

Graduate Statistics (PSYC 640)

INSTRUCTOR	Dustin Haraden, PhD
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<i>Office Hours</i>	Wednesdays & Thursdays 12:30 – 2:00pm or By Appointment
<i>Class Times</i>	Mondays & Wednesdays 3:00 – 4:15pm Liberal Arts Building 3233
<i>Course Resources</i>	Learning Statistics with R by Danielle Navarro OpenIntro Statistics 4th ed. (Diez, Barr, & Cetinkaya-Rundel, 2022) All additional course materials and readings will be posted to MyCourses

COURSE DESCRIPTION: This course reviews critical concepts and data analysis methods in descriptive and inferential statistics. Basic and advanced material will be presented on topics that include measurement, descriptive and inferential data analyses for single and multiple group designs, and computer applications. There will be an emphasis on Open Science practices, especially reproducibility. Course content will be taught through lectures, discussion, and applied data analysis exercises. Throughout the course, I will try to maintain an emphasis on both the basic theory behind the statistics and its practical application to data sets.

EVALUATION AND GRADING:

Your grade will be determined by course participation, in-class activities, reflections on papers, labs demonstrating application of techniques, drafts and peer reviews, a group presentation and a final paper submission of your research project.

Component	Weight
Course Participation & Engagement	10%
Paper Critiques/Summaries	10%
Labs	35%
Project Drafts & Peer Review	45%
Presentation	
Final Paper	

Course Participation & Engagement (10% of your grade)

This section of your grade will be comprised of participating in various in-class activities and engaging with the materials. Also, to cut down on potential incidence of social loafing or ghosting, your project partner will evaluate your participation in joint study project, the score of which will count towards your grade.

Paper Critiques/Summaries (10% of your grade)

This piece of your grade will come from critiquing and/or summarizing 3 articles throughout the semester. The articles will either be a recent peer-reviewed journal article or a news article that uses statistical methodologies. A template will be provided for how to engage with these articles but will cover things like summarizing the article, identifying and discussing the statistics used, providing critiques. There will not be a single due date for these and will be accepted up until the final day of instruction (not including group presentations). Only one article will be able to be submitted per class period in order to offer these as potential starting points of discussion.

Labs (35% of your grade)

This component of your grade will consist of the completion of various lab assignments to provide practice with important statistical concepts. Each lab will begin in class, where you can ask questions, but you will likely need to finish each lab on your own time. I will provide you with an overview of lab formatting and writing expectations towards the start of semester. Unless stated otherwise, a final copy of each lab will be due as an upload on MyCourses by **11:59 pm the Sunday** after we started it. Labs may be turned in at any time before then but are subject to late penalties after (for up to 1 week following a missed deadline, after which they will not be accepted).

Final Project Paper and Presentation (45% of your grade)

Outside of your labs, this semester's activities will largely center around creating and completing a team research project. To this end, you'll split into small groups where you will create a hypothesis, design methods, create a research proposal, and write a comprehensive data analytic plan. The primary way you will do this is through completion of a research proposal. You will turn in the various components of your research across the semester.

Following the submission of the section drafts, we will hold peer review sessions where you will offer helpful critique on content and formatting to improve your classmates' writing, and you will receive this feedback yourself. You will receive points for **1)** sharing your draft in a timely fashion with your peers and **2)** offering high effort written feedback to your peers (there will be a rubric to help with this).

You will submit a full paper draft to me towards the end of semester that 1) also includes an abstract and 2) incorporates your peers' revision suggestions. I will grade this paper and offer detailed feedback for suggested revisions for your final submission. In lieu of a final exam, you will submit a final revised copy of your paper to me by the end of day (11:59 pm) on your exam date. Buyer beware, I will likely check drafts against final versions to see if you have incorporated feedback and made any revisions. Failure to make any revisions may harm your final grade.

You will also prepare a brief (5-10 min.) presentation to explain your research project to the class. Detailed information regarding the requirements of the proposal and project will be posted on MyCourses.

Grade Scheme

A	A-	B+	B	B-	C+	C	C-	D	F
93+	90-92	87-89	83-86	80-82	77-79	73-76	70-72	60-69	< 60

ANTICIPATED COURSE OUTLINE

This schedule is subject to change. Please check the course site for all updates.

