

PSYC* 3290, Course Outline: Fall 2020

General Information

Course Title: Conducting Statistical Analyses in Psychology

Course Description: This course focuses on training students in the quantitative analysis and communications skills needed to become a researcher in psychology. Students conduct a correlation-based meta-analysis to help them concretely understand sampling distributions and the difficulties associated with obtaining study results that replicate. This meta-analytic foundation is then leveraged to teach traditional psychological analysis techniques (e.g., t-test, analysis of variance, and bi-variate/multiple regression) with an emphasis on maximizing factors that increase the probability of study findings that replicate. The value of interpreting results using effect sizes with confidence intervals is discussed and the logic of null-hypothesis testing is briefly reviewed.

Credit Weight: 0.5

Academic Department (or campus): Department of Psychology

Semester Offering: Fall 2020

Class Schedule and Location: Due to the COVID-19 pandemic, this course is offered in an alternative delivery-synchronous (AD-S) format.

Lectures will be held on Mondays and Wednesdays from 9:30 am- 10:20 am.

Lectures will be held virtually using the Zoom software platform for online conferencing. For access to lectures, use the following [Zoom link](#) at the scheduled times:

<https://zoom.us/j/98334500587?pwd=YlB2eEV2MHlLekYxb2M1dXcvcDJMQT09>
passcode: 407507

See more information about Lab sessions and times in the Course Content section below.

Instructor Information

Instructor Name: Chris M. Fiacconi, PhD

Instructor Email: cfiacon@uoguelph.ca

Office location and office hours: Thursdays 12:30-1:30 pm

Office hours will be held using Zoom software. You can [login using the following link at the scheduled time](#):

<https://zoom.us/j/92958462637?pwd=RG5ZSnl6bW5ab0dMOWVScTdmWmY0Zz09>
passcode: 102713

When you join the meeting, you will enter into a virtual 'waiting room'. I will then admit you into the meeting once I am finished meeting with the previous student.

As a general rule, I will do my best to answer emails within 7 business days. I do not check or answer emails on Saturdays or Sundays. I prefer that you ask your questions during class so that everyone can benefit from the discussion. If the matter is private, please come to office hours to discuss.

GTA Information

GTA Name: TBA
GTA Email: TBA
GTA office location and office hours: TBA

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Course Content

Specific Learning Outcomes:

Literacy

- 1.1. Methodological literacy: the ability to understand, evaluate, and design appropriate methodologies for rigorous psychological science
- 1.2. Quantitative literacy: includes numeracy, and competence in working with numerical data
- 1.3. Technological literacy: the ability to select and use appropriate technology
- 1.4. Visual literacy: the ability to effectively find, interpret, evaluate, use, and create images and visual media and content

Communication

2.1. Written communication: the ability to express one's ideas and summarize results from statistical analyses.

Schedule:

Week of:	Topic, Readings, Labs:
Sep. 14	Research Fundamentals (Ch. 1, 2, 10 pp. 257-264) – no LAB
Sep. 21	Sampling Distributions, Confidence Intervals, Effect Sizes (Ch. 3, 4, 5) – LAB #1
Sep. 28	NHST, Power/Planning (Ch. 6, 10 pp. 265-292) – LAB #2
Oct. 5	t-tests (Independent & Paired) (Ch. 7, 8) – LAB #3
Oct. 12	Thanksgiving (Mon.), Midterm I (Wed.) – No LAB
Oct. 19	One-Way ANOVA (Between; Ch. 14 pp. 397-416; 421-22) – LAB #4
Oct. 26	One-Way ANOVA (Within; Ch. 14 pp. 417-421; 423-25) – LAB #5
Nov. 2	Factorial ANOVA I (Ch. 15) – LAB #6
Nov. 9	Factorial ANOVA II (Ch. 15) – LAB #7
Nov. 16	Correlation & Bivariate Regression (Ch. 11, 12) – LAB #8
Nov. 23	Multiple Regression (supplemental readings provided) – LAB #9
Nov. 30	Course Review

Labs: There are 9 labs in this course, which will take place in the weeks indicated in the schedule above. In the weeks with labs, there will be 6 different lab sections – make sure you attend the section you enrolled in. All labs will take place online using virtual conferencing software. The appropriate links will be provided by the TA for your section.

