

PSY371H5S – Higher Cognitive Processes

Friday 12:00pm – 3:00pm

Room IB 140 (Instructional Centre)

Contact Information

Course Instructor:

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Office Hours:

Tuesdays 1-3pm, or by appointment,
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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.

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

Prerequisite: PSY201H5/equivalent, 270H5

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/ehvggsn8>
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 here: <https://course.elementsofai.com/>
3. Additional required readings will be posted on Quercus.

Recommended: Additional recommended readings will be posted on Quercus. You will be able to pass the course by doing the required readings only, however, it is unlikely you will get an A in the course unless you also do the recommended readings.

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		
Weekly reflection papers	See assignment instructions for details	20%	Term test (2 hours)	February 14	22%	Pre-class reflection	Ongoing	5%
Final reflection paper	April 3	20%	Exam (2 hours)	TBA	23%	In-class participation	Ongoing	10%

Participation component

Weekly reflection papers: 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 **pre-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 (10 weeks X 0.5% each =) 5%

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.

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 suggested 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). **You are expected to complete 4 reflection papers this term. Each reflection paper is worth 5% for a total of 20% 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.

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 assigned 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/>

IMPORTANT COURSE POLICIES **PLEASE READ**

Green Policy

This is a paperless course! All documents and assignments will be in electronic format only. This includes the written assignments you are to complete for class. All grading will be done electronically. Please avoid printing excessively when you can and try to print double-sided whenever possible!

Email

The main source of communication in the course will be email. Due to incompatibility issues with the Blackboard portal and some email servers (e.g. hotmail, etc.) you must send all email from your mail.utoronto.ca account. Please include the course number (PSY371) in the subject line in all your emails about the course. I will do my best to answer your emails, but if I think your questions can be better answered in person, I will suggest that we set up an appointment. The same policy applies to emails sent to the TA.

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>.

Students are to submit original supporting documentation (e.g., medical certificates, accident reports, etc.) to the Psychology Academic Counselor or drop it in the drop box located outside the Psychology office, Deerfield Hall, 4th Floor. Students have up-to one week from the date of the missed test to submit request. Late submissions will NOT be considered without a letter of explanation specifying and documenting the reasons for the lateness.

Medical certificates or physician's notes must be completed by the Physician and MUST include the statement "This Student [name] was unable to write the test on [date(s)] for medical reasons". This documentation must show that the physician was consulted within one the day of the missed term test. A statement merely acknowledging a report of illness made by the student to the physician is NOT acceptable. For further information on this procedure please see: <http://www.utm.utoronto.ca/psychology/undergraduate-studies/missed-testslate-submissions>

If you missed your test/assignment deadline for a reason connected to your registered disability, please be advised that the department will accept documentation supplied by the UTM AccessAbility Resource Centre.

IMPORTANT: The Department of Psychology verifies the authenticity of medical certificates by contacting medical offices. Students are NOT to make any changes or alteration to completed medical certificates. Students who submit forged or altered documentation are subject to severe academic penalties.

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 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.

Original supporting documentation (e.g., medical certificates, accident reports, etc.) must be submitted to the Psychology Academic Counselor or dropped off in the drop box located outside the Psychology office Deerfield Hall, 4th Floor. Students are expected to submit requests to the Department before the last day of the term, unless demonstrably serious reasons prevent them from doing so. In the event of an illness, medical certificates or doctor's notes must confirm that student was ill on the due date of the assignment (for a one-day extension). For a longer extension, documentation must specify the full duration during which academic work could not be carried out. 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> .

Penalties for Lateness

A penalty of 10% per calendar day (i.e., including week-ends 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

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/>

Academic Honesty and Plagiarism

Honesty and fairness are considered fundamental to the university's mission, and, as a result, all those who violate those principles are dealt with as if they were damaging the integrity of the university itself. When students are suspected of cheating or a similar academic offence, they are typically surprised at how formally and seriously the matter is dealt with -- and how severe the consequences can be if it is determined that cheating did occur. The University of Toronto treats cases of cheating and plagiarism very seriously. Please take the time to review the Academic Integrity website:

<http://www.utm.utoronto.ca/academic-integrity/students>.

- Common trends in academic offences:
- Plagiarizing/concocted references
- Collaboration/unauthorized assistance
- Purchasing work
- Recycling work - "double-dipping"
- Resubmitting of altered work for re-grading
- Electronic devices (cell phones) or any unauthorized aids
- Altering medical certificates and UofT documents

From the Code of Behaviour on Academic Matters: "It shall be an offence for a student to knowingly: represent as one's own any idea or expression of an idea or work of another in any academic examination or term test or in connection with any other form of academic work, i.e. to commit plagiarism. Wherever in the Code an offence is described as depending on "knowing", the offence shall likewise be deemed to have been committed if the person ought reasonably to have known." All students must refer to this website to obtain information on what constitutes plagiarism. <http://www.writing.utoronto.ca/advice/using-sources/how-not-to-plagiarize>.

If questions arise after reading the material on the website, consult your instructor.

Plagiarism will not be tolerated.

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.

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 25% or more 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.

Course Outline

Date	Topic	Textbook readings
January 10	Introduction and review of psychology as a science	NOBA: Psychology as Science
January 17	Intelligence	NOBA: Intelligence
January 24	Alternate theories of intelligence	
January 31	Nature-nurture debate	
February 7	Expertise and talent	NOBA: Higher Cognitive Abilities
February 14	Term Test	
February 21	Reading week – No class	
February 28	Creativity	
March 6	Decision making	
March 13	Embodied cognition	
March 20	Consciousness	NOBA: Consciousness
March 27	Important issues in artificial intelligence	Elements of AI: Chapters 1 and 6
April 3	Developments in artificial intelligence	

*Note: additional weekly readings will be posted on Quercus