



PSY371H5F – Higher Cognitive Processes

Monday 12:00pm – 3:00pm

Online Synchronous

Course Delivery

This course will be delivered online synchronously using Zoom. Please ensure you use a UTM Zoom account (<https://utoronto.zoom.us>). Students are expected to attend live sessions to participate in class activities and discussions during class time. All sessions will be recorded for later viewing.

Students will have the opportunity for a synchronous online office hours to ask questions and clarifications about lecture content. **Tests and the final exam will be time-limited and administered as Quercus quizzes.**

Learn Anywhere Guide for Students

<https://library.utm.utoronto.ca/students/quercus/learn-anywhere>

University of Toronto tech [requirements for online learning](#)

Contact Information

Course Instructor:

Dr. Christine Burton

email: christine.burton@utoronto.ca

Teaching Assistant:

Junior Steininger

junior.steinger@utoronto.ca

Office hours via Zoom

Mondays, Wednesdays and Fridays 3 - 4 pm

Tuesdays 9 - 10 am

Thursdays 11 am - 12 pm

Junior will be available to meet virtually with students after the distribution of graded tests and assignments.

Sign-up for office hours required at

<https://calendly.com/christine-burton/office-hour>

Course Description

This course covers selected topics pertaining to higher cognitive processes including expertise, consciousness, creativity, and human and artificial intelligence.

My goal for this course is to familiarize you with the leading theories in human and artificial intelligence research, help you engage in critical thinking to evaluate research findings and make connections between research and real world experience. To achieve this, you will need to come to class prepared (e.g. do the assigned readings before class) and ready to apply the information in your readings to class material. Myself and your classmates are useful resources to help guide and challenge your thinking. **Prerequisite: PSY201H5/equivalent, 270H5**

Learning Outcomes

By the end of this course, you should be able to:

- Describe the major terms, concepts and theories in the literature
- Use psychological concepts from this course to explain human and computer intelligence and higher-order thinking
- Critically evaluate published research findings
- Apply what you have learned from assigned readings to critique and analyse real-world problems
- Describe your critiques and evaluations of research orally
- Clearly communicate your evaluation of the literature in writing

Reading Material

Required: There are 3 free sources of required readings in this course:

1. We will be using a free online customized textbook from the NOBA project. You can access our textbook using our textbook link here: <http://noba.to/ehvqgsn8>
2. For our discussion of AI we will be using material from Elements of AI. This is a free online course designed to teach introductory AI to a lay audience. The material is free but you will need to sign up for an account to access the material: <https://course.elementsofai.com/>
3. Additional required readings will be posted on Quercus.

Course Evaluation

The evaluation for this course consists of a written component, a test component, and a participation component.

| Written component | | | Test component | | | Participation component | | |
|--------------------------|--------------------|-----|---------------------|------------|-----|-------------------------|---------|----|
| Debate reflection papers | Multiple due dates | 18% | Term test (2 hours) | October 25 | 26% | Before class reflection | Ongoing | 4% |
| Final reflection paper | December 6 | 20% | Exam (2 hours) | TBA | 26% | In-class participation | Ongoing | 6% |

Participation component

Before reflections: Each week we will discuss controversial theories in the literature. In order to facilitate this discussion, we will put a theory “on trial”. Before class each week, I will post a “debate statement” on Quercus related to that week’s lecture topic. Each week you will be assigned to either a “support” group or “against” group. You should submit a short response (via Quercus) that either supports or refutes the statement based on your assigned group. Your response should match your assigned group, regardless of your own opinions on the matter. This **before class reflection** should be no more than 1 paragraph long. You should submit one pre-class reflection paragraph each week, which will be scored based on participation.

In-class participation: During class we will devote some time to discussing the debate statement in small groups. You will have the opportunity to discuss with students who are making a similar argument as you and those who are taking the opposite side. After a small group discussion, we will discuss the issues as a class. Your participation score will be based on your weekly participation in the small-group discussions and the larger in-class discussions. **Please make sure that you join each class using a UTM Zoom account, otherwise your attendance won’t be recorded. You can sign up for an account at <https://utoronto.zoom.us>**

During our discussions, we will have many opportunities to explore challenging issues and increase our understandings of different perspectives. A positive learning environment relies upon creating an atmosphere where diverse perspectives can be expressed. Each student is encouraged to take an active part in class discussions and activities. Honest and respectful dialogue is expected. Disagreement and challenging of ideas in a supportive and sensitive manner is encouraged. Hostility and disrespectful behaviour is not acceptable. In the time we share together over this term, please honour the uniqueness of your fellow classmates and appreciate the opportunity we have to learn from each other. Please respect each others' opinions and refrain from personal attacks or demeaning comments of any kind. Just as we expect others to listen attentively to our own views, we must reciprocate and listen to others when they speak, most especially when we disagree with them. In this class, our emphasis will be on engaging in the mutual exploration of issues as presented in the course readings as scholars, rather than in defending points of view we have formed outside the classroom.

