PSY 395: Research Design and Measurement

in Psychological Research

Fall 2024

**Dr. Ted Schwaba (he/him)**

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

Class: **Monday/Wednesday, 9:10am-10:00am**, Natural Resources Building 158

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

Dr. Schwaba Drop-In Hour:Monday, 1pm-2pm, 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 an optional textbook for this course. You can order the 2nd or 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. Although the textbook is optional (there are no mandatory readings, and all exam content will be covered in lecture), many lectures follow the textbook. Reading the textbook can clarify concepts discussed in lecture and provide a complimentary sociological perspective on research methods.

### **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 (and are also preloaded on the lab computers). 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 3, 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). If you have a Chromebook, you will have to use R/R Studio on the lab computers.

### **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 Monday and Wednesday, in Natural Resources Building 158 This lecture is in-person, with no remote or hybrid option. I will loosely follow the textbook, but there will be areas of divergence to make the course more interesting.   
     
   I will not be taking attendance. But, 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 (this is to facilitate your own note taking during the 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 3. There are no labs week 1, 2 or week 14. Labs are in-person and you must 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, teach you how to use R, and give you practice writing short research reports.  
     
   **Lab attendance is mandatory.** Each lab will include a worksheet that will be turned in for completion points at the end of the class. If you do not attend the lab, you will not earn the points. There are no make-up labs for any reason. **However, only 10 of 12 labs count towards your grade, meaning you are allowed to miss 2 labs over the course of the semester.**

### **Prerequisite**

Because PSY 395 is a research methods class, it will involve applying concepts that you learned about in PSY 295 (correlations, significance testing, t-tests, etc.). We will review each of these concepts again in this class as they are re-introduced. You will not need to memorize any formulas for this course.

## Course Schedule for Fall 2024

| Week | Course Component | Topic | Readings |
| --- | --- | --- | --- |
| Week 1 | Monday Lecture 8/26 | Introduction | Syllabus |
| Wednesday Lecture 8/28 | Comparing Methods | Chapter 1 |
| **NO LAB WEEK 1** |  |  |
| Week 2 | Monday 9/2 | **No class: Labor Day** |  |
| Wednesday 9/4 | What Science Is and Isn’t | Chapter 2 |
| **NO LAB WEEK 2** |  |  |
| Week 3 | Monday 9/9 | Designing Research | Chapter 4 |
| Wednesday 9/11 | Measurement 1 | Chapter 5 |
| Lab 1 | Installing R  Research Survey |  |
| Week 4 | Monday 9/16 | Measurement 2 |  |
| Wednesday 9/18 | Sampling | Chapter 6 |
| Wednesday 9/18 | Last day to sign up for Honors Option (see page 8) |  |
| Lab 2 | Introduction to R |  |
| Week 5 | **Monday 9/23** | **Exam 1** |  |
| Wednesday 9/25 | The Replication Crisis and Open Science (fun) |  |
| Lab 3 | One-variable Stats |  |
| Week 6 | Monday 9/30 | Experiments 1 | Chapter 7 |
| Wednesday 10/2 | Experiments 2 |  |
| Lab 4 | Exam 1 review & Visualizations |  |
| Week 7 | Monday 10/7 | Causal Inference 1 |  |
| Wednesday 10/9 | TA Datablitz |  |
| Lab 5 | Mean comparisons |  |
| Week 8 | Last day to drop courses: 10/14 | | |
| Monday 10/14 | Surveys 1 | Chapter 8 |
| Wednesday 10/16 | Surveys 2 |  |
| Lab 6 | Correlations |  |
| Week 9 | Monday 10/21 | **No class: Fall Break** |  |
| Wednesday 10/23 | Qualitative Research  (Guest lecture: Dr. Burnette) | Chapter 13 |
| Lab 7 **(at home)** | Do-at-home research report |  |
| Week 10 | **Monday 10/28** | **Exam 2** |  |
| Wednesday 10/30 | Ethics 1 | Chapter 3 |
| Lab 8 | Qualitative Analysis |  |
| Week 11 | Monday 11/4 | Meta-Analysis |  |
| Wednesday 11/6 | Ethics 2 |  |
| Lab 9 | Exam 2 review & Literature reviews |  |
| Week 12 | Monday 11/11 | Longitudinal Research |  |
| Wednesday 11/13 | Archival research | Chapter 10 |
| Lab 10 | Longitudinal Analysis |  |
| Week 13 | Monday 11/18 | Genetic research |  |
| Wednesday 11/20 | Nonhuman animals (Guest lecture: Dr. Chopik) (fun) |  |
| Lab 11 | Scale construction |  |
| Week 14 | **Monday 11/25** | **Exam 3** |  |
| Wednesday 11/27 | **No Class: Thanksgiving** |  |
| NO LAB WEEK 14 |  |  |
| Week 15 | Monday 12/2 | Research as a Career |  |
| Wednesday 12/4 | Exam 3/ Final Review |  |
| Lab 12 **(at home)** | Do-at-home Mini Study |  |
|  | Friday, 12/6 | Last day to participate in SONA research (see page 8) |  |
| Finals Week | **Final Exam:** **Thursday 12/12** | Thursday, 12/12, from **7:45-9:45 AM** (Natural Resources Building 158, same location as lecture) |  |

