PSY 395: Research Design and Measurement

in Psychological Research

Spring 2024

Dr. Ted Schwaba (he/him)

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**(**Include “395” in your message subject, or I will not see your email**)**

Class:Tuesday/Thursday, 9:10am-10:00am, Bessey 108

Lab:Once per week, Brody 143 (see lab schedule below)

Dr. Schwaba Drop-In Hour:Wednesday, 11:00am-12:00pm, Psychology Building 249b

TA Drop-In Hour:(see lab schedule below for times/locations)

### Course Materials

### Textbook: The Process of Social Research (3rd ed)

There is a required textbook for this course. Make sure to order the 3rd edition:

Dixon, J.C., Singleton, R.A., & Straits, B.C. (2022). *The process of social research* (3rd edition). New York: Oxford University Press. (ISBN: 019761373X)

You can buy the book on Amazon [here](https://a.co/d/c81snyW). There will be additional copies at the MSU library. Much of what is covered in lectures and labs will be based directly off the textbook.

### Software: R / R Studio

To fully participate in this course, you will need access to a computer with R and R Studio. R is a free statistics software, and R Studio is a free program that makes R easier to use. They will run on any computer made in the last 20 years. Learning R in this class will give you something to put on your resume!

We will help you download and set up R and R Studio during the first lab, in Week 2, but if you’d like to get a head start, you can download R [here](https://cran.r-project.org/bin/macosx/) (for mac) or [here](https://cran.r-project.org/bin/windows/base/) (for windows). You can download R Studio [here](https://posit.co/download/rstudio-desktop/) (for everyone).

### Course Webpage: D2L

The course webpage is located on D2L (<https://d2l.msu.edu/>). On this page, you’ll find slides from past lectures and files to download for labs.

### Description & Objectives

This course is designed to make you a better consumer of psychological research and to teach you the tools to produce your own research. If you’re considering a career that involves research, like advertising, academia, or product design, you may really enjoy PSY 395. There are four main objectives:

1. Learn and apply strategies for evaluating psychology research
2. Understand the principles of psychological measurement
3. Understand observational and experimental research design
4. Learn how to use R to analyze data

There are two components to instruction:

1. Lectures with Dr. Schwaba**:** I will be giving two lectures a week, from 9:10 to 10:00 am, each Tuesday and Thursday, in Bessey room 108. This lecture is in-person, with no remote or hybrid option. I will loosely follow the textbook, but there will be some areas of divergence to make the course more interesting.

I will not be taking attendance. If you do not show up for class, you will not do very well on the exams. Slides will be posted to D2L *after* each lecture.

You do not need to bring a laptop to class. My suggestion is to get a spiral notebook for this class and take notes by hand during lecture instead of using a laptop; this low-tech method forces you to engage with the material in ways that will help you learn the content better.
2. Labs with your TA**:** Your TAs will be conducting weekly 2-hour lab sessions with you, starting in week 2. There are no labs week 1 or week 14. Labs are in-person and you are expected to attend your section’s lab at the time listed below. These lab sections are designed to help you get hands-on practice with the concepts we learn in lecture, as well as teach you how to use R.

There will be no attendance taken, but each lab will include a worksheet that will be turned in for completion points at the end of the class.You will need to bring your laptop to lab. Please contact me if this may be a problem for you and we can figure out a solution.

In other words, there is four hours of content weekly for this class: two 1-hour lectures, and one 2-hour lab.

### Prerequisite

Because PSY 395 is a research methods class, it will involve applying concepts that you learned about in PSY 295. However, we will review each of these concepts again in this class as they are re-introduced.

## Course Schedule for Spring 2024

Here is when we will cover the topics in lecture and lab. I may adjust this schedule according to the pace of the course and student needs.