Written component

After class you can use the information from the discussion (and information from the additional readings) to write a **reflection paper** about the debate statement. In this paper you will make an argument to either support or refute the debate statement. You may select which debate statements you want to write about and you may argue from any perspective (you are not limited to your assigned group). The debate reflection papers will be due 1 week after we discuss that topic in class so you will be able to choose which papers to submit that fit your interest and schedule. **You are expected to complete 3 reflection papers this term. Each reflection paper is worth 6% for a total of 18% of the final grade.**

Final expanded reflection paper: At the end of the term, students will be expected to submit an expanded version of one of their reflection papers. This expanded paper should include your thoughts about the debate statement as well as additional supporting evidence from the literature beyond what we cover in class and the suggested readings. You should put particular emphasis on your opinion/evaluation of the literature, while making sure to acknowledge other opinions and research. The paper will be graded on both the quality of your ideas and the clarity of your writing. This paper should not exceed 6 double-spaced pages.

Normally, students will be required to submit their course essays 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 essays 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 web site (<https://uoft.me/pdt-faq>)

You may opt out of using the University's plagiarism detection tool to submit your course work, in which case alternative arrangements can be made to support your written work (e.g. providing research notes, etc.). If you intend to opt out, please **inform your instructor by Friday, September 24** so alternate arrangements can be made.

Test component

Term tests: The test and exam will be designed to measure your knowledge and understanding of all reading material, lectures, and class discussion content. Because the focus of this course is on understanding, critical analysis and evaluation, there will not be any multiple choice questions on the test or exam. The test and the exam will consist of a short answer section designed to measure your knowledge of major theories and ideas in aging research. The majority of this content will come from the textbook readings and lectures. A long answer section is intended to measure your ability to critically evaluate those theories and ideas. You will have ample time to develop and practice this skill during class discussions each week. The term test and the final exam are not cumulative.

Course Webpage

The website associated with this course is accessible via <http://q.utoronto.ca>

Note: You don't need to create a new login for Canvas; it already knows who you are. You just need your UTORid and password. This is the same login that gets you onto the wireless network with your laptop, and the same one that you use to check your email. If you're confused about your UTORid or don't remember your password, go to:

<https://www.utorid.utoronto.ca/>

In order to access course material, monitor course information, and view your grades you must log into Canvas. If you have any general questions regarding Canvas, please visit the following help site:

<https://library.utm.utoronto.ca/faculty/canvas>

IMPORTANT COURSE POLICIES **PLEASE READ**

Email

The main source of communication in the course will be email. You can also send an email directly to me from your Inbox in Quercus/Canvas. Please include the course number (PSY371) in the subject line in all your emails about the course.

Make sure you check your notification settings in Quercus to ensure you will receive email and announcement notifications

Requests for Re-grading

Any requests to re-grade tests or experiment reports should be made in a timely fashion. Requests to re-grade term tests must be made before the next scheduled test or exam. Requests to re-grade experiment reports must be made within 1 week of the return of the graded report. **Please direct all requests for re-grading directly to the TA who marked your work.** If you are dissatisfied after meeting with the TA you may submit your work to the instructor. Keep in mind that if you submit your work to be re-graded, your grade could go up or down. This policy applies to work submitted to the instructor or the TAs.

Missed Test Special Consideration Request Process

Students who miss a test due to circumstances beyond their control (e.g. illness or an accident) can request that the Department grant them special consideration. Students must present their case to the Department (NOT the Instructor) by submitting a request via the online Special Consideration Request form at: <https://utmapp.utm.utoronto.ca/SpecialRequest>.

Important note: Once the test/exam is available online and you're unable to write or have an approved request to miss, **DO NOT** at any point attempt to access the test/exam. If at any time you access the test/exam, you will **NOT** be able to submit a special consideration and/or your request will be refused.

