

# **PSYC\*4780, Course Outline: Fall 2024**

## **General Information**

DUE to the ongoing COVID-19 pandemic some courses are being offered virtually and some face to face. **This course is offered** using the Alternative-Delivery-Synchronous (AD-S) format. There is an assigned day and time for class lectures, but no classroom, because lectures are delivered via Zoom.

**Course Title:** Advanced Research Methods and Statistics

### **Course Description:**

This course focuses on advanced research methods and statistical techniques consistent with contemporary approaches to research in psychology. A key feature of the course is learning the events that have precipitated the logic underlying contemporary research methods. Additionally, students will obtain an in-depth understanding of sampling theory and its implications for correctly interpreting meta-analyses, confidence intervals, and p-values. Following from this foundation students will learn to engage in sample-size planning for a variety of research designs. Research workflows that minimize lab mistakes and maximize open science reproducibility are also emphasized. Upon completion of the course students are well positioned to create an honours thesis preregistration that includes sample-size planning and analysis scripts.

**Credit Weight: 0.50**

**Academic Department (or campus): Psychology**

**Semester Offering: F24**

**Class Schedule and Location: 8:30am to 11:20am Thursdays on Zoom (link on Courselink)**

## **Instructor Information**

Instructor Name: David J. Stanley  
Instructor Email: [psyc4780@gmail.com](mailto:psyc4780@gmail.com)  
Office location and office hours: TBA

## **GTA Information**

GTA Name: Niyatee Narker

GTA Email: nnarkar@uoguelph.ca

GTA office location and office hours: TBA

GTA Name: Ralitza Dimova

GTA Email: rdimova@uoguelph.ca

GTA office location and office hours: TBA

## **Course Content**

### **Specific Learning Outcomes:**

1. Literacy. Facet 2. Methodological literacy: the ability to understand, evaluate, and design appropriate methodologies for rigorous psychological science
2. Literacy. Facet 3. Quantitative literacy: includes numeracy, and competence in working with numerical data
3. Literacy. Facet 4. Technological literacy: the ability to select and use appropriate technology
4. Communication. Facet 3. Reading comprehension: the understanding of theoretical and empirical literature in Psychology.

### **Lecture Content:**

Approximate timing:

Lectures 1 to 3 Replication Crisis and Open Science

Lectures 4 to 7 Sampling, confidence intervals, p-values, and meta-analysis

Lectures 8 to 10 Statistical tools for planning your thesis

Lectures 11 and 12 Research workflows

## Course Assignments and Tests:

Assignment or Test	Due Date	Contribution to Final Mark (%)	Learning Outcomes Assessed
Final Exam (Cumulative)	Dec 13	31%	1, 2, 3, 4
Midterm 1	Oct 3	30%	1, 2, 3, 4
Midterm 2	Nov 7	30%	1, 2, 3, 4
Assignment 1	October 9	3	1, 2, 3, 4
Assignment 2	October 30	3	1, 2, 3, 4
Assignment 3	November 20	3	1, 2, 3, 4

### Additional Notes (if required):

Missed or late assignment will automatically be added to the final exam weight.

Missed midterms are automatically added to the final exam weight.

There are no makeup midterms.

**Final examination date and time:** Friday Dec 13 8:30am ONLINE

**Final exam weighting:** 31%

[Examination Regulations](#)

## Course Resources

### Required Texts:

Pennington, C. (2023). EBOOK; A Student's Guide to Open Science: Using the Replication Crisis Reform Psychology. McGraw-Hill Education (UK).

Available from the [University Bookstore](#) and other resellers (Kindle, etc.).

### Other Resources:

A key aspect of the course is using [www.datacamp.com](http://www.datacamp.com) to learn R and RStudio.

You sign up for this service using the link emailed to you from datacamp.com.

Your university email must be used to sign up for this service.

Units covered are indicated in the GROUPS then ASSIGNMENT section on datacamp.com

## Course Policies

### Grading Policies

[Undergraduate Grading Procedures](#)

### Course Policy on Group Work:

All work must be completed on an individual basis.

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

Electronic recording of classes is expressly forbidden without the written 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.

## **University Policies**

### **Disclaimer:**

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings, changes in classroom protocols, and academic schedules. Any such changes will be announced via CourseLink and/or class email. This includes on-campus scheduling during the semester, mid-terms and final examination schedules. All University-wide decisions will be posted on the COVID-19 website (<https://news.uoguelph.ca/2019-novel-coronavirus-information/>) and circulated by email.

### **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](#)

#### Illness

Medical notes will not normally be required for singular instances of academic consideration, although students may be required to provide supporting documentation for multiple missed assessments or when involving a large part of a course (e.g., final exam or major assignment).

#### 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 [Student Accessibility Services](#) as soon as possible.

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

#### Student Feedback Questionnaire

These questionnaires (formerly course evaluations) will be available to students during the last 2 weeks of the semester. Students will receive an email directly from the Student Feedback Administration system which will include a direct link to the questionnaire for this course. During this time, when a student goes to login to Courselink, a reminder will pop-up when a task is available to complete.

[Student Feedback Questionnaire](#)

#### Drop date

The last date to drop one-semester courses, without academic penalty, is Friday November 29, 2024. For regulations and procedures for Dropping Courses, see the [Schedule of Dates in the Academic Calendar](#).

Instructors must provide [meaningful and constructive feedback, at minimum 20% of the final course grade, prior to the 40th class day](#). For courses which are of shorter duration, 20% of the final grade must be provided two-thirds of the way through the course.

[Current Undergraduate Calendar](#)

#### Additional Course Information

Course instructors are allowed to use software to help in detecting plagiarism or unauthorized copying of student assignments. Plagiarism is one of the most common types of academic misconduct on our campus. Plagiarism involves students using the work, ideas and/or the exact wording of other people or sources without giving proper credit to others for the work, ideas

and/or words in their papers. Students can unintentionally commit misconduct because they do not know how to reference outside sources properly or because they don't check their work carefully enough before handing it in. 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.

In this course, your instructor may be using Turnitin.com to detect possible plagiarism, unauthorized collaboration or copying as part of the ongoing efforts to prevent plagiarism in the College of Social and Applied Human Sciences.

A major benefit of using Turnitin is that students will be able to educate and empower themselves in preventing misconduct. In this course, you may screen your own assignments through Turnitin as many times as you wish before the due date. You will be able to see and print reports that show you exactly where you have properly and improperly referenced the outside sources and materials in your assignment.