studies. The tenets of institutional platform power will be discussed, such as economics, infrastructure, and governance, as well as questions pertaining to platform labour, digital creativity, and democracy.

**Prerequisite:** [Enrolment in the Major program in Media and Communication Studies - Media Studies stream and 3.0 credits at the MDS B-level] or [Enrolment in the Major program in Media and Communication Studies - Journalism stream and 3.0 credits at the MDS B-level/JOU B-level] or [Enrolment in the Minor program in Media Studies and 2.0 credits at the MDS B-level]

**Breadth Requirements:** Arts, Literature and Language

## Management

### MGOC15H3 - Introductory Business Data Analytics

The course lays the foundation of business data analytics and its application to Management. Using state-of-the-art computational tools, students learn the fundamentals of processing, visualizing, and identifying patterns from data to draw actionable insights and improve decision making in business processes.

**Prerequisite:** MGEB12H3

**Corequisite:** MGOC10H3

**Exclusion:** MGT458H5, (MGOD30H3)

**Breadth Requirements:** Quantitative Reasoning

### MGSC10H3 - Business Strategy in the Digital Age

This course teaches students the ways in which business strategy and strategic decisions are affected by the recent explosion of digital technologies. Key considerations include the market and organizational context, process design, and managerial practices that determine value from data, digital infrastructures, and AI. It provides classic frameworks augmented by frontier research to make sense of digital transformation from the perspective of a general manager. Learning on case study analysis and in-class discussion, this course will surface both practical and ethical pitfalls that can emerge in an increasingly digital world and equip students to operate effectively in professional contexts affected by these fast-moving trends.

**Prerequisite:** Completion of 10.0 credits including MGEB11H3 and MGEB12H3

**Recommended Preparation:** Introductory Logic, Probability and Statistics

## Econometrics (Linear Regression)

**Breadth Requirements:** Social and Behavioural Sciences

### MGOD31H3 - Advanced Business Data Analytics

The course covers advanced Management concepts of Big Data analytics via state-of-the-art computational tools and real-world case studies. By the end of the course, students will be able to conceptualize, design, and implement a data-driven project to improve decision-making.

**Prerequisite:** MGOC10H3 and MGOC15H3

**Exclusion:** (MGOD30H3)

**Breadth Requirements:** Quantitative Reasoning

**Course Experience:** Partnership-Based Experience

### MGSD55H3 - Strategy and Technology

This is an advanced course tackling critical issues in technology and information strategy. We focus on the theory and application of platform, screening, and AI strategies

**Prerequisite:** MGAB02H3 and MGEB02H3 and MGSB01H3 and [MGIC01H3 or MGSC01H3]

**Exclusion:** MGSD15H3 and [MGSD91H3 if taken in Fall 2023]

**Breadth Requirements:** Social and Behavioural Sciences

## Philosophy

### PHLB03H3 - Philosophy of Aesthetics

An examination of challenges posed by the radical changes and developments in modern and contemporary art forms. For example, given the continuously exploding nature of art works, what do they have in common - what is it to be an artwork?

**Exclusion:** PHL285H

**Breadth Requirements:** Arts, Literature and Language

### PHLB17H3 - Introduction to Political Philosophy

This course will introduce some important concepts of and thinkers in political philosophy from the history of political philosophy to the present. These may include Plato, Aristotle, Augustine, Aquinas, Thomas Hobbes, John Locke, Jean-Jacques Rousseau, G.W.F. Hegel, John Stuart Mill, or Karl Marx. Topics discussed may include political and social justice, liberty and the criteria of good government.

**Exclusion:** PHL265H, (POLB71H3); in addition, PHLB17H3 may not be taken after or concurrently with POLB72H3

**Breadth Requirements:** History, Philosophy and Cultural Studies

#### PHLB91H3 - Theories of Human Nature

An exploration of theories which provide answers to the question 'What is a human being?', answers that might be summarized with catchphrases such as: 'Man is a rational animal,' 'Man is a political animal,' 'Man is inherently individual,' 'Man is inherently social,' etc. Authors studied are: Aristotle, Hobbes, Rousseau, Darwin, Marx, Freud and Sartre.

