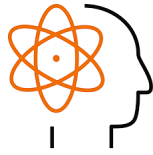


PSY301 SCIENTIFIC THINKING

Course Syllabus (CRN: [17008](#))



TR 10:00 - 11:20 AM

Living Learning Center South 101,
University of Oregon

COURSE DESCRIPTION

Psychology is the scientific study of the mind and behavior, but what does it mean to study something *scientifically*? In this course, you will learn how psychologists measure constructs, validate their measures, design studies, select representative samples, follow ethical principles, collect data, make inferences about people from that data, and critically evaluate those inferences. You will learn to “follow the data” when people make claims about the human mind and behavior, wherever the data leads, and gain a set of skills to do that more wisely and rigorously, whether you are reading media accounts of research, reading peer-reviewed journal articles, or conducting scientific research yourself. By the end of the course, you will be able to read scientific research more fluently and critically, design your own studies more thoughtfully, and think more scientifically about questions related to the human mind and behavior. These are skills that are invaluable whether you wish to pursue a career in research or clinical psychology, another scientific field, or simply want to be a more informed consumer of research in everyday life.

OFFICE HOURS

Instructor

Sarah Dimakis, Ph.D. (“Sarah”)

sdimakis@uoregon.edu

WR 1:30 – 3:30 PM, or by appointment

Straub 437

Graduate Teaching Fellow

Griffin Kreit

gkreit@uoregon.edu

M 12:30 – 2:30 PM

Straub 439

Graduate Teaching Fellow

Lily Wang

xinywang@uoregon.edu

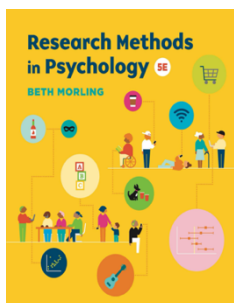
T 3:00 – 5:00 PM

Zoom (link on Canvas)

CONTACTING US

Please don’t hesitate to contact us if you have any questions or concerns! When you e-mail us, please add PSY301 in the subject line (e.g., “PSY301 exam question”). I teach three classes per term, so this really helps me keep things organized and answer your question quickly. Each student has been assigned a GTF for this course, so you know exactly who to contact when you need assistance. You can find your assigned GTF by checking the “office hours” page on Canvas. However, if your GTF’s office hours don’t fit in your schedule, you’re welcome to drop by on any office hours that do! When you e-mail us, you can expect to receive a response within 2 business days, typically earlier. If we do not respond to your email within 2 business days, please resend it because we may have not received it.

COURSE MATERIALS



The course textbook is Beth Morling’s *Research Methods in Psychology*, 5th edition, although earlier editions are *perfectly acceptable*. All other readings or supplementary videos have been uploaded to Canvas. To get the most from lecture, I recommend reading the assigned readings *prior to the class they are associated with*. This course uses **iClicker for attendance and in-class polling**. You can use either an iClicker remote or download the [iClicker app](#) on your mobile device or computer to participate. Using the app or a used remote may require you to purchase a subscription to iClicker if you don’t currently have one. However, you’re welcome to opt out of using iClicker by signing a paper up front before or after each class. This paper can also be signed any day you forget to bring your iClicker to class to record your attendance.



COURSE OBJECTIVES

This course will help you develop skills that are valuable beyond university, such as introspection, critical thinking, and effective communication. You will also be working to improve skills that are necessary to be a consumer and/or producer of research, like reading about, critically evaluating, and communicating about scientific findings. Mainly, you will learn how to (1) think like a scientist who follows data and evidence, reducing your need to rely on the claims that others make about psychology research, (2) seek out psychology research that interests you and be able to identify the scientist(s)'s research questions, hypotheses, research design, evidence, and conclusions (3) critically evaluate the inferences that researchers (and the media or artificial intelligence) draw from scientific studies, and finally (4) communicate about psychological research, including the methodological and ethical issues currently plaguing the field.

ESTIMATED STUDENT WORKLOAD

Upon completion of this course, you will earn 4 credits toward your degree. A four-credit course from the University of Oregon is equivalent to 120 hours of work across the term, or 12 hours per week for 10 weeks. You will spend about 30 hours in class (3 hours a week), about 40 hours reading or watching supplemental material (4 hours a week), and the remaining 50 hours (about 5 hours per week) working on weekly assignments (i.e., homework, research critiques, and studying for exams).

COURSE MODALITY

This is an in-person course with lecture integrated with instructor-led discussions. Unlike asynchronous online/ASYNCH WEB courses, we will meet during scheduled class meeting times in *Living Learning Center South 101*, which is located on 15th Ave between Straub and Hayward Field. I will accommodate absences as described in the Participation section below. If you need additional flexibility, UO encourages you to consider ASYNCH WEB courses. If you need accommodation related to a medical or other disability, you can request those by working with the Accessible Education Center.

