

PSY197H1F (Fall 2024): The Extended Mind

Meetings: Tuesday 1-3 pm in UCA101

Course prerequisites: None

Instructor: [Prof. Romin Tafarodi](#)

Drop-in office hours: Tuesday from 3:30-4:30 pm in Room 4032 of Sidney Smith Hall

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Required readings and videos: All are accessible within Modules on Quercus course page

Overview

The remarkable achievements of the human mind rest upon our ability to fashion powerful tools for thought, perception, and action. The transformative effects of spoken and written language, the revelations of the microscope and telescope, the revolutionary impact of mobile information and communication technologies, and the neural and sensory prostheses of today and tomorrow remind us that cultural innovation has greatly expanded the capabilities of our brains and bodies. This course examines how we think, feel, act, and relate to each other through “extended minds.” Topics include the central importance of language and representation in our lives, how we use our bodies to think, social learning and collaboration, the extended self, technology and thought, and the ethical challenges of the 21st-century extended mind. The main goal of the course is to foster a deeper understanding of how “mind” is much more than just what happens inside the skull. A full appreciation of what is distinctive about human psychology requires awareness of the complex interplay of our bodies, technologies, cultural practices, and physical environments. More generally, this seminar course will help students develop their

scientific literacy, ability for critical thinking and self-reflection, and speaking and writing skills. The course is restricted to first-year students. Not eligible for CR/NCR option.

Evaluation

Evaluation is based on two in-class tests (October 8 and November 26 from 1:10-3:00 pm), a self-analysis paper (due by 1:10 pm on November 19), two thought papers (due by 1:10 pm on September 24 and November 12), and class participation. Each of the two tests accounts for 25% of the course mark, the self-analysis paper for 24%, the thought papers for 3% each, and class participation for 20%.

Tests (25% each). Both tests will be hand-written in class in narrative essay format in standard U of T test booklets. Access to notes, readings, and electronic devices will **not** be permitted during the tests. I would like you to conceive of your learning in this course as a narrative -- a personal story. To encourage this framing, the tests will ask you to describe your engagement with the required readings, videos, and class discussions as it developed over time. Test 1 on October 8 will consist of a single question:

"Please spend the next one hour and fifty minutes describing your personal journey in this course so far. Discuss your personal reactions to the readings and videos that have been assigned so far, and the discussions we have had about them. Describe how the content of these readings, videos, and discussions has changed and/or reinforced the way you see yourself and the world around you."

Test 2 on November 26 will consist of a single parallel question dealing with the second half of the course:

*"Please spend the next one hour and fifty minutes describing your personal journey in this course **since the date of the first term test**. Discuss your personal reactions to the readings and videos that have been assigned **since then**, and the discussions we have had about them. Describe how the content of these readings, videos, and discussions has changed and/or reinforced the way you see yourself and the world around you."*

Narrative responses will be evaluated on the depth, quality, and consistency of engagement with the readings, videos, and discussions, as well as the cogency of reasoning and quality of writing. With regard to consistency, broken narratives that reveal only partial engagement with the course by failing to incorporate **all** topics explored across the weeks covered by the test will receive lower marks than more complete narratives. Equally, narratives that reveal full engagement with the readings, videos, **and** class discussions will receive higher marks than those revealing full engagement with only one or two of these three sources of content.

Marks for the first test will be posted on Quercus within two weeks, along with my evaluative comments. Marks and comments for the second test will be posted on Quercus

within three weeks. Any concerns or questions about individual marks should be taken up with me **within two weeks** of posting.

If you are forced to miss a test due to illness or other adversity beyond your control, be sure to email me within a week of the test date to request a make-up test. Your request must be accompanied by **one** of the following: 1) proof of submission on [ACORN's](#) Absence Declaration Tool (note that this can only be used once per semester); 2) a properly completed [Verification of Illness \(VOI\) form](#); 3) a letter from your College Registrar's office; or 4) a letter from your Accessibility Services advisor. Claims that illness or adversity prevented adequate *preparation* for the test will not suffice in most cases. Late requests will **not** be considered. Make-up tests will be written in the Department of Psychology at a pre-arranged time. Make-up test requests that are denied will result in a test mark of zero. Please note that missing a term test is a serious matter. Make-up tests will only be offered in clearly legitimate and properly documented cases, in accordance with the guidelines of the Faculty of Arts and Science.