**Exclusion:** PHL244H, (PHLC91H3)

**Breadth Requirements:** History, Philosophy and Cultural Studies

#### PHLC05H3 - Ethical Theory

Philosophers offer systematic theories of ethics: theories that simultaneously explain what ethics is, why it matters, and what it tells us to do. This course is a careful reading of classic philosophical texts by the major systematic thinkers in the Western tradition of ethics. Particular authors read may vary from instructor to instructor.

Prerequisite: Any 4.5 credits and [an additional 1.5 credits in PHL courses, of which 0.5 credit must be from the Value Theory area of focus – see Table 1.0 for reference]

**Exclusion:** (PHLC01H3), PHL375H

**Breadth Requirements:** History, Philosophy and Cultural Studies

#### PHLC06H3 - Topics in Ethical Theory

Philosophical ethics simultaneously aims to explain what ethics is, why it matters, and what it tells us to do. This is what is meant by the phrase 'ethical theory.' In this class we will explore specific topics in ethical theory in some depth. Specific topics may vary with the instructor.

Prerequisite: Any 4.5 credits and [an additional 1.5 credits in PHL courses, of which 0.5 credit must be from the Value Theory area of focus – see Table 1.0 for reference]

**Exclusion:** (PHLC01H3)

**Breadth Requirements:** History, Philosophy and Cultural Studies

#### PHLC20H3 - Theory of Knowledge

A follow up to PHLB20H3. This course will consider one or two epistemological topics in depth, with an emphasis on class discussion.

Prerequisite: Any 4.5 credits and [an additional 1.5 credits in PHL courses, of which 0.5 credit must be from the Mind, Metaphysics and Epistemology area of focus – see Table 1.0 for reference]

**Exclusion:** PHL332H

**Breadth Requirements:** History, Philosophy and Cultural Studies

PHLC72H3 - Philosophy of Science

This course will consider one or two topics in the Philosophy of Science in depth, with an emphasis on class discussion.

Prerequisite: Any 4.5 credits and [an additional 1.5 credits in PHL courses, of which 0.5 credit must be from the Mind, Metaphysics and Epistemology area of focus – see Table 1.0 for reference]

**Breadth Requirements:** History, Philosophy and Cultural Studies

PHLC80H3 - Philosophy of Language

An examination of philosophical issues about language. Philosophical questions to be covered include: what is the relation between mind and language, what is involved in linguistic communication, is language an innate biological feature of human beings, how do words manage to refer to things, and what is meaning.

Prerequisite: Any 4.5 credits and [an additional 1.5 credits in PHL courses, of which 0.5 credit must be from the Mind, Metaphysics and Epistemology area of focus – see Table 1.0 for reference]

**Breadth Requirements:** History, Philosophy and Cultural Studies

PHLC86H3 - Issues in the Philosophy of Mind

Advance Issues in the Philosophy of Mind. For example, an examination of arguments for and against the idea that machines can be conscious, can think, or can feel. Topics may include: Turing's test of machine intelligence, the argument based on Gödel's theorem that there is an unbridgeable gulf between human minds and machine capabilities, Searle's Chinese Room thought experiment.

Prerequisite: Any 4.5 credits and [an additional 1.5 credits in PHL courses, of which 0.5 credit must be from the Mind, Metaphysics and Epistemology area of focus – see Table 1.0 for reference]

**Breadth Requirements:** History, Philosophy and Cultural Studies

### PHLC92H3 - Political Philosophy

An examination of some central philosophical problems of contemporary political philosophy.

Prerequisite: Any 4.5 credits and [an additional 1.5 credits in PHL courses, of which 0.5 credit must be from the Value Theory area of focus – see Table 1.0 for reference]

**Breadth Requirements:** History, Philosophy and Cultural Studies

### PHLC93H3 - Topics in Political Philosophy

This course will examine some contemporary debates in recent political philosophy. Topics discussed may include the nature of justice, liberty and the criteria of good government, and problems of social coordination.