| Week | Course Component | Topic | Readings |
| --- | --- | --- | --- |
| Week 1 | Tuesday Lecture 1/9 | Introduction | Syllabus |
| Thursday Lecture 1/11 | Comparing Methods | Chapter 1 |
| NO LAB WEEK 1 |  |  |
| Week 2 | Tuesday 1/16 | What Science Is and Isn’t | Chapter 2 |
| Thursday 1/18 | Designing Research | Chapter 4 |
|  | Lab 1 | Installing RResearch Survey |  |
| Week 3  | Tuesday 1/23 | Measurement 1 |  |
| Thursday 1/25 | Measurement 2 | Chapter 5 |
| Lab 2 | Literature Reviews |  |
| Week 4 | Tuesday 1/30 | Sampling | Chapter 6 |
| Thursday 2/1 | Exam 1  |  |
| Lab 3 | Introduction to R |  |
| Week 5 | Tuesday 2/6 | The Replication Crisis and Open Science (fun) |  |
| Thursday 2/8 | No Class: Dr. Schwaba at Conference |  |
| Lab 4 | Exam 1 review & One-Variable Statistics |  |
| Week 6 | Tuesday 2/13 | No Classes |  |
| Thursday 2/15 | Experiments 1 | Chapter 7 |
| NO IN PERSON LABLab 5 | Do-At-Home Research Report |  |
| Week 7 | Tuesday 2/20 | Experiments 2 |  |
| Thursday 2/22 | Causal Inference |  |
| Lab 6 | The Stroop Task |  |
| Spring Break 2/26 – 3/1 |
| Week 8 | Last day to drop courses: 3/4 |
| Tuesday 3/5 | Correlations 1 | Chapter 8 |
| Thursday 3/7 | Correlations 2 |  |
| Lab 7 | Visualizations |  |
| Week 9 | Tuesday 3/12 | Longitudinal Research |  |
| Thursday 3/14 | Exam 2 |  |
| Lab 8 | Hypothesis Generation |  |
| Week 10 | Tuesday 3/19 | Ethics 1 | Chapter 3 |
| Thursday 3/21 | Ethics 2: Fraud (fun) |  |
| Lab 9 | Exam 2 review & P-Hacking |  |
| Week 11 | Tuesday 3/26 | Qualitative Research (fun)(Guest Lecture: Dr. Burnette) | Chapter 9 |
| Thursday 3/28 | Archival Research | Chapter 10 |
| Lab 10 | DIY Correlations |  |
| Week 12 | Tuesday 4/2 | Genetic Research |  |
| Thursday 4/4 | Mixed Methods | Chapter 11 |
| Lab 11 | DIY Mean comparisons |  |
| Week 13 | Tuesday 4/9 | Heuristics |  |
| Thursday 4/11 | Exam 3 |  |
| Lab 12 | Advanced Stats |  |
| Week 14 | Tuesday 4/16 | Research as a Career |  |
| Thursday 4/18 | Exam 3/ Final Review |  |
| NO LAB WEEK 14 |  |  |
| Finals Week | Final Exam | Final Exam (Tuesday, 4/23 from 3-5pm)Bessey 108 (same as class) |  |

### Lab Schedule for Spring 2024

Labs begin meeting during Week 2 (1/15-1/18)

### Please note that labs do not meet on the following dates:

* There are no in-person labs on Week 6 (2/12 - 2/16);the lab will be assigned as homework instead and can be downloaded from D2L. Further information will be given in class.
* There are no classes or labs the week of spring break (2/26 - 3/01)
* There is no lab on the last week of the semester (4/15-4/19)

You must attend the lab section for which you are officially registered. Here is the list of laboratory sections and TAs:

| Section | Day of the Week | Time/Location | TA Info |
| --- | --- | --- | --- |
| 001 | Monday | 8a – 9:50aBrody 143 | **Name:** Taryn Meinhardt**Email:** meinhar6@msu.edu **Drop-in Hour:** Wednesday, 11am-12pm**Location**: visit <https://zoom.us/join>  meeting ID: 947 9550 9576  password: 217586 |
| 009 | Monday | 10:20a-12p Brody 143 | **Name:** Taryn Meinhardt**Email:** meinhar6@msu.edu **Drop-in Hour:** Wednesday, 11am-12pm**Location**: visit <https://zoom.us/join>  meeting ID: 947 9550 9576  password: 217586 |
| 002 | Monday | 4:10p-6pBrody 143 | **Name:**  Daisuke Katsumata**Email:**  katsuma2@msu.edu **Drop-in Hour:** Please send an email to book  a time**Location:** [msu.zoom.us/j/95724017533](https://msu.zoom.us/j/91757000743) |
| 003 | Tuesday | 10:20a-12pBrody 143 | **Name:** Rachael Pyram **Email:** pyramrac@msu.edu **Drop-in Hour:** By request. Book a time [here](https://calendly.com/rachaelpyram/45min)**Location:**  Virtual or in-person (see above) |
| 004 | Tuesday | 4:10p – 6pBrody 143 | **Name:** Rachael Pyram **Email:** pyramrac@msu.edu **Drop-in Hour:** By request. Book a time [here](https://calendly.com/rachaelpyram/45min)**Location:**  Virtual or in-person (see above) |
| 005 | Wednesday | 8a-9:50aBrody 143 | **Name:** Daisuke Katsumata**Email:** katsuma2@msu.edu **Drop-in Hour:** Please send an email to book  a time**Location:** [msu.zoom.us/j/95724017533](https://msu.zoom.us/j/91757000743%22%20%5Ct%20%22_blank) |
| 006 | Wednesday | 12:40p-2:30pBrody 143 | **Name:** Abby Cassario**Email:** cassario@msu.edu **Drop-in Hour:** Friday, 12:45-1:45 (please give 12 hours advance notice via email)**Location:** [msu.zoom.us/j/91757000743](https://msu.zoom.us/j/91757000743) password: psych |
| 010 | Wednesday | 4:10p-6pBrody 143 | **Name:** Abby Cassario**Email:** cassario@msu.edu **Drop-in Hour:** Friday, 12:45-1:45 (please give 12 hours advance notice via email)**Location:** [msu.zoom.us/j/91757000743](https://msu.zoom.us/j/91757000743) password: psych |
| 007 | Thursday | 10:20a-12pBrody 143 | **Name:** Allison Costello**Email:** coste142@msu.edu **Drop-in Hour:** Friday 8am-9am**Location:** visit <https://zoom.us/join>  meeting ID: 950 0124 5521 password: 567423 |
| 008 | Thursday | 4:10p – 6pBrody 143 | **Name:** Allison Costello**Email:** coste142@msu.edu **Drop-in Hour:** Friday 8am-9am**Location:** visit <https://zoom.us/join>  meeting ID: 950 0124 5521 password: 567423 |