Week	Date	Topic	Prep
1	8/28/2023	Course Orientation & Intro to R	Install R & R-Studio
	8/30/2023		
2	9/4/2023	Labor Day - No Class	
	9/6/2023	Open Science & Psychology	Open Science Reading
3	9/11/2023	Research Design & Data (Descriptives & Visualizations)	LSR Ch. 2 & 5.1-5.5 OS Ch 1.3 – 1.4
	9/13/2023		
4	9/18/2023	Probability, Distributions & Inferences	LSR Ch. 9 & 10 OS Ch. 3 (skim)
	9/20/2023		
5	9/25/2023	Hypothesis Testing & Power	LSR Ch. 11 Video – “ What is a p-value? ”
	9/27/2023		
6	10/2/2023	Categorical Data Analysis	LSR Ch. 12 OS Ch. 6.3 & 6.4
	10/4/2023		
7	10/9/2023	Break no class	
	10/11/2023	Comparing Means	LSR Ch. 13
8	10/16/2023	Comparing Means	OS Ch. 7.1 – 7.4
	10/18/2023		
9	10/23/2023	ANOVA	LSR Ch. 14 OS Ch. 7.5
	10/25/2023		
10	10/30/2023	Correlation	LSR Ch. 5.7 OS Ch. 8.1
	11/1/2023		
11	11/6/2023	Regression	LSR Ch. 15 OS Ch. 8.2
	11/8/2023		
12	11/13/2023	Multiple Regression & Flex Day	OS Ch. 9
	11/15/2023		
13	11/20/2023	Tables in R & Group Time	
	11/22/2023		
14	11/27/2023	Visualizations & Group Time	
	11/29/2023		
15	12/4/2023	Group Time	
	12/6/2023	PRESENTATION	
16	12/11/2023	PRESENTATION	

GENERAL COURSE POLICIES

STATEMENT ON REASONABLE ACCOMMODATIONS: RIT is committed to providing academic adjustments to students with disabilities. If you would like to request academic adjustments such as testing modifications due to a disability, please contact the Disability Services Office. Contact information for the DSO and information about how to request adjustments can be found at www.rit.edu/dso. After you receive academic adjustment approval, it is imperative that you contact me as early as possible so that we can work out whatever arrangement is necessary.

STATEMENT ON TITLE IX: RIT is committed to providing a safe learning environment, free of harassment and discrimination as articulated in our university policies located on our governance website. RIT's policies require faculty to share information about incidents of gender-based discrimination and harassment with RIT's Title IX coordinator or deputy coordinators when incidents are stated to them directly. The information you provide to a non-confidential resource which includes faculty will be relayed only as necessary for the Title IX Coordinator to investigate and/or seek resolution. Even RIT Offices and employees who cannot guarantee confidentiality will maintain your privacy to the greatest extent possible.

If an individual discloses information during a public awareness event, a protest, during a class project, or advocacy event, RIT is not obligated to investigate based on this public disclosure. RIT may however use this information to further educate faculty, staff and students about prevention efforts and available resources.

If you would like to report an incident of gender based discrimination or harassment directly you may do so by using the online Sexual Harassment, Discrimination and Sexual Misconduct Reporting or anonymously by using the Compliance and Ethics Hotline. If you have a concern related to gender-based discrimination and/or harassment and prefer to have a confidential discussion, assistance is available from any of RIT's confidential resources (listed below).

RIT Counseling and Psychological Services

585-475-2261 (V)

585-475-6897 (TTY)

www.rit.edu/counseling

RIT Student Health Center

585-475-2255 (V)

www.rit.edu/studentaffairs/studenthealth

RIT Ombuds Office

585-475-7357

585-475-6424

585-286-4677 (VP)

www.rit.edu/ombuds/contact-us

NTID Counseling and Academic Advising

585-475-6400

www.ntid.rit.edu/counselingdept

Center for Religious Life

585-475-2137

www.rit.edu/studentaffairs/religion

ACADEMIC INTEGRITY STATEMENT: As an institution of higher learning, RIT expects students to behave honestly and ethically at all times, especially when submitting work for evaluation in conjunction with any course or degree requirement. The Department of Psychology encourages all students to become familiar with the [RIT Honor Code](#) and with [RIT's Academic Integrity Policy](#). RIT's policy on academic integrity requires the instructor to investigate of any suspected breach of academic integrity. If the preponderance of evidence indicates a breach of academic integrity, the student who did so may incur a consequence up to and including failure for the entire course.

RIT COVID-19 SAFETY PLANS: RIT is committed to the safety of the RIT community and beyond. Because the situation is still in a rapid state of change, checking the RIT Ready website, and specifically the RIT Safety Plan for the most up to date information is recommended: <https://www.rit.edu/ready/rit-safety-plan>.

CHANGES TO THE SYLLABUS: I have provided this syllabus as a guide to our course and have made every attempt to provide an accurate overview of the course. However, as instructor, I reserve the right to modify this document during the semester, if necessary, to ensure that we achieve course learning objectives. You will receive advance notice of any changes to the syllabus through myCourses/email.

COURSE SPECIFIC POLICIES

If you anticipate issues related to the format or requirements of this course, please meet with me. I would like us to discuss ways to make sure you can participate to your best ability in the course. This course abides by university policies at RIT. In particular, please note the following:

PHONE/LAPTOP USE IN CLASS: Please do not use cell phones during class. If you need to take an emergency phone call, please feel free to leave the class quietly. Laptops may be used when necessary for course-related uses.

CLASS CANCELLATION: In the event of a University-wide emergency course requirements, classes, deadlines and grading schemes are subject to changes that may include alternative delivery methods, alternative methods of interaction with the instructor, class materials, and/or classmates, a revised attendance policy, and a revised semester calendar and/or grading scheme.