Prerequisite: Any 4.5 credits and [an additional 1.5 credits in PHL courses, of which 0.5 credit must be from the Value Theory area of focus – see Table 1.0 for reference]

**Breadth Requirements:** History, Philosophy and Cultural Studies

### PHLC95H3 - Topics in the Philosophy of Mind

Advanced topics in the Philosophy of mind, such as an exploration of philosophical problems and theories of consciousness. Topics to be examined may include: the nature of consciousness and 'qualitative experience', the existence and nature of animal consciousness, the relation between consciousness and intentionality, as well as various philosophical theories of consciousness.

Prerequisite: Any 4.5 credits and [an additional 1.5 credits in PHL courses, of which 0.5 credit must be from the Mind, Metaphysics and Epistemology area of focus – see Table 1.0 for reference]

**Breadth Requirements:** History, Philosophy and Cultural Studies

### PHLD05H3 - Advanced Seminar in Ethics

This course offers an in-depth investigation into selected topics in moral philosophy.

Prerequisite: 3.5 credits in PHL courses, including [[PHLC05H3 or PHLC06H3] and 0.5 credit at the C-level]

**Exclusion:** PHL407H, PHL475H

**Breadth Requirements:** History, Philosophy and Cultural Studies

### PHLD87H3 - Advanced Seminar in Philosophy of Mind

This course offers in-depth examination of selected contemporary theories and issues in philosophy of mind, such as theories of perception or of consciousness, and contemporary research examining whether minds must be embodied or embedded in a larger environment.

Prerequisite: 3.5 credits in PHL courses, including [[PHLC95H3 or PHLC86H3] and 0.5 credit at the C-level]

**Exclusion:** PHL405H

**Recommended Preparation:** PHLC95H3

**Breadth Requirements:** History, Philosophy and Cultural Studies

## Political Science

### POLC30H3 - Law, Politics and Technology

Today's legal and political problems require innovative solutions and heavily rely on the extensive use of technology. This course will examine the interaction between law, politics, and technology. It will explore how technological advancements shape and are shaped by legal and political systems. Students will examine the impact of technology on the legal and political landscape, and will closely look at topics such as cybersecurity, privacy, intellectual property, social media, artificial intelligence and the relationship of emerging technologies with democracy, human rights, ethics, employment, health and environment. The course will explore the challenges and opportunities that technology poses to politics and democratic governance. The topics and readings take a wider global perspective – they are not confined only on a Canadian context but look at various countries' experiences with technology.

Area of Focus: Public Law

**Prerequisite:** POLB30H3 and POLB56H3

**Corequisite:** N/A

**Exclusion:** N/A

**Recommended Preparation:** POLC32H3, POLC36H3

**Breadth Requirements:** Social and Behavioural Sciences

## Psychology

### PSYD52H3 - Neural Network Models of Cognition Laboratory

This course provides an overview of neural-network models of perception, memory, language, knowledge representation, and higher-order cognition. The course consists of lectures and a lab component. Lectures will cover the theory behind the

models and their application to specific empirical domains. Labs will provide hands-on experience running and analyzing simulation models.

**Prerequisite:** [PSYB07H3 or STAB22H3 or STAB23H3] and PSYB70H3 and [0.5 credit at the C-level in PSY 50-series courses]

**Recommended Preparation:** [PSYB03H3 or CSCA08H3 or CSCA20H3] and [MATA23H3 and [MATA29H3 or MATA30H3]]

**Breadth Requirements:** Natural Sciences

**Course Experience:** University-Based Experience

History and Philosophy of Science and Technology (Faculty of Arts & Science)

HPS220H1 - Machines

Hours: 24L/11T

Machines pervade our lives and their influences are woven through countless contemporary debates in both academic and public discourse. The term ‘machine’ is used frequently in ordinary language, in literature, as well as in philosophical and scientific discussions, yet the concept itself—it’s history, meaning, and impact—rarely gets the analysis it deserves. This course explores the meanings and influence of machines for knowledge, culture, and society in different periods and places, both real and imaginary, through the lens of the history and philosophy of technology. We will draw on scholarship and expertise from a range of fields, including history, philosophy, anthropology, human-machine interaction, computer science, sociology, and literary studies, to explore what machines have been, what they have become, and what they mean for our societies.

