PSYC70: Advanced Research Methods

University of Toronto Scarborough
Summer Term, 2021

Introduction

Instructor: Prof. George S. Cree

email: george.cree@utoronto.ca

About Your Instructor

Prof. Cree is a faculty member in the Department of Psychology at UTSC. He joined the department in 2003, and was Chair of the department from 2012-2018. His main areas of research interest are social semantic cognition and neural network modeling of cognition, and right now he's focused on how the brain computes an impression of a person when we encounter them. In line with this course, he is interested in how we can use computers to improve and enhance scientific communication and reproducibility, and how we can use what we know about human cognition to improve scientific and statistical reasoning.

TAs:
- Vicki (Mengxi) Dong: vicki.dong@mail.utoronto.ca (Metro Zoo Wolves)
- Shouyu Ling: shouyu.ling@mail.utoronto.ca (Ikea Monkeys)
- Cindy Tao: c.tao@mail.utoronto.ca (High Park Capybaras)

Learning Goals

This course is designed to be the first steps in transitioning you from being a critical *consumer* of psychological research (which you learned in PSYB70) to a *producer* of original psychological research findings. To accomplish this we'll be using a case study approach. The case studies will help you develop your critical thinking skills related to research methods. Each week we'll cover a major topic in research methods from the point of view of how you would use knowledge in that domain to critique real-world research. You'll then get practice at doing that by critiquing a fictitious, simplified journal article. Next, you'll apply your knowledge and skills by proposing solutions to 'case fragments' – realistic situations where you must decide on an appropriate course of action given what you've learned in this course (and others). By the end of this course you'll be ready to undertake a lab-based course in the sub-area of psychology and/or neuroscience that most interests you (e.g., PSYC70 series), will be partially prepared (in conjunction with PSYB07/C08/C09 and PSYC02) to conduct an independent study research course (e.g., PSYC90 or PSYD98), and will be well on your way to being an independent scientist who can design strong, reproducible research studies and can effectively evaluate scientific evidence to draw appropriate conclusions from the methods and data.

Course Content

Textbook

Meltzoff, J. & Copper, H. (2018). *Critical Thinking About Research: Psychology and Related Fields.* Second Edition. APA Press.

Readings & Assignments

The lessons for each week will comprise a mixture of readings, pre-recorded lecture videos, discussion board posts, and assignment questions. You will find a full and up-to-date listing of these materials for each week in the weekly modules available on Quercus. Always check Quercus for the most up-to-date information. If there is an inconsistency between this document and information posted on Quercus, use the information posted on Quercus.

Week 00:
- Syllabus Review
- Pre-Course Survey

Week 01 (May 10 – 16):
- Chapter 1: Seeking Trustworthy Knowledge

Week 02 (May 17 – 23):
- Chapter 2: Research Questions and Hypotheses
- Critical Thinking Discussion Board Post due Thursday @ 1pm
- Critical Thinking Extension Assignment due Sunday @ 1pm

Week 03 (May 24 – 30):
- Chapter 3: Research Variables and Strategies
- Critical Thinking Discussion Board Post due Thursday @ 1pm
- Critical Thinking Extension Assignment due Sunday @ 1pm

Week 04 (May 31 – June 6):
- Chapter 4: The Sample
- Practice Article 10
- Critical Thinking Discussion Board Post due Thursday @ 1pm
- Critical Thinking Extension Assignment due Sunday @ 1pm

Week 05 (June 7 – 13):
- Chapter 5: Confounding Variables and their Control
- Practice Article 15
- Critical Thinking Discussion Board Post due Thursday @ 1pm
- Critical Thinking Extension Assignment due Sunday @ 1pm

Week 06 (June 14 – 20):
- Chapter 6: Research Designs and Threats to Internal Validity
- Practice Article 6

- Critical Thinking Discussion Board Post due Thursday @ 1pm
- Critical Thinking Extension Assignment due Sunday @ 1pm

— Reading Week (June 21 – June 26) —

Week 07 (June 28 – July 4):
- Chapter 7: Manipulation and Measurement Validity
- Practice Article 11
- Critical Thinking Discussion Board Post due Thursday @ 1pm
- Critical Thinking Extension Assignment due Sunday @ 1pm

Week 08 (July 5 – July 11):
- Chapter 8: Data Analysis, Discussion, and Conclusions
- Practice Article 14
- Critical Thinking Discussion Board Post due Thursday @ 1pm
- Critical Thinking Extension Assignment due Sunday @ 1pm

