

# PSY385H5F - Human Factors: Applying Perceptual and Cognitive Research to the World

Delivery Method: **IN-PERSON**

Schedule: **TU 1:00pm – 4:00pm**

Room Location: **IB260 (Instructional Centre)**

## Contact Information

Course Instructor:

**Dr. Benjamin Wolfe**

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Teaching Assistant:

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Office hours: In person, by appointment,  
[tinyurl.com/profwolfe](https://tinyurl.com/profwolfe)

You don't need to ask me first, just book an appointment.

Office Location: CCT 4057 (4<sup>th</sup> floor)

**Email policy:** Emails are the best way to get in touch, but emails aren't instant messages. Please send all emails to the utoronto email addresses listed above, with "PSY385" in the subject line and be clear about what you need, whether it's a question about an assignment or you just have a good cat picture to share (and yes, I want to see your cat/dog/parrot!). Please don't use Quercus Messages (they make it harder to keep track of what you need, and Outlook likes to eat them!).

Please be polite, it's hard to read tone in email. If you are asking for special consideration for a deadline, earlier is better than later if at all possible (yes, emergencies happen, but ask early if you possibly can!).

You can generally expect a response within 48 hours (not including weekends – we all need breaks!).

## Course Description

PSY385 is meant to give you the tools to use what you've learned in other Psychology classes focusing on cognition and perception, and provide an introduction to the discipline of human factors. In brief, human factors is the human side of our built world, and why elements of design do or do not work for users. This can be everything from an app on your phone, to the noise levels in your study space, to how we train medical professionals and everything in between.

This course is built around *Designing for People*, a textbook in human factors aimed at students in psychology and engineering, and we'll be using this as a starting point. The purpose of this course is two-fold: you'll learn to apply concepts and ideas, and also understand why some applications and designs fail. Think of it as

knowing the rules, but also knowing when and why they work (or don't).

The course is structured around weekly lectures at our usual meeting time, written examinations for you to show your understanding, and a writing assignment (the Design Critique and Improvement Proposal) where you will be able to put your new knowledge and understanding to use.

Since this course explicitly looks at the world and how it does (or doesn't) respect the user, you are always encouraged to bring your perspective and questions to our discussions – a piece of design that doesn't work for you might work for me, and that's an important thing for all of us to understand!

**Prerequisites:** PSY280H5

## Reading Material

Our core text for the course will be:

### **Designing for People – An Introduction to Human Factors Engineering (2017)**

Authors: John D. Lee, Christopher D. Wickens, Yili Liu, Linda Ng Boyle

ISBN: 1539808009

It's available from the bookstore (\$100), but since it's been out for a few years, used copies ought to be readily available. As a general rule, one chapter (occasionally two) will be assigned for each week in term. Please read the assigned chapters *before* the week's class meeting, they'll help a lot.

## Learning Objectives

In this class, you will:

- Develop a deep understanding of core human factors principles
- See how these new principles, ideas and approaches derive from psychology
- Learn how to apply your knowledge of these principles to real-world problems
- Express your understanding of these principles through writing assignments and examinations
- Gain a new perspective on how and why psychological ideas can be used in the world
- Think about how the principles you learn in the class do and don't appear in your daily life

## Course Evaluation

Your term mark in this course will be based on a mix of written assignments (the Presubmission Inquiry and the Design Critique and Improvement Proposal) and examinations. Details on Quercus and we'll discuss assignments and examinations throughout term in class.

10% - Presubmission Inquiry, due **November 1, 2022**

20% - Design Critique and Improvement Proposal, due **December 1, 2022**

30% - Term Test, during scheduled class time **October 25, 2022**

40% - Final Examination, to be **announced by the registrar**

## 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 Quercus; 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 Quercus. If you have any general questions regarding Quercus, please visit the [help site](#).