**Prerequisite:** Completion of 4.0 credits

**Breadth Requirements:** Society and its Institutions (3)

HPS255H1 - History and Philosophy of Artificial Intelligence

Hours: 24L/12T

This course introduces students to the historical and philosophical issues around artificial intelligence (AI). We will cover the geopolitical, economic, and cultural contexts from which the field of AI emerged, as well as the troubled history of the scientific concept of intelligence and how that has influenced the development of AI. The course will also introduce students to foundational and normative questions, such as how we should define and measure AI, how to evaluate the

accomplishments of AI systems, and what the benefits and risks of relying on such systems might be.

**Breadth Requirements:** Society and its Institutions (3)

HPS340H1 - The Limits of Machine Intelligence

Hours: 24L/11T

With the recent headline-making breakthroughs in deep learning neural networks (DNNs), it might seem that we are on the cusp of living with artificial systems that match or exceed human intelligence. But there remain longstanding philosophical challenges around the definition of intelligence that AI researchers use, how they measure the performance of their systems, and what DNNs could really be capable of, that still need addressing. For example, how close are DNNs to passing the Turing test? How close are we to building general intelligence and what do we need to get us there? How can we draw fair and meaningful comparisons between artificial and biological systems? We will draw on material from the history and philosophy of science to evaluate and inform current debates around the limits of AI. For example, we'll consider what kinds of explanations DNNs can provide. We'll also look at how debates between the rationalists and empiricists (e.g. Locke, Hume, and Kant) inform current debates between AI nativists and empiricists. This course explores these questions through contemporary texts across the fields of philosophy of science, artificial intelligence, comparative psychology, and cognitive science, among others.

**Prerequisite:** Completion of 4.0 credits including 0.5 credit in any HPS/ PHL/ COG course. Students who do not have all of these prerequisites are encouraged to contact the instructor.

**Exclusion:** HPS300H1 (Topics in History and Philosophy of Science and Technology: The Limits of Machine Intelligence), offered in Winter 2021 and Fall 2021

**Recommended Preparation:** One of HPS220H1/ HPS255H1/ PHL342H1/ COG250Y1/ CSC199H1/ SMC199H1

**Breadth Requirements:** Society and its Institutions (3)

HPS345H1 - Quantifying the World: on the Ethical and Epistemic Implications of AI and Automation

Hours: 24L/12T

The effects of automation, computing, and information technology have had a great impact on our society. The rise of automation and computing the almost cult-like trust in mechanization have transformed our society both at the material and the epistemological level. This course will examine the epistemological and ethical debates that AI and automation have produced in all sectors of society. It will consider a variety of media and instruments from data visualization and mapping, to the use of AI and robotics, contextualizing them within popular and hotly contested examples in the military field and in cybersecurity, in medical diagnostics and epidemiology, in the automotive industry, and in the personal realm.

**Prerequisite:** 4.0 credits

**Recommended Preparation:** 1.0 credit in BR=1/ BR=2, including a 0.5 credit in HPS/ PHL/ VIC (Science, Technology, and Society courses)

**Breadth Requirements:** Society and its Institutions (3)

HPS346H1 - Modifying and Optimizing Life: on the Peculiar Alliance between AI, Biology and Engineering

Hours: 24L/12T

Taking cue from the entanglements that historically have pervaded the relation between biology and information technology since the early 20th century, this course interrogates the sociocultural and technological conjuncture that has brought computer science, biology and engineering together into peculiar, ingenious, and often controversial alliances. What do AI, synthetic biology, and biotechnology have in common? How have they come to be associated? What are the debates and ethics emerging from such associations? The course will focus on topics such as: geoengineering and bioremediation; GMO and Robotic insects; the use of expert systems and machine learning to optimize synthetic biology; the flourishing and marketing of precision and personalized medicine/immunotherapy; and the ethics behind CRISPR babies.

**Prerequisite:** 4.0 credits

**Recommended Preparation:** 1.0 credit in BR=1/ BR=2, including a 0.5 credit in HPS/ PHL/ VIC (Science, Technology, and Society courses)

**Breadth Requirements:** Society and its Institutions (3)