ASSIGNMENTS & GRADING

Your learning will be assessed through multiple choice and free-response exams (45% of your grade), research homework assignments (30% of your grade), research critiques (20%), and participation in in-class polls (5% of your grade).

Assignment	Weight
Exams (x3)	45%
Homework (x3)	30%
Research Critiques (x2)	20%
iClicker Participation	5%

The following grid provides the letter grade associated with each percent. If you are within .5% of a grade category, your grade will be rounded up if you have 100% in the Participation grade category. A student may be assigned an "A+" for a final grade if they demonstrate exemplary understanding of the course material across all assessments (> 97% on all four grade categories).

A 93-100%	B 83-86.99%	C 73-76.99%	D 63-66.99%
A- 90-92.99%	B- 80-82.99%	C- 70-72.99%	D- 60-62.99%
B+ 87-89.99%	C+ 77-79.99%	D+ 67-69.99%	F 59.99% or below

EXAMS

There will be three exams, each covering material since the last exam. Each exam has 30 multiple choice questions and five short answer questions that may ask you to interpret data, apply course concepts to examples, or generate examples based on a theory or model. You may bring a 3" by 5" notecard with handwritten or typed notes to use during the exam (front and back), food/ drink (try not to spill it on your exam though), and headphones if you want to listen to music or sounds (e.g., white or brown noise, café background noise, ocean sounds). A study guide will be posted at least one week before each exam, which will contain **all topics** that could be on the exam. There may be topics covered only in readings or videos (not in class), but those topics will be clearly specified on the study guide. Notecards will be provided in class the week before each exam, or you are welcome to use your own. To review a graded exam, please notify the instructor or your GTF at least **two days prior** to the office hours when you plan to review it so that we can pull your exam from the stack. Some students prefer to go over each incorrect answer, while others like to go over their exam quietly and then ask questions when applicable. Please let us know which you prefer so that we can best help you!

HOMEWORK ASSIGNMENTS

You will complete three homework assignments on Canvas, designed to help you apply the concepts you are learning in class to real psychology journal articles. These guided exercises will, for instance, show you how to locate key information in an empirical journal article and ask you to critique different decisions that the researcher has made (e.g., measurement, sample composition). All homework assignments are due on **Canvas by 11:59pm** on the Sunday the week they are assigned.

RESEARCH CRITIQUES

You will write two brief research critiques (approximately two pages double-spaced each). For each critique, you will choose a psychology empirical journal article from a list of articles and then evaluate a media report (Critique #1) or an AI-generated summary (Critique #2) of the scientist(s)'s research. The two critiques are due on **Canvas by 11:59pm** on the Sunday the week they are assigned.

PARTICIPATION & ABSENCES

By the second week of class, you are required to bring iClickers to class to track your attendance and answer in-class polls. Prior to week 2, you'll need to (1) [make an iClicker student account](#), (2) [join our class "Scientific Thinking"](#) (3) and, if you have a physical remote, add your remote ID in your "profile." You can use either an iClicker remote or download the [iClicker app](#) on your mobile device or computer to participate. Your participation grade will be based on the percent of classes you participate in, not on the accuracy of your responses. **You may miss 3 classes without penalty.** Missing classes due to a religious observance, specific AEC accommodation, military deployment, or a University-sponsored event with signed documentation do not count toward your three absences. Difficult or complex situations that may impact attendance will occur for many of us during a term. This **reason-neutral** policy means that absences are available both for students who *do* want to reach out about their experiences and students who *do not*. If you are feeling ill, please stay home and use one of your three absences. I made the participation policy with this in mind, so please use your absences with care, so they're there for you if you need them.

CURIOUS ABOUT GRADUATE SCHOOL IN PSYCHOLOGY?

Please don't hesitate to come to office hours if you'd like to talk to me about graduate school in psychology. I am a recent (Summer 2024) graduate of UO's PhD program in Social and Personality Psychology and am always happy to share my experience. I can't speak too much to graduate school in mental health fields (more so to research psychology), but I do know the basics and can connect you with resources.