Section 1: Monday, 10:30 am – 12:20 pm

Section 2: Monday, 1:30 pm – 3:20 pm

Section 3: Wednesday, 10:30 am – 12:20 pm

Section 4: Wednesday, 12:30 pm – 2:20 pm

Section 5: Friday, 8:30 am – 10:20 am

Section 6: Friday, 11:30 am – 1:20 pm

Course Assignments and Tests:

Assignment or Test	Due Date	Contribution to Final Mark (%)	Learning Outcomes Assessed
Midterm Exam	Wed. Oct. 14	20%	1.1, 1.2, 1.4
Final Exam	Tue. Dec. 8	20%	1.1, 1.2, 1.4
Weekly quizzes	Due each Friday by 11:59 pm	8 X 2% = 16%	1.1, 1.2, 1.4
Lab Assignments	See section below	8 X 3% = 24%	1.1, 1.2, 1.3, 1.4, 2.1
Final Assignment	Due Friday, Dec. 4	20%	1.1, 1.2, 1.3, 1.4, 2.1

Additional Notes:

1. The midterm and final exams will be conducted online using Respondus LockDown Browser through CourseLink and will consist of multiple-choice questions. The final exam will be cumulative and will also be conducted in this format, but emphasis will be placed on the most recent material. Note that you DO NOT need a webcam, as the real-time monitoring function of Respondus will not be used. **There is no make-up midterm exam.** If you are unable to complete the exam at the scheduled time, the weight of the midterm (20%) will automatically be transferred to the final exam.

2. There are a total of 10 quizzes. You may drop/miss two quizzes. The remaining 8 quizzes are worth 2% of your mark each. There will be no make-up quizzes. Weekly quizzes will be completed on-line through Course Link. Students will have 15 minutes to complete 10 multiple-choice questions. Quizzes are not cumulative, and students can use lecture notes, textbooks, etc. to complete each quiz. For each week, each quiz will be available for completion immediately after the Wednesday morning lecture (10:30 am) and must be finished/submitted by Friday evening by 11:59 pm. There will be no quizzes for the weeks of Oct. 12 and Nov. 30.

3. Each lab will have an assignment which will need to be completed and submitted via CourseLink Dropbox **before** the beginning of the following week's lab session. Assignments will involve data analysis using R software, and communicating these results in the format of an R

Markdown document (.pdf). You may drop **one** lab assignment without penalty. There are no make-up lab assignments. A 10% per day late penalty will be applied to late lab assignments.

4. The final assignment will consist of a series of questions involving datasets on which you will be asked to perform various calculations, statistical tests, and written summaries of the results. The questions on the final assignment must be answered using R Studio Cloud, and the assignment should be submitted in the format of an RMarkdown document (.pdf or Word) to the corresponding CourseLink Dropbox. Assignments must be submitted no later than 11:59 pm on Friday, December 4th, 2020. A 10% per day late penalty will be applied to late final assignments.

Final examination date and time: Tuesday December 8, 2020 from 8:30-10:30 am.

Final exam weighting: 20%

[Examination Regulations](#)

Course Resources

Required Texts: Cumming, G., & Calin-Jageman, R. (2017). *Introduction to the New Statistics*. New York: Routledge.

Lab Manual: Weekly lab handouts will be uploaded to CourseLink prior to each lab.

Other Resources: Lecture slides will be made available in .pdf format on Course Link before each class as soon as possible. Reading material for the week of Nov. 23 will be posted on Course Link.

Software: In this class, we will be learning to use the *R* programming environment to conduct statistical analyses. For the F20 semester, we will be using a web-based version of R known as R Studio Cloud (<http://rstudio.cloud>). Use of *R* Studio Cloud is free of charge. This web-based format has the advantage that it **does NOT require you to download anything to your personal computers**. You'll need only access to the internet and to [make a free account](http://rstudio.cloud) at <http://rstudio.cloud>. Once you create your personal account, you will be given access to a shared workspace for the course. This workspace will contain all relevant tutorials and files needed for you to learn how to program in *R*, and to complete the lab assignments.