## Course Activities and Grading

There are100 pointsavailable to earn in this class. This means each point is worth 1% of your grade, which makes calculating your grade simple.

|  |  |  |
| --- | --- | --- |
| Activity | Points | % of Final Grade |
| Exams(3 out of 4 graded) | 25 points each (75 total points) | 75% |
| Weekly Lab Worksheet (10 out of 12 graded) | 2.5 points each (25 total points) | 25% |
| Total | 100 points | 100% |
| Extra Credit Research Reports | 1 point each (up to 2 points total) | up to 2% |

Your final grade will be based on the number of points you have earned on course activities:

| **Grade** | **Points** |
| --- | --- |
| 4.0 | 90 – 100 points |
| 3.5  | 85 – 89 points |
| 3.0 | 80 – 84 points |
| 2.5 | 75 – 79 points |
| 2.0 | 70 – 74 points |
| 1.5 | 65 – 69 points |
| 1.0 | 60 – 64 points |
| 0.0 | Less than 60 points |

I will not round grades up. If you are worried about your grade, there is an extra credit opportunity that you can use to earn 2 additional points. At the end of the semester, if you believe that I made an error in calculating your grade, please let me know. I will check your grade, and I will change it if I have made an error. This is the only circumstance under which I will change a grade.

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*Exams.*Four exams will be given in person during class days (the last exam will be the final). The first three exams emphasize material covered in lectures and labs since the previous exam. They are not cumulative exams, meaning nothing on exam 1 will be tested on exam 2 or 3, and nothing on exam 2 will be tested on exam 3. The last exam is a cumulative final exam that covers material throughout the entire of the course. Each exam is a set of multiple-choice questions.

Of the four exam scores, only the top three will be included in your final grade. At the end of the semester, if you have taken all three of the midterms and are happy with your grade, you do not need to take the final exam (It will count as a 0, which will then be dropped). Dropping an exam gives you flexibility in the course; if you do poorly on one exam, it will not ruin your grade. It also means that, if there is some reason you need to miss an exam, you do not need to stress out!

Any material discussed in lectures or labs may be tested in exams, but most material will come from lecture. Material in the textbook that is not discussed in lectures or labs will not be tested in exam. You will not need to memorize any formulas for exams (but being familiar with formulas can help you think through ideas).

If you show up late for the exam, you will not have extra time to finish the exam.

### Exam Makeup Policy:

If you miss one exam for any reason (e.g., illness, concussion, family emergency, religious observance, computer issues), it will not count against your grade because only 3 of 4 exam scores in the course will be included in your final grade. You do not need to provide any documentation for the first missed exam. Please do not ask me to make up an exam if it is the first one you’ve missed.