### **Lab Schedule for Fall 2024**

Labs begin meeting during Week 3 (9/9-9/13)

* There are **no in-person labs on Weeks 9 and 15**;those labs will be assigned as homework instead and can be downloaded from D2L. Further information will be given in class.
* There are **no labs at all Week 1, 2 or 14** (Thanksgiving)
* You must attend the lab section for which you are officially registered.

| Section | Day | Time/Location | TA Info |
| --- | --- | --- | --- |
| 001 | Monday | 10:20a-12:10p  Brody 143 | **Name:** Lindsay Ackerman  **Email:** ackerm96@msu.edu  **Drop-in Hour:** Wednesday 1-2pm  **Location**: Psychology Building Room 87 |
| 002 | Monday | 4:10p-6:00p  Brody 143 | **Name:** Heewoong Park  **Email:** parkhe12@msu.edu  **Drop-in Hour:** Friday 10:30-11:30am  **Location**: Psychology Building Room 302 |
| 003 | Wednesday | 12:40p-2:30p  Brody 143 | **Name:** Heewoong Park  **Email:** parkhe12@msu.edu  **Drop-in Hour:** Friday 10:30-11:30am  **Location**: Psychology Building Room 302 |
| 004 | Tuesday | 4:10p-6:00p  Brody 143 | **Name:** Lexi LaChappa  **Email:** lachappa@msu.edu  **Drop-in Hour:** Monday 10:30-11:30am  **Location:** Psychology Building 130 |
| 005 | Thursday | 4:10p – 6:00p  Brody 143 | **Name:** Kenya Mulwa  **Email:** mulwaken@msu.edu  **Drop-in Hour:** Thursday 1-2pm  **Location:** Psychology Building Room 244b |
| 006 | Thursday | 12:40a-2:30p  Brody 143 | **Name:** Lexi LaChappa  **Email:** lachappa@msu.edu  **Drop-in Hour:** Monday 10:30-11:30am  **Location:** Psychology Building 130 |
| 007 | Wednesday | 10:20p-12:10p  Brody 143 | **Name:** Lindsay Ackerman  **Email:** ackerm96@msu.edu  **Drop-in Hour:** Wednesday 1-2pm  **Location**: Psychology Building Room 87 |
| 008 | Wednesday | 4:10p-6:00p  Brody 143 | **Name:** Kenya Mulwa  **Email:** mulwaken@msu.edu  **Drop-in Hour:** Thursday 1-2pm  **Location:** Psychology Building Room 244b |
| 009 | Tuesday | 8:00a-9:50a  Brody 143 | **Name:** Taylor Martin  **Email:** crismant@msu.edu  **Drop-in Hour:** Tuesday 9:50-10:50am  **Location:** Brody 143 |
| 010 | Thursday | 8:00a-9:50a  Brody 143 | **Name:** Taylor Martin  **Email:** crismant@msu.edu  **Drop-in Hour:** Tuesday 9:50-10:50am  **Location:** Brody 143 |

## Drop-In Office 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 Monday, 1:00pm-2:00pm, in Psychology Building 249b (on the second floor). **Note that this is the only time during the week that I will be able to meet with students.**

The Graduate TAs, who teach the labs, have their drop-in hours and locations listed on page 5. Each TA has hours on a different day of the week. If you have a **question about the labs**, or want to learn more about using R, they are the people to meet with. You can meet with any TA, not just the one who teaches your lab.

The Undergraduate TAs, who are former 395 students, hold office hours over Zoom. If you have a **question about material taught in class**, they are the people to meet with:

|  |
| --- |
| **Name:** Iza Weglarz (Monday UA)  **Email:** weglarzi@msu.edu  **Drop-in Hour:** Tuesday 10:00-11:00  **Zoom Link:** <https://msu.zoom.us/j/97594823242>  **Password:** PSY395 |
| **Name:**  Sophie Kelly (Wednesday UA)  **Email:** kellyso1@msu.edu  **Drop-in Hour:** Monday, 6:00-7:00  **Zoom Link:**  <https://msu.zoom.us/j/98080014417> **Password:** PSY395 |

Going to drop-in office 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). If you’re looking to go to grad school, and would like a letter of rec, I’d suggest attending my drop-in hours throughout the semester.