Self-analysis (24%). The self-analysis paper is a structured opportunity to use the perspectives explored in the courses to examine your own life and discuss the many ways in which your everyday activities involve extensions of mind. To prepare, you will keep a journal for **one week** and record the variety of ways your own activities and experiences are examples of extended mind as explored in the course. Your journal should be included as an appendix to the paper. In the paper, you will describe each distinct extension represented in your journal, explaining how it: 1) allows you to do or experience things that you could not otherwise do or experience; 2) is fitted to and perhaps even necessary for meeting the challenges of living in today's world; and 3) introduces novel risks, hazards, or at least concerns into your life, given your personal circumstances. The paper should consist of 1,750-2,500 words excluding the title page, any references (not obligatory), and appendix. Do not include an abstract. Note that this is **not** a research paper. It is a personal exercise requiring close self-monitoring, focused self-reflection, and careful writing. Give it the time and attention it deserves. Be sure to number your pages, double-space your text, and use 12-point Times New Roman, Arial, or Calibri font. The paper should be submitted on Quercus before the deadline of 1:10 pm on November 19. Papers will be evaluated on the detail and thoroughness of the appended journal, the depth and insightfulness of the tripartite discussion of extensions, and the quality of writing. Late papers will be accepted with a mark deduction of 5% per day.

Marks for the self-analysis paper will be posted on Quercus within two weeks of the submission deadline. Any concerns or questions about individual marks should be taken up with me **within two weeks** of posting.

Thought papers (3% each). The two thought papers are structured opportunities for you to relate the issues explored in the videos to your own life and the lives of those close to you. They are personal explorations, not scholarly reports, and should not include any formal references or citations. Each paper must be 500-600 words in length. Each should be

based on any **one** of the videos assigned in the course. You are completely free to choose which two videos to base your thought papers on.

The question to be addressed in each thought paper is:

What is the main argument offered by the featured speaker(s) in this video? Do you feel that this argument has validity as applied to your own life and/or the lives of those you know well? Why or why not?

Thought papers will be evaluated on the extent to which they reveal good understanding of the video, the depth and insightfulness of personal application, and the quality of writing.

The first thought paper should be submitted on Quercus by 1:10 pm on September 24. The second should be submitted on Quercus by 1:10 pm on November 12. Emailed papers will not be accepted. Late papers will not be accepted unless otherwise arranged with me because of justifying personal circumstances. Please plan and work accordingly.

Thought paper marks will be posted on Quercus within two weeks of their submission deadline. Any concerns or questions about individual marks should be taken up with me **within two weeks** of posting.

Class participation (20%). Social learning is fundamental to this course. You are expected to attend all classes in person and actively participate in instructor-led, seminar-type discussions. You will be assessed on the quality of your contributions to class discussions. In conducting this assessment, I will ask myself, “How much did this student contribute to the overall learning experience for all students?” Participation marks will be posted on Quercus within three weeks of the second test. Any concerns or questions about individual marks should be taken up with me **within two weeks** of posting.

Course Policies

Plagiarism Detection. Normally, students will be required to submit their papers to the University’s plagiarism detection tool for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their papers to be included as source documents in the tool’s reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University’s use of this tool are described on the [Centre for Teaching Support & Innovation's](#) website.

Writing. The ability to write effectively is key to academic and professional success in the information age. To find resources aimed at helping you develop your writing skills, start by visiting [Writing at the University of Toronto](#).

Grading Policy. Please note that all course marks are tentative until approved by the Department Chair and the Dean’s office, and recorded by the Office of the Faculty

Registrar. For more information on what grades mean at U of T, please see <http://www.writing.utoronto.ca/advice/general/grading-policy>.

Penalties for Lateness. Late thought papers will not be accepted unless otherwise arranged with the instructor due to justifying circumstances. Late self-analysis papers will be accepted with a 5%-per-day penalty.

Email Policy. Please check the syllabus before sending me an email. You will find answers to many of your questions there. Feel free to email me for any other questions or concerns, or attend my drop-in office hours.