If your request is approved by the department, a make-up test will be offered. You will receive an email when a make-up date has been arranged. The department will try to give 2-3 days notice of make-up date, however this is sometimes is not possible. **Be prepared for the make-up.**

Extension of Time Special Consideration Request Process

Students who seek to be granted more time to complete their term work beyond the due date without penalty, owing to circumstances beyond their control (e.g., illness, or an accident), must do so by submitting a request **directly to the Instructor** for the period up to and including the last day of the term. The decision as to whether or not to apply a penalty for the specified period rests with the Instructor.

Students who seek to be granted more time to complete term work beyond the last day of the term must submit their request directly to the Department. This request covers the period following the last day of classes and ends the last day of the exam period. This is done by submitting a request via the online Special Consideration Request form at <https://utmapp.utm.utoronto.ca/SpecialRequest>. You are advised to seek advising by the departmental Undergraduate Counsellor prior to the deadline.

Supporting Documentation

The University is temporarily suspending the need for a doctor's note or medical certificate for any absence from academic participation. However, you are required to use the Absence Declaration tool on ACORN found in the Profile and Settings menu to formally declare an absence from academic participation. The tool is to be used if you require consideration for missed academic work based on the procedures specific to our campus/department.

Missed Final Exam or Extension of Time beyond exam period

Missed final exams or for extensions of time beyond the examination period you must submit a petition through the Office of the Registrar. <http://www.utm.utoronto.ca/registrar/current-students/petitions> and follow their procedures.

Penalties for Lateness

A penalty of 5% per calendar day (i.e., including weekends and holidays, during which students are not able to submit term work) up to and including the last day of classes, will be applied by the Instructor. After the last day of classes, the penalty of 10% per calendar day will be applied by the Undergraduate Counsellor on behalf of the Department. No penalty will be assigned if request for special consideration, described above, was successful.

Academic Guidelines

It is your responsibility to ensure that you have met all prerequisites listed in the UTM Calendar for this course. If you lack any prerequisites you WILL BE REMOVED from the course up until the last day to add a course. Further information about academic regulations, course withdrawal dates and credits can be found in the University of Toronto Mississauga Calendar at: <http://www.erin.utoronto.ca/regcal/>.

You are encouraged to read this material. If you run into trouble and need advice about studying, preparing for exams, note taking or time management, free workshops and advice are available from the Robert Gillespie Academic Skills Centre at 905-828-5406.

AccessAbility Services

The University provides academic accommodations for students with disabilities in accordance with the terms of the Ontario Human Rights Code. This occurs through a collaborative process that acknowledges a collective obligation to develop an accessible learning environment that both meets the needs of students and preserves the essential academic requirements of the University's courses and programs. Students requiring academic accommodations for learning, physical, sensory, or mental health disabilities or medical conditions should contact the AccessAbility Office (2037B Davis Building), 905-828-3847. <http://www.utm.utoronto.ca/accessability/>

Privacy and Copyright Disclaimer

Notice of video recording and sharing (Download permissible; re-use prohibited)

This course, including your participation, will be recorded on video and will be available to students in the course for viewing remotely and after each session. Course videos and materials belong to your instructor, the University, and/or other source depending on the specific facts of each situation, and are protected by copyright. In this course, you are permitted to download session videos and materials for your own academic use, but you should not copy, share, or use them for any other purpose without the explicit permission of the instructor. For questions about recording and use of videos in which you appear please contact your instructor.

Lectures and course materials prepared by the instructor are considered by the University to be an instructor's intellectual property covered by the Copyright Act, RSC 1985, c C-42. Course materials such as PowerPoint slides and lecture recordings are made available to you for your own study purposes. These materials cannot be shared outside of the class or "published" in any way. Posting recordings or slides to other websites without the express permission of the instructor will constitute copyright infringement.

Academic Honesty and Plagiarism

Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Toronto Mississauga is a strong signal of each student's individual academic achievement. As a result, UTM treats cases of cheating and plagiarism very seriously.

The University of Toronto's Code of Behaviour on Academic Matters outlines behaviours that constitute academic dishonesty and the process for addressing academic offences. Potential offences include, but are not limited to:

In papers and assignments:

1. Using someone else's ideas or words without appropriate acknowledgement.
2. Submitting your own work in more than one course without the permission of the instructor.
3. Making up sources or facts.
4. Obtaining or providing unauthorized assistance on any assignment.