## 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 points each (20 total points) | 20% |
| SONA Research Participation (5 hours) | 1 point per hour (5 total points) | 5% |
| Total | 100 points | 100% |
| Additional Labs Attended (11+) | 1 point each (up to 2 total points) | 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  (passing cutoff for PSY majors) |
| 1.5 | 65 – 69 points |
| 1.0 | 60 – 64 points  (passing cutoff for non-PSY) |
| 0.0 | Less than 60 points |

I will not round grades up. If you are worried about your grade, you can attend additional labs to earn up to 3 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.*** 75% of your grade will come from 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), it will not count against your grade because only your top 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 plan to miss an exam for a religious observance, you must notify me via email *before* the exam that you will be missing it, and we can work together to find a makeup date. If you email me *after* the exam about a religious observance, I will not grant an extension.   
  
If you miss a second exam, you can take a makeup exam only if you have a valid, documented excuse that is sent to me (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 24 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***. 20% of your grade will come from weekly labs. 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 labs on Week 9 and 15 will be research reports for you to turn in on D2L). The TA will guide you through the worksheet, and it will serve as an outline for the class’s activities. In many of these labs, you will analyze data and report findings from the class survey, allowing you to conduct your own psychological research. This means **It is especially important to attend the first lab session** so that you can 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 (although you can attend 11 or 12 sections for one extra credit point each). 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. **Late lab worksheets will not be accepted under any circumstances; you must attend lab in person.** (This is not because I want to punish you, it is because much of the value of lab sections comes from the in-person discussion of research methods and working through problems alongside your TA and classmates).

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***SONA Research Participation***. 5% of your grade will come from participating in research. You will receive 1 point for every 1 hour of research participation, with a requirement of 5 points (5 hours). You must see the documentation on D2L for information on research participation (signing up, linking your account to this course, etc.). All research must be completed by **Friday, December 6 at 5:00pm** (note that many studies will no longer accept participants this late in the semester. You must plan ahead). Sometimes there are not many available studies, especially for students who are concurrently enrolled in other courses that require participation.

If you would like to complete an alternative assignment (10-page literature review) instead of research participation to earn this 5% of your grade, you must inform me before October 1. **After October 1, you no longer have the option of doing the alternative assignment.**

Please note that your Sona credits will not appear in the D2L gradebook until after the last day of classes. Sometime after the weekend of the last day of classes for the semester, I will upload your credits to D2L. I do not have access to your Sona credits until after that time.

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***Extra Credit.*** There are 12 lab sections scheduled throughout the semester, and you are only required to attend 10 of them. However, if you attend additional lab sections beyond these 10, each one will be counted as 1 extra point towards your grade, for a total of 2 extra credit points. This allows you to functionally earn 2% extra credit in the course.

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***Honors Option.*** The honors option for this course involves writing up an analysis of data from the course survey in the style of a short APA-style paper, with a preregistration, introduction, methods and results, and discussion section. Your analysis will incorporate more advanced methods that go beyond what is discussed in lab sections. If you would like to pursue the honors option, **please email me by 9/18.**

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**Getting to Lab from Lecture**

Unfortunately, Brody Hall 143 (where lab is held) is a 1.5 mile walk from Natural Resources Building 158 (where lecture is held). This is a problem, because lab sections 1 and 7 are scheduled to begin 20 minutes after class ends on Monday and Wednesday. I have contacted relevant higher-ups about this problem, and they have told me it is not possible to move the course location. **I am extremely sorry about this, as it is not fair to you**. To accommodate as best as possible, I will make sure to end class promptly at 10:00am so that students will be able to take the 10:08 25 Bus north to Brody Hall (see map below). These lab sections will also begin later (time TBA) to make sure that no students miss any instruction, and *all* lab sections will have reduced content to make sure that everything can be taught to all students. **I guarantee that you will not miss any lab content because of this inconvenience.** Please stay tuned as I try to figure out workarounds for this issue.

**A map of a city

Description automatically generated**

## Course Policies

### **E-mail Policy**

E-mail is the best way to get ahold 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](mailto: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 3 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! In the past, nearly all students who have failed the course have not attended lectures and have missed exams and labs. If you are worried that this course may be difficult for you, I’d strongly recommend making sure that you show up to everything – it goes a long way.

### **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 8/30, students must process adds and section changes at the psychology department undergraduate office (on the first floor of the psychology building) and obtain approval from authorizing officers as required. The last day for dropping courses with no grade reported is 10/14 (the halfway point of the semester). After 10/14, late drops must be initiated by the college Assistant Dean or UUD advisor.