

Research Design and Analysis

The University of Texas at Dallas

PSY 3392 (OH1), Fall 2025

Tuesdays from 10 – 11:15 AM in MC 2.410

In this course learn the research methods that make psychology a science to develop skills as consumers and potential producers of research and to foster scientific literacy.

"Science literacy empowers you to know when someone else is full of !#?*&%."

Neil deGrasse Tyson, 2020

Contact Information

| Instructor | Email | Office Phone |
|---|---------------------|--------------|
| Meridith Grant, Ph.D. | MGrant@UTDallas.edu | 972-883-4108 |
| Office hours | | |
| You are invited to meet with Dr. Grant, no appointment needed, to discuss course material, college life, graduate school or to simply say "hi" on Thursdays from 11:30 to 12:30 in person in GR 4.820. | | |
| Your TA(s) will post their information and availability in eLearning. | | |
| Communications Policy | | |
| Contact us by email using your UTD email account (not by phone, eLearning or Teams message). When you email, include the course name and section, as well as your first and last name. <i>We will do our very best</i> to respond to your message within 24 hours on regular workdays. Anticipate longer delays on weekends, holidays, and during busy times in the semester. | | |

General Information

Course Pre-requisites, Co-requisites, and/or Other Restrictions

You must have completed PSY 2317, PSY 3390 or STAT 1342 to take this course.

Description

Advanced techniques for research design and data analysis in the behavioral sciences, with an emphasis on identifying meaningful hypotheses, implementing research practices, and interpreting and communicating research findings.

Required Materials

1. Cozby, P. C. & Bates, S. C. (2024) *Methods in Behavioral Research* (15th ed.). McGraw Hill. Access to the [digital textbook and companion website "Connect"](#) are mandatory for success in the class. When you log in to eLearning and access your first Smartbook assignment, you will be prompted with a pay screen. Alternatively, you may purchase an access code card through the UTD bookstore (ISBN 9781266290077. The price may be different.
2. Additional required materials will be posted in eLearning.
3. You must have access to a reliable computer with Internet access to be successful in this class.

Learning Objectives and Career Competencies

Career Readiness

The National Association of Colleges and Employers (NACE) identifies eight core competencies in career readiness, detailed [here](#). Each competency is described using sample behaviors or skills you will practice when engaging with the course material, participating in class, and interacting with the professor and your fellow students.

Career readiness competencies are linked to the learning objectives in this course. By enrolling in PSY 3392, you are not just taking a course, you are acquiring skills that will prepare you for your career.

| Learning Objective | Career Competencies | Class Assessment | |
|-------------------------|---|---|---|
| Research Methods | Demonstrate scientific inquiry and critical thinking by classifying, interpreting, designing, and evaluating psychological research and scientific claims. | Interpret data with an awareness of factors that may impact outcomes. Analyze information from a variety of sources and individuals to fully understand a problem. | Exams Smartbook Assignments In-Class Practice Questions |
| Ethics | Apply ethical principles across various domains including psychological research, professional practice, academic pursuits, and related professional endeavors. | Consider problems and solutions from multiple perspectives. Keep an open mind to new ideas and ways of thinking. | All week 3 work Selected Exam Questions |

Success Towards Earning Your Desired Grade

How to Succeed in This Course

This course is designed for long-term learning—not cramming. Spread your study time across the week with **at least two separate sessions**. The material and all exams are cumulative, so falling behind early can make it hard to catch up.

Weekly Study Guides are posted in eLearning. Use them to plan your week. They include:

- Tasks to do
- Things to learn
- Terms to understand
- A brief textbook outline
- Answers to FAQs to clarify answers to the most common questions

Lecture Materials and In-class Practice Questions

- Lecture content is designed to supplement the textbook. For success in this course, you are expected to study the textbook, any additional assigned materials, and class lectures.
- PowerPoint slides and video clips presented in class will be posted online for your reference.
- **When circumstances permit**, lectures will be recorded and made available. However, the quality of recordings and transcripts is not guaranteed. Students are not permitted to make their own audio or video recordings of lectures.
- If you miss a class and the lecture was not recorded, it is your responsibility to obtain notes from a classmate. The professor or TAs will not provide lecture notes.
- You may take notes in class by hand or using a device (e.g., laptop). Turn off the sound on your device.
- In-class multiple-choice practice questions will be administered during class to reinforce learning. ***Please ensure you have a fully charged computer (preferably) with access to eLearning, or an alternative device, in order to participate.*** You must be in the room at the time the questions are administered and choose the right answer to earn credit. Engaging in practice questions from outside the classroom is considered an act of academic dishonesty. Contacting peers who are not in the classroom when the questions are opened is also considered an act of academic dishonesty.

