

PSY202H5S - Research Design and Analysis in Psychology II

TUESDAY	10:00am – 12:00pm	Room CC1080
WEDNESDAY	11:00am – 12:00pm	Room CC1080

Contact Information

Dr. Bruce Schneider
CCT4073
905-828-3963

Teaching Assistant:
Mahmoud Bitar
m.bitar@mail.utoronto.ca

Office Hours:

Tuesdays: 2:00-4:00

Wednesdays: 2:00-4:00

Office Hours: TBA

Course Description and Evaluation

In this course we will continue to build on the theory and techniques covered in PSY201H5F.

Consequently, students should make sure that they are conversant with this material. The topics in research design and data analysis that we will cover in this course are those that are needed to handle the material in more advanced psychology courses. As such, we will illustrate these statistical concepts with examples that you might encounter in advanced courses. The final grade will be the sum of the grades in two quizzes (**20 points** each), 7 computer modules (**28 points**), and the final exam (**30 points**). To receive full credit for a computer module you must successfully complete it before the due date. There are no exceptions to this rule. In addition, prior to each quiz, you will be given a set of practice questions. If you write down the answers to these questions and bring them to your tutorial leader or to the instructor, during office hours, they will go over your answers with you. You are not required to submit answers to the practice questions and you will not receive a grade or credit for them. The tutorials will supplement and expand on the lecture material, review problems and their solutions, and provide you with the opportunity to ask questions about the material in the course.

The quizzes will be given from 10-12 on the dates specified on the outline below.

PsychED Participation for Course Credit (accessible via: <https://app.utm.utoronto.ca/experiments-signup>). The PsychED website is for PSY202 students to receive course credit for completion of faculty's research experiments. Participation in 3 hours of experiments or completion of 3 substitute assignments is worth a total of 2% of the PSY202 final grade. Each hour-long experiment would be worth 0.67% and a 30-minute experiment would be worth 0.33% of your final grade. Some experiments may be longer than an hour (e.g. 1.5, 2 or 3 hours). The maximum number of credit a student may earn is 2%. There is no monetary payment for participation. Students wishing **NOT** to participate in PsychED experiments can complete up to three (3) substitute assignments for credit.

Students should check early and often to make sure they can sign up for 3 hours by April 3, 2020.

Reading Material

Schneider, *Mastering the "black box" of statistics and experimental design*.

This is the same electronic book that was used last semester in Psy 201. If you did not buy the book last semester, it can be purchased and downloaded from the Wolfram bookstore. Please go to Quercus (see Course Webpage below) for instructions on how to purchase and download the book, or go directly to the

book's website for instructions

(<http://sites.google.com/view/the-black-box-of-statistics/home>).

Instructions on how to operate the modules are also to be found at the book's website. The book, as well as the homework modules, run on the Wolfram CDF Player platform. This platform can be downloaded for free from the Wolfram website. For instruction on how to download this free platform, go to the book's website (listed above).

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**

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 you miss 1 quiz and your request is approved by the department, your remaining quiz will constitute 25% of your final grade and the final exam will account for 45% of your final grade. If you miss both Quizzes and both of your requests are approved by the Department your final exam will be worth 70%.

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/accessibility/>

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.

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

Course Outline

Date	Topic	Readings
January 7	Review: Concepts and Principles Underlying Statistical Testing; Confidence Intervals I	Review: Chapters 1-14 Confidence Intervals: Chapter 15
January 8	Confidence Intervals II: One and two group designs (continuous and binary data)	Chapter 15
January 14	Hypotheses concerning variances: Testing whether a sample variance equals a population variance	Chapter 16
January 15	Hypotheses concerning variances: Testing whether two sample variances are equal	Chapter 16
January 21	Estimating sources of variance in single group designs, with and without multiple measures per participant	Chapter 17
January 22	One-way ANOVA, single-factor, between-participants design-I	Chapter 18
January 28	ANOVA for single-factor, between-participants design - II	Chapter 18
January 29	ANOVA for single-factor, between-participants design: post-hoc tests	Chapter 18
February 4	ANOVA for single-factor, within-participant design, single measure per participant per condition	Chapter 19
February 5	ANOVA for two-factor, completely crossed between subjects design, single measure per subject	Chapter 20

February 11	Quiz 1	
February 12	Single factor, within-participant designs with more than one measure per participant in each treatment	Chapter 20
February 25	Non-parametric ANOVAs : Single factor, between-participants: one measure per subject	Chapter 21
February 26	Non-parametric ANOVAs : Single factor, within-participant: one measure per participant per condition	Chapter 21
March 3	Design and Analysis of Multi-factor experiments	
March 4	Linear Regression-I	Chapter 22
March 10	Linear Regression-II	Chapter 22
March 11	Linear Regression – How to handle violations of assumptions and non-linear functions	Supplement 6
March 17	Correlation - I	Chapter 23
March 18	Correlation -II	Chapter 23
March 24	Quiz 2	
March 25	Analysis of Categorical Data- I	Chapter 24
March 31	Analysis of Categorical Data- II	Chapter 24
April 1	Review for final Exam	

Completion dates and point counts for the modules

Module 9 (3 points): January 19; Module 10 (3 points): January 26; Module 11 (5 points): February 10; Module 12 (5 points): March 8; Module 13 (5 points): March 15; Module 14(5 points): March 22; Module 15 (2 points): April 5.