If you miss a second exam, you can take a makeup exam only if you have a valid, documented excuse (e.g., a note from the dean or a note from your doctor recommending that you not attend class). In the case of the death of a loved one, you will need to follow the grief absence policy at the end of this syllabus so that we can work together to figure out a makeup time. Any notes must explicitly state that “This student was unable to take the exam on <scheduled day of exam> because \_\_\_\_\_\_\_\_\_\_\_\_\_.” The note cannot come from someone in your family. **You must notify me that you have a valid excuse within 48 hours of the scheduled date of the exam or you will not be allowed to take the makeup exam. Thank you for understanding!**

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***Lab Worksheets***. At each of the 12 labs, there will be a worksheet for you to complete on your computer during the class. (the do-at-home lab on Week 6 will also have a worksheet). The TA will guide you through the worksheet, and it will serve as an outline for the class’s activities. Worksheet activities will include analyzing and reporting on results of the in-class survey that you and your classmates will take during the first lab session, allowing you to conduct your own psychological research. This means **It is especially important to attend the first lab session** so that you’ll have a chance to take the survey.

Of the 12 lab worksheets, only the top 10 will be included in your final grade. This allows you to skip two lab sections. Lab worksheets are due at the end of the 2-hour lab session and will be graded according to completion. If you showed up to the lab, and follow along with the class, you will be able to finish the worksheet by the end of the class and get a perfect grade for that week. Lab worksheets can be turned in by sending them to your TA at the end of class. **If you cannot complete the worksheet by the end of class, you can turn in in by 11:59 pm that day to receive full credit.** **Late lab worksheets will not be accepted.**

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***Drop-In Hours.***Each of the TAs and I will have weekly drop-in office hours, where we are happy to talk with you. You can come to ask a single question or stay to discuss something in depth; this time is dedicated to your learning. My drop-in hours are Wednesday, 10:00am-11:00am, in Psychology Building 249b (on the second floor), and the TAs have their drop-in hours and locations listed on page 5 and 6. Going to drop-in hours can be an awesome opportunity to meet scientists and pick their brain about questions you have regarding this course, science in general, or what it’s like to earn a PhD in psychology (if that’s something that interests you).

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***Extra Credit.*** The do-at-home lab during Week 6 will include instructions for writing a research report on a published scientific paper. If you enjoyed this lab and/or you would like to earn some extra credit for this class, you have the opportunity to write one or two additional research reports on other scientific papers of your choosing. These points can be earned any time between week 6 (when you will learn how to write this report) and the end of week 14 (the end of the semester, before the final). For timing reasons, no extra credit points will be awarded after week 14; **you must turn in extra credit research reports to D2L before 11:59pm on April 19th**. If you feel you might be short on points heading into the final, you will need to earn extra credit ahead of time.

Each paper you write a report on is worth 1 extra credit point, and you can earn up to 2 extra credit points.

In contrast to the week 6 lab, which will give you a selection of papers to write a research report on, you are free to use your literature search knowledge (from the week 4 lab) to write the extra credit research report about any paper you would like, as long as it contains new research. You can tell that a paper contains new research if it has sections labeled “methods” and “results.” (I’d also suggest that you write your report on a shorter paper; some papers have many many studies and would take a very long time to read). Please do not review papers you are reading for assignments in other classes. Also, please do not use AI to help you write this research report. Editing AI writing to fit the guidelines of this brief extra credit assignment is likely much more work than simply writing it yourself!

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*Honors Option****.*** There is no honors option for this course.

## Course Policies

### E-mail Policy

E-mail is the best way to get a hold of me and your TA. Please use the following guidelines when e-mailing one of us:

1. First, ask yourself this question: “Can this question be answered by looking in the syllabus?”
2. If you can’t find the answer in the syllabus, ask yourself whether the question would be better to send me your TA or to me. If you have a question about something discussed in lab, it is best to email your TA first. Please do not email both of us at the same time.
3. Use 395 in the subject line. That makes it clear you are a student in this course asking a question, and your email will be prioritized (we get a lot of emails!)
4. Please sign your e-mail with your full name, so we know who you are.

### Academic Honesty

[Article 2.III.B.2](http://splife.studentlife.msu.edu/academic-freedom-for-students-at-michigan-state-university/article-2-academic-rights-and-responsibilities) of the SRR states: “The student shares with the faculty the responsibility for maintaining the integrity of scholarship, grades, and professional standards.” In addition, the Psychology Department adheres to the policies on academic honesty specified in General Student Regulation 1.0, [Protection of Scholarship and Grades](http://splife.studentlife.msu.edu/regulations/general-student-regulations); the all-University Policy on [Integrity of Scholarship and Grades](http://www.reg.msu.edu/AcademicPrograms/Print.asp?Section=534); and [Ordinance 17.00](http://splife.studentlife.msu.edu/regulations/student-group-regulations-administrative-rulings-all-university-policies-and-selected-ordinances/examinations-ordinance-17-00), Examinations.