We're Here to Help You have many chances to earn points—and we're here to support you. Don't hesitate to visit office hours or reach out by email during the semester!

| Learning Opportunities | |
|---|---|
| Research Exposure Credit Requirement | One requirement for all students enrolled in this class is completion of two research exposure credits. Details about this requirement can be found on the course eLearning page. Research exposure credits must be completed by the date found on the REC instruction sheet or your course grade will be lowered. For each credit you fail to complete, your course grade will be reduced by 1/3 of a letter grade (e.g., for 2 missing credits, a B+ will become a B-). |
| Learning Opportunities, cont. | |
| SmartBook Assignments | 11 assignments , each worth 10 points (110 total). Smartbook assignments are a way to actively reading each text chapter. The platform adapts to your learning needs and is accessible via the course website. You can keep working until the due date to earn full credit. Each assignment aligns with weekly textbook topics. |
| In-class Practice Questions | More than 50 points available in class. <ul style="list-style-type: none"> • Questions are based on lectures and assigned articles. • You will have 5 minutes. • Question will appear one at a time, without the option to backtrack • Administered at any time during class via eLearning. • You must be physically present in the classroom and select the correct answer to earn credit. • Bring a device (laptop, tablet, or phone) to participate. • No credit if absent or not in the classroom at the time—no makeups. • Completing questions from outside the classroom is considered academic dishonesty. • Grades will be released immediately. • Answers to questions will not be released online. • Want to view your work? You'll need to meet 1-on-1 with your Graduate TA. Watch eLearning for instructions and available times to meet. |
| Connect with Career Services | You have the opportunity to earn 10 points by connecting with a UTD Career Services representative. To receive credit: <ol style="list-style-type: none"> 1. Schedule a 1-on-1 appointment with a UTD career specialist for personalized career advising. This can include: career assessment interpretation; resume, cover letter, or personal statement review; LinkedIn profile development; interview preparation; and/or networking strategies. 2. Attend the appointment and engage in the advising session. 3. Request confirmation: At the time of your appointment, ask the career advisor to send a confirmation email to both your graduate TA and professor verifying that the appointment was completed. This email confirmation is required to receive credit. |
| Exams | 4 exams , totaling 190 points : Exam 1 = 40 points; Exams 2 3 and 4 = 50 points each. All exams are cumulative and cover lectures and textbook readings. Each exam also covers a research article . Articles will be tested only on the exam for the section to which they are assigned. Exam format & logistics: <ul style="list-style-type: none"> • Duration: 1 hour 15 minutes • Questions will appear all at once |

- Location: UTD Testing Center (online exams only)
- Reservation: Make a reservation early using this [link](#).
- ID Required: Bring your CometCard when you take a test. No exceptions.
- Review the Testing Center [Student Guidelines](#) prior to taking your first exam at the testing center. ARC student(s) with approved accommodations should also review the [ARC Testing Guidelines](#).
- No make-ups for missed or unscheduled exams. Testing slots can fill up quickly, so it's important to book *as soon as possible*. It is your responsibility to book early.

Getting your grades:

- Grades posted after the exam window closes.
- Answers to questions will not be released online.
- Want to view your work? You'll need to meet 1-on-1 with your Graduate TA. Watch eLearning for instructions and available times to meet.

Your Grade

Research Exposure Credits

One requirement of all students enrolled in this class is completion of two research exposure credits. Details about this requirement can be found on a separate handout on the course eLearning page. Research exposure credits must be completed by the date found on the REC instruction sheet or your course grade will be lowered. For each credit you fail to complete, your course grade will be reduced by 1/3 of a letter grade (e.g., for 2 missing credits, a B+ will become a B-).

All questions about Research Exposure Credits should go to SonaBBS@utdallas.edu.