Religious Accommodation. As a student at the University of Toronto, you are part of a diverse community that welcomes and includes students and faculty from a wide range of cultural and religious traditions. For my part, I will make every reasonable effort to avoid scheduling tests, examinations, or other compulsory activities on religious holy days not captured by statutory holidays. Further to University Policy, if you anticipate being absent from class or missing a major course activity (such as a test) due to a religious observance, please let me know as early in the course as possible, and with sufficient notice (at least two to three weeks), so that we can work together to make alternate arrangements.

Students with Disabilities or Accommodation Requirements. Students with diverse learning styles and needs are welcome in this course. If you have an acute or ongoing disability issue or accommodation need, you should register with Accessibility Services (AS) at the beginning of the academic year by visiting <http://www.studentlife.utoronto.ca/as/new-registration>. Without registration, you will not be able to verify your situation with your instructors, and instructors will not be advised about your accommodation needs. AS will assess your situation, develop an accommodation plan with you, and support you in requesting accommodation for your course work. Remember that the process of accommodation is private: AS will not share details of your needs or condition with any instructor, and your instructors will not reveal that you are registered with AS.

Academic Integrity. All students, faculty and staff are expected to follow the University's guidelines and policies on academic integrity. For students, this means following the standards of academic honesty when writing assignments, collaborating with fellow students, and writing tests and exams. Ensure that the work you submit for grading represents your own honest efforts. Plagiarism—representing someone else's work as your own or submitting work that you have previously submitted for marks in another class or program—is a serious offence that can result in sanctions. Speak to me for advice on anything that you find unclear. To learn more about how to cite and use source material appropriately and for other writing support, see the U of T writing support website at [Writing at the University of Toronto](#). Consult the Code of Behaviour on Academic Matters for a complete outline of the University's policy and expectations. For more information, please see <https://www.artsci.utoronto.ca/current/academic-advising-and-support/student-academic-integrity> and <http://academicintegrity.utoronto.ca>.

Specific Medical Circumstances. Students who are absent from academic participation for any reason (e.g., COVID, cold, flu and other illness or injury, family situation) and require consideration for missed academic work should report their absence through [ACORN](#) (Profile and Settings menu), a [Verification of Illness \(VOI\) form](#), or letter from their College Registrar or Accessibility Services advisor. Students should also inform their instructor of their absence.

If an absence extends beyond 14 consecutive days, or if you have a non-medical personal situation preventing you from completing your academic work, you should connect with your College Registrar. They can provide advice and assistance reaching out to instructors on your behalf. If you get a concussion, break your hand, or suffer some other acute injury, you should register with Accessibility Services as soon as possible.

Digital Devices in Class. Technology can support student learning, but it can also become a distraction. Research indicates that multi-tasking (texting or going online) during class time can have a negative impact on learning. Out of respect for your fellow students in this class, please refrain from using laptops or mobile phones for entertainment during class. Do not display any material on a laptop which may be distracting or offensive to your fellow students. Laptops may be used only for legitimate classroom purposes, such as taking notes, downloading course information from Quercus, or working on an assigned in-class exercise. Checking social media, email, texting, games, and other online activities are not legitimate classroom purposes. Such inappropriate laptop and mobile phone use is distracting to those seated around you.

Departmental Guidance for Undergraduate Students in Psychology. The Department of Psychology recognizes that, as a student, you may experience disruptions to your learning that are out of your control, and that there may be circumstances when you need extra support. Accordingly, the Department has provided a helpful [guide](#) to clarify your and your instructor's responsibilities when navigating these situations. This [guide](#) consolidates Faculty of Arts & Science policies for undergraduate students in one place for your convenience. As an instructor in the department, I will frequently consult with these recommendations when providing you with support, and I recommend that you also consult it to learn more about your rights and responsibilities before reaching out to me.

Academic Resources

English Language Learners (ELL)

Program: <http://www.artsci.utoronto.ca/current/advising/ell>

ELL offers a range of programs/workshops/resources to assist all Arts & Science students who wish to improve their English language skills (including reading, listening, speaking, and writing). Please visit their website for more information about these resources.