Week 09 (July 12 – 18):
- Chapter 9: Inferences, Conclusions, and the Research Report
- Practice Article 1
- Critical Thinking Discussion Board Post due Thursday @ 1pm
- Critical Thinking Extension Assignment due Sunday @ 1pm

Week 10 (July 19 – 25):
- Chapter 10: Research Syntheses and Meta-Analyses
- Practice Article 11
- Critical Thinking Discussion Board Post due Thursday @ 1pm
- Critical Thinking Extension Assignment due Sunday @ 1pm

Week 11 (July 26 – August 1):
- Chapter 11: Research Ethics
- Practice Article 2
- Critical Thinking Discussion Board Post due Thursday @ 1pm
- Critical Thinking Extension Assignment due Sunday @ 1pm

Week 12 (August 2 – August 8):
- The Real World

— Final Exams (August 16 – August 29) —

Other Important Dates
- Last day to drop without academic penalty: July 26, 2021
- Study Break: August 12 – August 14, 2021
- Last day to submit term assignments: August 11, 2021

Course Requirements and Grading

Requirement	Weight	Due
Critical Thinking Discussion Board Posts (10 @ 1% each)	10%	Thursday at 1pm Weeks 2-11
Critical Thinking Extension Assignments (10 @ 4% each)	40%	Sunday at 1pm Weeks 2-11
Final Exam	50%	Final Exam Period

Note: The schedule, due dates, and nature of assignments are subject to change due to extenuating circumstances beyond our control. If this happens, it will be mandated by the University, and you will be informed as information becomes available. Any other changes will be subject to a class vote, where a simple majority of those enrolled in the course must vote in favour of the change.

Note 2: It is critical that you abide by the submission policies for assignments. Failure to follow submission policies may result in a grade of 0, unless there are documented extenuating circumstances. Submission requirements include file naming conventions and file format requests. These will all be clearly explained in assignment descriptions and course materials on Quercus. Read them carefully.

Course Policies

Late Assignments Policy

A penalty of 10% will be deducted from the final grade for an assignment for every 24 hour period (or part thereof) that an assignment is late. For example, if you would have received 82% on the assignment, but it is submitted 14 hours late, you will receive a grade of 72%.

Note: Last Day to Submit Assignments
Term work will not be accepted after 11:59 pm on the last day of classes, unless approved through the Psychology Department Missed Term Work Policy.

Note 2: Final Exams
The late policy applies only to missed assignments. Missed final exams are handled by the Registrar's Office.

Accommodation for Personal Reasons

There may be times when you are unable to complete coursework, including completing readings, viewing lectures, or completing worksheets, due to non-medical reasons. If this occurs during the term you should contact the course instructor immediately to discuss a strategy for completing or dropping the course. It is also a very good idea to speak to an academic advisor.

Religious Accommodations

The University has a commitment concerning accommodation for religious observances. We will make every reasonable effort to avoid scheduling tests, examinations, or other compulsory activities on religious holy days not captured by statutory holidays. According

to University Policy, if you anticipate being absent from class or missing a major course activity due to a religious observance, please let us know as early in the course as possible, and with sufficient notice (at least two weeks), so that we can work together to make alternate arrangements.

Academic Integrity

The University treats cases of cheating and plagiarism very seriously. The University of Toronto's Code of Behaviour on Academic Matters outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences. Potential offences in papers and assignments include using someone else's ideas or words without appropriate acknowledgement, submitting your own work in more than one course without the permission of the instructor, making up sources or facts, and obtaining or providing unauthorized assistance on any assignment. On tests and exams cheating includes using or possessing unauthorized aids, looking at someone else's answers during an exam or test, misrepresenting your identity, or falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes.

Disability-Related Accommodation Request

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the AccessAbility Services Office as soon as possible. AccessAbility Services staff (located in Rm SW302, Science Wing) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations. Please contact 416-287-7560 (tel/TTY) or email: ability@utsc.utoronto.ca for more information. The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.

Course Management System Information: Quercus

This course uses the University of Toronto's learning management system, Quercus, to post information about the course. This includes readings, recorded lectures, worksheets, assignment rubrics, access to tests and exams, and other materials required to complete class activities and course assignments, as well as sharing important announcements and updates. The site is dynamic and new information and resources will be posted regularly as we move through the term, so please make it a habit to log in to the site on a regular, even daily, basis. To access the course website, go to the U of T Quercus log-in page at q.utoronto.ca. Once you have logged in to Quercus using your UTORid and password, you should see the link or "card" for PSYC70. You may need to scroll through other cards to find this. Click on the PSYC70 link to open our course area, view the latest announcements, and access your course resources. There are Quercus help guides for students that you can access by clicking on the "?" icon in the left side column.