The Rest of the Grade

There are 380+ points offered throughout the semester; however, your letter grade is calculated out of only 300 points. That means that there are **80 points of flexibility** built into your grade this semester. You choose when and how to take advantage of that flexibility.

| Learning Opportunity | Points |
|--|-------------|
| 4 Exams (Exam 1 is 40 pts; Exams 2-4 are 50 pts) | 190 |
| 11 SmartBook assignments (10 points each) | 110 |
| 1 Connect with Career Services Opportunity | 10 |
| 70+ In-class practice questions, 1 pt each | 70+ |
| Total points possible | 380+ |
| Total points used to calculate your grade | 300 |

| Letter Grade Table | |
|--------------------|---------|
| A+ | 290+ |
| A | 281-289 |
| A- | 269-280 |
| B+ | 260-268 |
| B | 248-259 |
| B- | 239-247 |
| C+ | 230-238 |
| C | 218-229 |
| C- | 209-217 |
| D+ | 200-208 |
| D | 188-199 |
| D- | 179-187 |
| F | 187- |

Earn the points you need for your desired grade during the semester, and I will do my best to support you. When final grades are posted, do not put me in an uncomfortable position by requesting that I "bump" your grade. It is unethical and unfair to other students for me to engage in such practices.

No Makeup, Late Work or Extra Credit

This course includes **over 80 points of built-in flexibility**, allowing students to miss significant components—such as an entire exam or all in-class practice questions—and still have the opportunity to earn an A+ in the course. Because of this generous buffer, the course policy is that **late work will not be accepted, due dates will not be extended, and makeup exams will not be administered**. This approach is designed to accommodate the reality of regular but unfortunate life events such as illness, childcare challenges, or emotionally difficult situations, while maintaining fairness and consistency for all students.

If serious, extenuating circumstances prevent you from working for a lengthy amount of time (e.g., more than a week of hospitalization) AND you have an academic accommodation from the OSA or a letter from the Dean of Students, please contact me to discuss your unique circumstances and we will consider alternate arrangements such as a final oral exam.

There will be no additional group, individualized or last-minute opportunities for extra credit.

Course Schedule

| Week | Date | Class Topic | Smartbook Due Dates |
|---|--------|---|------------------------|
| 1 | Aug 26 | Scientific understanding of behavior | 1:11:59 PM Sun Aug 31 |
| 2 | Sep 2 | Where to start in the research process | 2:11:59 PM Sun Sep 7 |
| 3 | Sep 9 | Ethics | 3:11:59 PM Sun Sep 14 |
| 4 | Sep 16 | Fundamental research issues <i>*Read before class: Graves et al., 2021</i> | 4:11:59 PM Sun Sep 21 |
| Take Exam 1 in the testing center between Thursday Sep 18 and Monday Sep 22 | | | |
| 5 | Sep 23 | Measurement concepts | 5:11:59 PM Sun Sep 28 |
| 6 | Sep 30 | Experimental designs & Conducting experiments | 6: 11:59 PM Sun Oct 5 |
| 7 | Oct 7 | Conducting experiments, cont. & Complex experimental designs | |
| 8 | Oct 14 | Complex experimental designs, cont. | 7:11:59 PM Sun Oct 19 |
| 9 | Oct 21 | Complex experimental designs, cont. <i>*Read before class: Davis & Goldfield, 2024</i> | |
| Take Exam 2 in the testing center between Thursday Oct 23 and Monday Oct 27 | | | |
| 10 | Oct 28 | Observational methods <i>*Read before class: Onishi et al., 2025</i> | 8:11:59 PM Sun Nov 2 |
| 11 | Nov 4 | Survey research | 9:11:59 PM Sun Nov 9 |
| 12 | Nov 11 | Single-case, quasi, and developmental research | 10:11:59 PM Sun Nov 16 |
| 13 | Nov 18 | Understanding research results-Statistical inference | 11:11:59 PM Sun Nov 23 |
| Take Exam 3 in the testing center between Wednesday, Nov 19 and Saturday Nov 22. | | | |
| 14 | Nov 25 | FALL BREAK | |

| | | | |
|--|-------|---|--|
| 15 | Dec 2 | Bringing it all together <i>*Read before class: Open Science Collaboration, 2015</i> | Career Services Opportunity due 11:59 PM Sun Dec 7 |
| 16 | Dec 9 | Exam 4 | |
| Take Exam 4 in the testing center between Thursday Dec 4 and Monday Dec 8 | | | |

