

# PSY 505: Current Issues in Statistical Methods and Research Practices for Psychological Science

Robin Gomila

Fall 2021

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Office Hours: M 3-4pm, F 9-10am [[sign up](#)][[zoom room](#)]

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Class Hours: T 11:00am-12:00pm

Room: A02 PSH/PNI

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## Course Objectives

Psychological methods keep evolving: psychology researchers constantly adopt new statistical methods, computational tools, and research practices. This course introduces the latest advances in research methods in psychological science through a series of lectures, tutorials, and seminars. Lectures are generally given by a guest speaker who introduces methodological and statistical issues relevant to psychology research. Students engage in a group discussion with the speaker before the lecture. Tutorials provide students with the necessary skills to build reproducible and transparent research programs. For instance, students learn how to use R, RMarkdown and Git/GitHub, or how to preregister their studies. Finally, students take part in seminars, in which they discuss timely topics in psychological methods (e.g., reproducibility, transparency, pre-registration).

## Audience

This course is designed for quantitative psychologists but it may be relevant to any social and natural scientists studying human behavior.

## Prerequisites

There are no prerequisites for this course.

## Assignments

Students will read up to two articles / book chapters before seminars.

## Tentative Course Outline

- *Introductions* (Week 1 - September 7, 2021)
- **Tutorial 1:** *Basics of R* (Week 2 - September 14, 2021)  
[Installation Tutorial](#)
- **Lecture 1:** Y. Andre Wang, University of Toronto (Week 3 - September 21, 2021)  
11am - 12pm: Group discussion with Y. Andre Wang (in person)  
12pm - 1pm: Lecture
- **Tutorial 2:** *Transforming Data in R* (Week 4 - September 28, 2021)
- **Lecture 2:** Lisa DeBruine, University of Glasgow (Week 5 - October 5, 2021)  
11am - 12pm: Group discussion with Lisa DeBruine (zoom)  
12pm - 1pm: Lecture
- **Seminar 1:** *What is Ethical Research?* (Week 6 - October 12, 2021)
- **Fall Recess** (Week 7 - October 19, 2021)
- **Seminar 2:** *Reproducibility and Transparency in Psychology* (Week 8 - October 26, 2021)
- **Tutorial 3:** *Visualizing Data in R* (Week 9 - November 2, 2021)
- **Seminar 3:** *Preregistration of Psychological Studies* (Week 10 - November 9, 2021)
- **Tutorial 4:** *Advanced Topics in R* (Week 11 - November 16, 2021)
- **Thanksgiving Recess** No class (Week 12 - November 23, 2021)
- **Lecture 3:** TBD, confirmation pending (Week 13 - November 30, 2021)  
11am - 12pm: Group discussion with TBD  
12pm - 1pm: Lecture