On tests and exams:

1. Using or possessing unauthorized aids.
2. Looking at someone else's answers during an exam or test.
3. Misrepresenting your identity.

In academic work:

1. Falsifying institutional documents or grades.
2. Falsifying or altering any documentation required, including (but not limited to) doctor's notes.

With regard to remote learning and online courses, UTM wishes to remind students that they are expected to adhere to **the Code of Behaviour on Academic Matters** regardless of the course delivery method. By offering students the opportunity to learn remotely, UTM expects that students will maintain the same academic honesty and integrity that they would in a classroom setting. Potential academic offences in a digital context include, but are not limited to:

Remote assessments:

1. Accessing unauthorized resources (search engines, chat rooms, Reddit, etc.) for assessments.
2. Using technological aids (e.g. software) beyond what is listed as permitted in an assessment.
3. Posting test, essay, or exam questions to message boards or social media.
4. Creating, accessing, and sharing assessment questions and answers in virtual “course groups.”
5. Working collaboratively, in-person or online, with others on assessments that are expected to be completed individually.

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters. If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, you are expected to seek out additional information on academic integrity from your instructor or from other institutional resources.

Academic Rights

You, as a student at UTM, have the right to:

- Receive a syllabus by the first day of class.
- Rely upon a syllabus once a course is started. An instructor may only change marks’ assignments by following the University Assessment and Grading Practices Policy provision 1.3.
- Refuse to use turnitin.com (you must be offered an alternative form of submission).
- Have access to your instructor for consultation during a course or follow up with the department chair if the instructor is unavailable.
- Ask the person who marked your term work for a re-evaluation if you feel it was not fairly graded. You have up to one month from the date of return of the item to inquire about the mark. If you are not satisfied with a re-evaluation, you may appeal to the instructor in charge of the course if the instructor did not mark the work. If your work is remarked, you must accept the resulting mark. You may only appeal a mark beyond the instructor if the term work was worth at least 20% of the course mark.
- Receive at least one significant mark (15% for H courses, 25% for Y courses) before the last day you can drop a course for H courses, and the last day of classes in the first week of January for Y courses taught in the Fall/Winter terms.
- Submit handwritten essays so long as they are neatly written.
- Have no assignment worth 100% of your final grade.
- Not have a term test worth more than 25% in the last two weeks of class.
- Retain intellectual property rights to your research.
- Receive all your assignments once graded.
- View your final exams. To see a final exam, you must submit an online Exam Reproduction Request within 6 months of the exam. There is a small non-refundable fee.
- Privacy of your final grades.
- Arrange for representation from Downtown Legal Services (DLS), a representative from the UTM Students’ Union (UTMSU), and/or other forms of support if you are charged with an academic offence.

Equity Statement

The University of Toronto is committed to equity and respect for diversity. All members of the learning environment in this course should strive to create an atmosphere of mutual respect. As a course instructor, I will neither condone nor tolerate behaviour that undermines the dignity or self-esteem of any individual in this course and wish to be alerted to any attempt to create an intimidating or hostile environment. It is our collective responsibility to create a space that is inclusive and welcomes discussion. Discrimination, harassment and hate speech will not be tolerated. If you have any questions, comments, or concerns you may contact the UTM Equity and Diversity officer at edo.utm@utoronto.ca or the University of Toronto Mississauga Students’ Union Vice President Equity at vpequity@utmsu.ca.

Course Outline

| Date | Topic | Textbook readings |
|--------------|--|----------------------------------|
| September 13 | Introduction and review of psychology as a science | NOBA: Psychology as Science |
| September 20 | Intelligence | NOBA: Intelligence |
| September 27 | Alternate theories of intelligence | |
| October 4 | Nature-nurture debate | |
| October 11 | Reading Week - no class | |
| October 18 | Expertise and talent | NOBA: Higher Cognitive Abilities |
| October 25 | Term Test | |
| November 1 | Creativity | NOBA: Higher Cognitive Abilities |
| November 8 | Decision making | |
| November 15 | Embodied cognition | No textbook reading |
| November 22 | Consciousness | NOBA: Consciousness |
| November 29 | Important issues in artificial intelligence | Elements of AI: Chapters 1 and 6 |
| December 6 | Developments in artificial intelligence | |

*Note: additional weekly readings will be posted on Quercus