Other Resources

Student Life Programs and Services (<http://www.studentlife.utoronto.ca/>)

Academic Success Services (<http://www.studentlife.utoronto.ca/asc>)

Counselling and Psychological Services (<http://www.studentlife.utoronto.ca/hwc>)

Readings and Videos

Some of the readings are challenging and require close and careful attention. The effort invested will be repaid with a deeper understanding of the topic. Allow yourself sufficient time to read and reflect on the material. Readings should be completed not for the purpose of memorizing incidental details or references, but to discern the main arguments, positions, and/or frameworks presented by the authors. Make notes accordingly. As you read, you should be asking yourself the following questions:

- What major questions, concerns, or issues are being addressed in this reading?
- What are the authors claiming about these?
- What are the logical, conceptual, or empirical justifications for these claims?
- Do I agree or disagree with these claims? Why?
- How would I express my position in dialogue with others?

[Wikipedia](#) is a free online resource that can help clarify many of the concepts and ideas mentioned in the readings and elsewhere in the course. Refer to it as needed.

The required reading for any given week must be completed in its entirety *before* the class meeting, which will be difficult to follow and participate in otherwise. Similarly, the assigned video for that week must be watched in its entirety *before* the class meeting.

Finally, note that this is not a course you can “coast” through or “cram” for overnight. If you fail to keep up with the reading and video schedule, attend and contribute to class discussions, and complete assignments on time, you are bound to end up feeling frustrated and disappointed with your experience in this course. Please plan accordingly.

Class, Reading, and Viewing Schedule

September 3 – Introduction

Read: Course syllabus

September 10 – The Extended Mind

Read: Clark, A., & Chalmers, D. (1998). The extended mind. *Analysis*, 58(1), 7-19.

Watch: Andy Clark in defense of the extended mind thesis (13:17 min)

Note: All assigned readings and videos for this course are accessible through the course Modules.

September 17 – The Power of Language

Read: Clark, A. (2008). *Supersizing the mind: Embodiment, action, and cognitive extension*. Oxford University Press. (pp. 44-60)

Watch: Lera Boroditsky on how language shapes thought (14:13 min)

September 24 – Technology and Mind

Read: Frankish, K. (2021). Technology and the human minds. In R. W. Clowes, K. Gärtner, & I. Hipólito (Eds.), *The mind-technology problem* (pp. 65-82). Springer International Publishing.

Watch: David Chalmers on technology and mind (15:53 min)

October 1 – Thought and Movement

Read: Paul, A. M. (2021). *The extended mind: The power of thinking outside the brain*. Houghton Mifflin Harcourt. (pp. 44-67)

Watch: Susan Goldin-Meadow on gesture and thinking (16:50 min)

October 8 – Term Test 1 (in class)

October 15 – Thinking with Space

Read: Paul, A. M. (2021). *The extended mind: The power of thinking outside the brain*. Houghton Mifflin Harcourt. (pp. 139-159)

Watch: Richard Watson on spaces for thinking (17:59 min)

October 22 – Thinking with Others

Read: Paul, A. M. (2021). *The extended mind: The power of thinking outside the brain*. Houghton Mifflin Harcourt. (pp. 187-210)

Watch: PBS’s “A Brief History of the Future” on deliberative democracy (9:14 min)

October 29 – Reading Week (no class)

November 5 – The Extended Self

Read: Heersmink, R. (2020). Varieties of the extended self. *Consciousness and Cognition*, 85. <https://doi.org/10.1016/j.concog.2020.103001>

Watch: Ellyse Dick on identity and self-expression in the metaverse (25:47 min)

November 12 – Hazards of the Extended Mind

Read: Clowes, R. W., Smart, P., & Heersmink, R. (2024). The ethics of the extended mind: Mental privacy, manipulation and agency. In J.-H. Heinrichs, B. Beck, & O. Friedrich (Eds.), *Neuro-prosthEthics: Ethical implications of applied situated cognition* (pp. 13-35). J. B. Metzler.

Watch: Sasha Luccioni on why AI is dangerous (10:18 min)

November 19 – Retrospective

November 26 – Term Test 2 (in class)