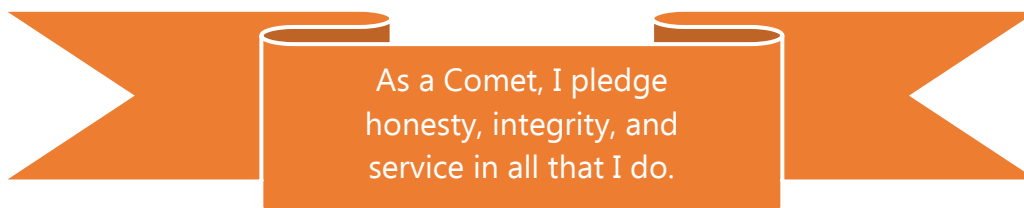
Additional Information

Contacting the Instructor and TAs

The best way to reach me is by email, using your UTD email account and sending messages to the address listed on the syllabus: MGrant@UTDallas.edu. Please do not contact me by phone or through eLearning/Teams messages. Be sure to **include the course name in the subject line and your first and last name in the body of the email message**. I strive to respond promptly, but please allow up to 24 hours for a reply, especially outside of regular working hours. If you haven't received a response within a reasonable amount of time during the workweek, feel free to send a follow-up email.

Academic Honesty

This class is designed to support the development of a community of learners who are actively engaged in the learning process. Our community is built on trust, and I trust you to do the right thing. Academic dishonesty of any kind will not be tolerated. This includes, but is not limited to, plagiarizing scholarly works, taking photos of exams or other course materials, answering in-class practice questions from outside the classroom, and re-using work submitted in another course. The consequences of academic dishonesty can be serious, ranging from failing an assignment to failing the course or being placed on academic probation. You are expected to follow UTD standards for all written work in this class. If you are unsure about the difference between paraphrasing and plagiarism, please consult the official policy and examples provided at: <http://www.utdallas.edu/student/sliffe/scholastic.html>.



Policy on the use of AI

To maintain academic integrity while using AI tools, follow these guidelines:

1. Identify & Cite
 - Clearly state when and how you used AI.
 - Include the tool name, date, and your prompt.
 - Follow APA citation format.
2. Be Transparent
 - Add an “AI Acknowledgment” section at the end of your work.
 - In your own words, explain:
 - How you used AI
 - What prompts you used

- How you revised the output
 - What you learned
3. Use Responsibly
 - You are responsible for ensuring AI content is accurate, legal, and properly cited.
 - Cross-check facts with credible sources.
 4. Detection & Compliance
- Submissions may be checked with AI detection tools.

Managing Life Crisis and Finding Support

If you encounter an unexpected crisis during the semester—such as difficulties securing food or housing, mental health concerns, managing a financial emergency, or dealing with a family crisis—I strongly encourage you to contact the Graduation Help Desk, either for yourself or on behalf of a peer in need of support. If you feel uncomfortable reaching out on your own, please know that I can submit a referral for you. To learn more about the Graduation Help Desk and the resources they offer, please visit their website: <https://oue.utdallas.edu/special-programs/graduation-help-desk>.

Basic needs support

The UT Dallas Basic Needs Resource Center (BNRC) connects students with both on- and off-campus resources to support needs such as housing and food insecurity, clothing donations, pregnancy and parenting support, and short-term emergency aid. One of their services, Temoc’s Closet, provides free clothing and menstrual products. If you need food, the UT Dallas Comet Cupboard is a food and basic needs pantry that all students have free access to.

Support from eLearning

Notify eLearning tech support by email at assist@utdallas.edu or call the UT Dallas Computer Help Desk at 972-883-2911 if you have technical problems.

Undergraduate Teaching Internships

If you decide this course was worthwhile, you wish to support future students working to learn in this class, and you have done well (an A is great, but a B+ can sometimes be okay too), consider applying for a position as an undergraduate teaching assistant. The experience is listed on your transcript 1 to 3-credit course. Reach out to Dr. Grant if you are interested.

Recordings

Unless a student has received prior approval from the Office of Student AccessAbility and discussed their learning needs with me, recording any part of this course is strictly prohibited. Recordings may not be published, reproduced, shared with individuals outside the class, or uploaded to external platforms, except as required to implement an approved accommodation. If the instructor or any UTD school, department, or office intends to use the recordings for any other purpose, the consent of any identifiable students must be obtained unless otherwise permitted by law. Failure to comply with these requirements constitutes a violation of the [Student Code of Conduct](#).

Class Materials

The instructor may provide class materials that will be made available to all students registered for this class as they are intended to supplement the classroom experience. These materials may be downloaded during the course; however, these materials are for registered students' use only. Classroom materials may not be reproduced or shared with those not in class or uploaded to other online environments except to

implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the [Student Code of Conduct](#).

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus. Please go to [UT Dallas Syllabus Policies](#) webpage for these policies.

This syllabus is subject to change at the discretion of the professor.