Special note about grades posted online: Please note that any grades posted are for your information only, so you can view and track your progress through the course. No grades are considered official, including any posted in Quercus at any point in the term, until they have been formally approved by the department and posted on ACORN at the end of the

course. The department has the right to adjust grades up or down, by a fixed amount that is equivalent for everyone, as they see fit. Please contact me as soon as possible if you think there is an error in any grade posted on Quercus.

Online Communication Policy

You are required to use your utoronto email address for all course-related communications with the instructor and/or TA, and are expected to check this email address regularly throughout the course to ensure timely access to important information. We will only respond to emails received from a utoronto account, as this is the only way we can verify who we are talking with.

We reserve the right to remove Discussion Board posts that do not remain on topic. Harrasment and bullying will not be tolerated, and will be dealt with swiftly.

Harassment/Discrimination Policy

The University of Toronto is a richly diverse community and as such is committed to providing an environment free of any form of harassment, misconduct, or discrimination. In this course, we seek to foster a civil, respectful, and open-minded climate in which we can all work together to develop a better understanding of key questions and debates through meaningful dialogue. As such, we expect all involved with this course to refrain from actions or behaviours that intimidate, humiliate, or demean persons or groups or that undermine their security or self-esteem based on traits related to race, religion, ancestry, place of origin, colour, ethnic origin, citizenship, creed, sex, sexual orientation, gender identity, gender expression, age, marital status, family status, disability, receipt of public assistance or record of offences.

Privacy/FIPPA Statement

Personal information is collected pursuant to section 2(14) of the University of Toronto Act, 1971 and at all times it will be protected in accordance with the Freedom of Information and Protection of Privacy Act. Please note that this course requires presentations of one's work to the group. For more information, please refer to www.utoronto.ca/privacy.

Copyright of Course Materials

Course materials are provided for the exclusive use of enrolled students. You do not have permission to share them or sell them to anyone outside of the course. The materials should not be posted on websites, uploaded to social media sites, printed and distributed or sold to others, nor sold to companies that intend to package them to sell or distribute to other people in print or via the internet. The University will support me in asserting and pursuing my rights, and my copyrights, in such matters.

You do have my permission to make your own recordings of any lectures for your own personal use. These may not be distributed, shared, sold, or posted on the internet, in whole or in part, without my permission.

Psychology Department Missed Term Work Policy, SUMMER 2021

For missed term work (assignments and term tests) due to illness, emergency, or other mitigating circumstances, please follow the procedures outlined below.

Notes:

- The following reasons are not considered sufficient for missed term work: travel for leisure, weddings, personal commitments, work commitments, human error.
- Missed Final Exams are handled by the Registrar's Office and should be declared on eService: http://www.utsc.utoronto.ca/registrar/missing-examination
- Instructors cannot accept term work any later than five business days after the last day of class. Beyond this date, you would need to file a petition with the Registrar's Office: https://www.utsc.utoronto.ca/registrar/term-work

Accommodations for Illness or Emergency:

For missed work due to ILLNESS OR EMERGENCY, please complete the following **two-step** process:

1. Complete the **Request for Missed Term Work Accommodations Form** (http://uoft.me/PSY-MTW) and email it to Keely Hicks at keely.hicks@utoronto.ca ,

   and

2. **Declare your absence** on ACORN (Profile & Settings > Absence Declaration)

Deadline: You must complete the above steps **within 3 business day**s of the missed work.

Note: For this semester, we do not require any additional supporting documentation (ex. medical notes) to support your missed term work accommodation request.

Accommodations for Academic Conflicts:

For missed term work due to an ACADEMIC CONFLICT (i.e. two midterms scheduled at the same time), please complete the following process:

1. Complete the **Request for Missed Term Work Accommodations Form** (http://uoft.me/PSY-MTW), choosing "Other" as your reason for missed work and explaining the conflict in the space provided.
2. Take screenshots of your course homepages that demonstrate the conflict.
3. Email the form and screenshots to Keely Hicks (keely.hicks@utoronto.ca).

Deadline: You should report the conflict to Keely Hicks (keely.hicks@utoronto.ca) **at least two weeks (10 business days) before the date of the activity,** or as soon as possible if it was not possible to identify the conflict earlier.

Note: Multiple assignments due on the same day are not considered conflicts. Accommodations may only be possible in the case of quizzes and tests that are both scheduled during the same discrete period. Back-to-back tests/quizzes are not considered conflicts.