You are expected to develop original work for this course; therefore, unless authorized, you are expected to complete all course assignments, including homework, lab work, quizzes, tests and exams, without assistance from any source (except as specified in the assignment). This also means that you may not submit course work you completed for another course to satisfy the requirements for this course. Also, you are not authorized to use the www.allmsu.com Web site to complete any course work in this course.

In addition, plagiarism of written work is forbidden. It includes taking the work of

another individual or source and presenting it as your own. This is considered plagiarism even if the source has given you permission to use their work, or the work is in the public domain (e.g., on the web). Any student who violates these rules will receive a penalty grade, possibly a failing grade on the assignment or in the course and will be reported to the Office of Academic Affairs and the Office of Student Affairs. See also: <https://www.msu.edu/~ombud/academic-integrity/student-faq.html>

Contact me or your TA if you are unsure about the appropriateness of your course work.

### Accommodations for Students with Disabilities

Michigan State University is committed to providing equal opportunity for participation in all programs, services and activities. Requests for accommodations by persons with disabilities may be made by contacting the Resource Center for Persons with Disabilities at 517-884-RCPD or on the web at [rcpd.msu.edu](http://rcpd.msu.edu). Once your eligibility for an accommodation has been determined, you will be issued a Verified Individual Services Accommodation ("VISA") form. If you require testing accommodations (additional time, etc.) you must contact me and present your VISA at least 10 days before the exam date. This will ensure that I have enough advance notice to make sure I can meet these accommodations. Thank you for your understanding!

### In Case of the Death of a Loved One

The College of Social Science follows the official MSU grief absence policy, which can be found [here](https://reg.msu.edu/ROInfo/Notices/GriefAbsence.aspx). If you are grieving a loved one who has recently passed away, and need to miss an exam or labs, you will need to complete the [grief absence form](https://reg.msu.edu/StuForms/Stuinfo/GriefAbsenceForm.aspx) in your StuInfo portal and email supporting documentation to SSC.GriefAbsence@msu.edu. If you need additional help, you can call (517) 432-3598 for compassionate help through this process. (Remember, you can miss 1 exam and 2 labs for free, due to the grading policy above). This form will require you submit acceptable documentation: either the loved one’s death certificate or a letter from the funeral home involved containing the deceased individual’s name, date of death, relationship to deceased, visitation and funeral services date or an official published obituary. These letters are extremely common and funeral homes will be happy to provide them for you. After you send this form to the college of social science, you will receive a grief absence documentation, which you can send to me. Most grief absences are valid for a few days up to 2 weeks. Up to one week can be approved for a distant relative passing or 2 weeks for an immediate family member. After completing this process, please email me the grief absence documentation, and we will work together to figure out a plan for you.

### Academic Assistance

This is a university and you are expected to produce college level work. If you have any trouble with assignments or the material covered in class, please make an appointment to speak with me or your TA as soon as possible. We’d like to see you succeed in class and can work to help find solutions when you are having difficulties with the course materials! Please don’t wait until the end of the semester to seek help as this is often too late for us to turn things around!

### Limits to Confidentiality

Please be aware that class materials are generally considered confidential pursuant to the University's student record policies. However, all University employees, including instructors, cannot maintain confidentiality when it conflicts with their responsibility to report certain issues based on external legal obligations or to protect the health and safety of MSU community members and others. As the instructors, the TAs and I must report the following information to other University offices (including the Office of Inclusion and Department of Police and Public Safety) if you share it with one of us:

* Suspected child abuse/neglect, even if this maltreatment happened when you were a child,
* Allegations of sexual assault or sexual harassment when they involve MSU students, faculty, or staff, and
* Credible threats of harm to oneself or to others.

The Office of Inclusion will reach out to you via a confidential email, to see if you would like to pursue legal action and to provide you with additional university resources. You have the right to choose whether or not you would like to utilize any of these services or even respond to the university’s email. If you would like to talk about these events in a more confidential setting you are encouraged to make an appointment with the MSU Counseling Center (<https://counseling.msu.edu>).

### Drops and Adds

After 1/12, students must process adds and section changes at the teaching department and obtain approval from authorizing officers as required. The last day for dropping courses with no grade reported is 3/4. After 3/4, late drops must be initiated by the college Assistant Dean or UUD advisor.