## Student Tech Requirements and Connection Tools

- [Recommended tech requirements for online learning](#)
- [UTM Library Learn Anywhere resource website](#)

## IMPORTANT COURSE POLICIES **\*\*PLEASE READ\*\***

### 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:** If you sit down and receive a test, you will **NOT** be able to receive special consideration.

**If your request is approved by the department, redistribution will apply (that is, the weight of your missed term test will be reallocated to your final examination).**

### 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.

*Additional clarification: If you need an extension up until the last day of instruction, that goes through Dr. Wolfe, not the department, and you request it by email. Extensions are unlikely to be long, because it's not fair to the TA who has to mark your work. Of course, emergencies happen, and if you can't ask in advance, we'll work something out, but if you know you need more time, ask in advance and don't leave it to the last minute.*

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 and follow their procedures.

### **Penalties for Lateness**

A penalty of 10% 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. This penalty will be rounded up to the next full 24 hour period. So, if something was due at 9:00 am and you handed it in at 9:15 am, it's -10% off the mark you would have gotten. It is entirely possible to hand something in so late that your mark is zero for the assignment. 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.

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.

### **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.

*Additional clarification: Lectures will not be livestreamed. I may try to do an audio-only recording of lectures as a study aid for students, but these recordings are not meant to be a substitute for attending lecture. PDFs of lecture slides will always be available before each week's lecture to help you while you take notes, but also aren't a good substitute for attending lecture.*

## **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.

Plagiarism Detection: 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>)

*Additional clarification on Academic Misconduct: The entire point of this course is for you to develop mastery of the fundamentals of human factors and how to apply your knowledge to real situations. Misrepresenting*

*someone else's work as your own – whether that's work by your friend in the class, something you found on the internet, or someone else's published scholarship – is a severe academic offense and will be reported to the Psychology department and/or UTM's Academic Integrity Unit. Don't do it. You won't be happy, I won't be happy, and none of us will have a good time. If you've got questions, please ask them.*

### **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](mailto:edo.utm@utoronto.ca) or the University of Toronto Mississauga Students' Union Vice President Equity at [vpequity@utmsu.ca](mailto:vpequity@utmsu.ca).

## Course Outline

*Please note that this outline is subject to change depending on the needs of the class (we may need additional time to cover a topic). Any changes to the syllabus will be announced in class one week before. However, the assignment and test dates are fixed.*

Date	Topic	Required Readings
September 13	Course overview, introduction, course themes	<i>Designing for People</i> , Ch. 1
September 20	Design and evaluation methods	<i>Designing for People</i> , Ch. 2 & 3
September 27	Visual sensory systems	<i>Designing for People</i> , Ch. 4
October 4	Audition, touch and vestibular sensation; signal detection theory	<i>Designing for People</i> , Ch. 5
October 11 – 14	Reading Week (No classes)	
October 18	Cognitive factors	<i>Designing for People</i> , Ch. 6
October 25	<b>Term Test, no lecture</b>	<b>Covering all material from Weeks 1-5, and Ch. 1-6 in <i>Designing for People</i></b>
November 1	Decision making and metacognition	<i>Designing for People</i> , Ch. 7
November 1	<b>Presubmission Inquiry Due</b>	<i>Through Quercus, 1pm</i>
November 8	Displays	<i>Designing for People</i> , Ch. 8
November 15	Controls and Anthropometry	<i>Designing for People</i> , Ch. 9 & 12
November 22	Human-Computer Interaction	<i>Designing for People</i> , Ch. 10
November 29	Human-Automation Interaction	<i>Designing for People</i> , Ch. 11
December 1	<b>Design Critique and Improvement Proposal Due</b>	<i>Through Quercus, 1pm</i>
December 6	Stress, workload and safety	<i>Designing for People</i> , Ch. 15 & 16
December 9 – 20	Exam Period	<b>The final exam will cover the entire course (with an emphasis on the 2<sup>nd</sup> half)</b>

**Final Exam:** It is the student's responsibility to be available for the entire exam period.