Note: Students are responsible for keeping their course timetables conflict-free. Students who choose to register in two synchronous courses with overlapping lecture/tutorial/lab schedules may not necessarily be accommodated.

Accommodations for Religious Conflicts:

For missed term work due to a RELIGIOUS CONFLICT, please complete the following process:

1. Complete the **Request for Missed Term Work Accommodations Form** (http://uoft.me/PSY-MTW), choosing "Other" as your reason for missed work and noting "Religious conflict" in the space provided.

2. Email the form to Keely Hicks (keely.hicks@utoronto.ca).

Deadline: You should report the conflict to Keely Hicks (keely.hicks@utoronto.ca) **at least two weeks (10 business days) before the date of the activity,** or as soon as possible if it was not possible to identify the conflict earlier.

Accommodations for Time Zone Conflicts:

If you are physically in a different time zone and a quiz or midterm is scheduled outside of 7:00am to midnight in your local time, please complete the following process:

1. Complete the **Time Zone Conflict Form** (https://uoft.me/PSY-TimeZone), and

2. Email the form to Keely Hicks (keely.hicks@utoronto.ca)

Deadline: You should report the conflict to Keely Hicks (keely.hicks@utoronto.ca) **at least two weeks (10 business days) before the date of the activity,** or as soon as possible, if it was not possible to identify the conflict earlier.

Accommodations for Students Registered with AccessAbility Services:

For missed **TERM TESTS** due to ACCESSABILITY REASONS:

- **Contact your AccessAbility consultant** and have them email Keely (keely.hicks@utoronto.ca) detailing accommodations required.

For missed **ASSIGNMENTS** due to ACCESSABILITY REASONS:

- If your desired accommodation is **within the scope** of your Accommodation Letter (ex. your letter includes "extensions of up to 7 days" and you need 3 days):
    1. Complete the **Request for Missed Term Work Accommodations Form** (http://uoft.me/PSY-MTW).
    2. Email the form and your **Accommodation Letter** to Keely Hicks (keely.hicks@utoronto.ca).

- If your desired accommodation is **outside the scope** of your Accommodation Letter (ex. your letter includes "extensions of up to 7 days" but you need more time than that):
    1. **Contact your AccessAbility consultant** and have them email Keely Hicks (keely.hicks@utoronto.ca) detailing the accommodations required.

Accommodation Procedure:

Within approximately one to five business days, you will receive a response from your instructor detailing the accommodations to be made (if any). **You are responsible for checking your official U of T email and Quercus course announcements daily**, as accommodations may be time-critical.

For missed assignments, **do not wait for an instructor response to resume work on your assignment.** Extension accommodations may be as short as one business day, depending on the nature of the

illness/emergency. You should complete your assignment as soon as you are able and email it your instructor, noting that you have submitted your Missed Term Work Accommodations Request Form to Keely.

Note that ACORN will not allow you to declare **future absences**. For something like a scheduled surgery or an illness with a prolonged recovery period, if you would like to request accommodations in advance of the assignment deadline or midterm you should submit a Verification of Illness Form (http://uoft.me/UTSC-Verification-Of-Illness-Form) completed by your doctor, along with this form to Keely Hicks (keely.hicks@utoronto.ca).

Completion of this form does not guarantee that accommodations will be made. The course instructor reserves the right to decide what accommodations (if any) will be made. Failure to adhere to any aspect of this policy may result in a denial of your request for accommodation.

Missed Accommodations

If an accommodation is granted but a continued illness/emergency prevents you from meeting the requirements of your accommodation, you must repeat the missed term work procedure to request additional accommodations. **Please make it clear in your subject line that you are requesting a second accommodation.** Note that in the case of a missed make-up test, an opportunity to write a second make-up test may not be provided.

(E.g.) If you are given an extension but are still sick and need more time, or if you miss a make-up midterm, you would need to submit another Request for Missed Term Work Accommodations form and declare your extended absence on ACORN.

Importance of Three Business Day window:

If you are unable to submit your documents within the three business day window, **you must email Keely (keely.hicks@utoronto.ca) within the three business day window** to explain the nature of the delay, and when you will be able to provide your documents. Exceptions to the documentation deadline will only be made under **exceptional circumstances.**

Questions?

If you have any questions about this Missed Term Work policy, please contact Keely Hicks (keely.hicks@utoronto.ca) **well before** the date of the test / assignment deadline to describe your circumstances and inquire about procedures.