Additionally, access will be provided free-of-charge to DataCamp, an online learning tool that will assist you in learning *R*. Please note that the DataCamp lessons and assignments are intended to provide additional help for those students who feel they need further practice and tutorials on how to use *R*. Completion of DataCamp assignments is not mandatory, and will not contribute to your final grade. However, if you are struggling to learn *R*, it is strongly suggested that you consult the resources available through DataCamp. To create an account (use your @uoguelph.ca email) and to [access these DataCamp lessons and tutorials](#), please use the following link:

https://datacamp.com/groups/shared_links/91809b72f7fa2f04ab329101308016b965b35354dc0018f094704193cf7dc809

Zoom: please use the following link to learn more about [how to use Zoom software](#).
<https://www.youtube.com/watch?v=gTry51wPjdA&feature=youtu.be>

Please see the following link for more information on computer system [requirements for the implementation of Respondus Lockdown Browser](#):
<https://support.respondus.com/support/index.php?/Knowledgebase/Article/View/172/26/what-are-the-system-requirements-for-respondus-monitor>

Field Trips: No field trips

Additional Costs: No additional costs

Course Policies

Grading Policies: If you are unable to complete the midterm exam due to medical, psychological, or compassionate reasons, you must email the course instructor *before* the exam is scheduled to take place. **There is no make-up midterm exam.** If you are unable to complete the exam at the scheduled time due to the aforementioned reasons, the weight of the midterm (20%) will automatically be transferred to the final exam. There are no make-up quizzes (you can drop two of the 10 quizzes without penalty) or lab assignments (you can drop one of the 9 lab assignments without penalty). Final Assignments submitted after Friday, December 4th, 2020 are considered late, and are subject to a 10% per day grade penalty.

Course Policy on Group Work: No group work

Course Policy regarding use of electronic devices and recording of lectures:

Electronic recording of classes is expressly forbidden without consent of the instructor. When recordings are permitted, they are solely for the use of the authorized student and may not be reproduced, or transmitted to others, without the express written consent of the instructor. Similarly, any material created by the course instructor is intended for those enrolled in this course solely. Under no circumstances are you allowed to disseminate course materials to external parties.

Student Rights and Responsibilities when Learning Online

Privacy Rights

Lectures held via Zoom may be recorded for the purpose of later dissemination to students. As a student, you have the right to protect your privacy online and may choose to turn off your video and/or audio when in session. In the event that your video and/or audio remain on, please note that you are consenting to your presence in lecture recordings. Under no circumstances are you permitted to transmit copies of the recordings to others, without the express written consent of the instructor.

Online behaviour

According to the University Secretariat, students have a responsibility to help support community members' access to the tools they need to engage in their learning and development, both in and outside of the classroom. An example of this type of responsibility is the requirement to abide by the following:

Section 4.3.3. Disruption - to not interfere with the normal functioning of the University, nor to intimidate, interfere with, threaten or otherwise obstruct any activity organized by the University, including classes, or to hinder other members of the University community from being able to carry on their legitimate activities, including their ability to speak or associate with others.

As such, appropriate online behaviour will not be tolerated. Examples of inappropriate online behaviour include

- Posting inflammatory messages about your instructor or fellow students
- Using obscene or offensive language online
- Copying or presenting someone else's work as your own
- Adapting information from the Internet without using proper citations or references
- Buying or selling term papers or assignments
- Posting or selling course materials to course notes websites
- Having someone else complete your quiz or completing a quiz for/with another student
- Stating false claims about lost quiz answers or other assignment submissions
- Threatening or harassing a student or instructor online
- Discriminating against fellow students, instructors and/or TAs
- Using the course website to promote profit-driven products or services
- Attempting to compromise the security or functionality of the learning management system
- Sharing your username and password

University Policies

Disclaimer

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings and academic schedules. Any such changes will be announced via CourseLink and/or class email. All University-wide decisions will be posted on the [COVID-19 website](#) and circulated by email.

Illness

The University will not require verification of illness (doctor's notes) for the Fall 2020 or Winter 2021 semesters.

Academic Consideration

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor in writing, with your name, id#, and e-mail contact. See the academic calendar for information on regulations and procedures for

Academic Consideration:

[Academic Consideration, Appeals and Petitions](#)

Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community, faculty, staff, and students to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring.

University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection. Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The Academic Misconduct Policy is detailed in the Undergraduate Calendar:

[Academic Misconduct Policy](#)

Accessibility

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact the [Student Accessibility Services](#) as soon as possible.

For more information, contact SAS at 519-824-4120 ext. 54335 or email csdexams@uoguelph.ca or the [Student Accessibility Services Website](#)

Course Evaluation Information

Please refer to the [Course and Instructor Evaluation Website](#) .

Drop date

The last date to drop one-semester courses, without academic penalty, is Friday, December 4, 2020. For regulations and procedures for Dropping Courses, see the [Schedule of Dates in the Academic Calendar](#).
[Current Undergraduate Calendar](#)

Additional Course Information

No additional course information.