LATE WORK & MAKE-UP EXAMS

To make it easy to remember, assignments in this course are always due on **Sundays at 11:59pm**. In the case that you fall ill or otherwise cannot complete your work on time, I have built flexibility into the course in the following ways:

- All students have one free, no-questions-asked extension to turn in an assignment late **for any reason**, no questions asked. If you wish to use your extension, *comment on the assignment "I am using my one free extension"* when you submit it to Canvas. No need to e-mail me that you're using your extension unless you can't find a place to comment!
- If an assignment is turned in **more than 24 hours** after the due date, the assignment will be marked off 5% (max score is now 95%). If 48 hours has passed, the assignment will be marked off 10% (max score is now 90%). Anything after 72 hours will receive the max late penalty of 15% off (max score is now 85%).
- If you need to miss an exam, you can sign up to take a make-up exam via the link on Canvas. Please only sign up for one *if you really need one (e.g., illness, family emergency)*, as spots are limited and first come/first serve!

ACCESS AND ACCOMMODATIONS

The University of Oregon and I are dedicated to fostering inclusive, equitable, and accessible learning environments for all students. The Accessible Education Center (AEC) assists students with disabilities in reducing barriers in the educational experience. You may be eligible for accommodations for a variety of disabilities – apparent disabilities, such as a mobility or physical disability, or non apparent disabilities, such as chronic illnesses or psychological disabilities. If you have or think you have a disability and experience academic barriers, please contact the Accessible Education Center (Location: 360 Oregon Hall; 541-346-1155; uoaec@uoregon.edu) to discuss appropriate accommodations or support. The details of your disability will be kept confidential with the AEC and you are not expected to share this information with others. However, I invite you to discuss any approved accommodations or access needs at any time with me.

ACCOMMODATIONS FOR RELIGIOUS OBSERVANCES

The University of Oregon respects the right of all students to observe their religious holidays, and will make reasonable accommodations, upon request, for these observances. If you need to be absent from a class period this term because of a religious obligation or observance, please fill out the Student Religious [Accommodation Request form](#) and send it to me within the first weeks of the course so we can make arrangements in advance.

CLASSROOM COMMUNITY EXPECTATIONS

It's imperative to a healthy learning environment that we treat each other with *respect* and commit to learning from each other. This requires us to (1) refrain from passing judgment on others (and ourselves) for making mistakes or not yet knowing something, (2) be cognizant of how much we are speaking and adjust accordingly to allow the class to hear from different perspectives, and (3) when applicable, disagree with others by providing empirical evidence rather than attacking their character. Continued enrollment in the course indicates agreement that you will enthusiastically abide by these guidelines.

ARTIFICIAL INTELLIGENCE USE

You are permitted (and encouraged) to use AI tools (e.g., ChatGPT, Grammarly) to assist with studying for an exam, idea generation, or refining your writing. However, keep in mind that AI can and does frequently provide inaccurate or overly simplistic responses, and you are responsible for the accuracy and quality of the work that you submit. If you choose to use these tools, then **they must not prevent you from achieving the learning goals of the course**. Relying on AI to think for you, such as copying an answer directly from ChatGPT and submitting it as your own (especially without actually reading or revising the response!), will hinder your learning and therefore is considered a violation of the academic integrity policy for this course.

ACADEMIC INTEGRITY

Any form of academic dishonesty, including getting outside help on assignments, plagiarizing of any kind, improper use of AI (as outlined in the policy above), or lying to the instructor or a GTF will not be tolerated in this class. You are permitted (and encouraged) to work and study with other students on class assignments, but the work you submit *must be your own* and therefore should not be a direct copy of another student's work. Please complete any assignments labeled "quiz" or "exam" completely on your own. If you have questions about what is considered academic dishonesty for this course, or if you are struggling with your coursework to the point that you feel you have no choice but to violate our academic integrity policy, please reach out to the instructor, the AEC, and/ or the dean of students. If I detect any academic dishonesty, I will follow the procedure to handle misconduct as outlined by the University, meaning that instances of suspected cheating or plagiarizing will be reported to the University.

YOUR WELLBEING

During your college experience, you may feel overwhelmed or stressed, experience anxiety or depression, struggle with relationships, or just need help navigating challenges in your life. If you're facing such challenges, you don't need to handle them on your own--there's help and support on campus. Getting help is a courageous thing to do—for yourself and those you care about. [University Health Services](#) helps students cope with difficult emotions and life stressors. If you need general resources on coping with stress or want to talk with another student who has been in the same place as you, visit the Duck Nest (located in the EMU on the ground floor) and get help from one of the specially trained Peer Wellness Advocates. University Counseling Services (UCS) has a team of dedicated staff members to support you with your concerns, many of whom can provide identity-based support. All clinical services are free and confidential. Find out more at counseling.uoregon.edu or by calling 541-346-3227 (anytime UCS is closed, the After-Hours Support and Crisis Line is available by calling this same number).

BASIC NEEDS

Being able to meet your basic needs is foundational to your success as a student. If you are having difficulty affording food, don't have a stable, safe place to live, or are struggling to meet another need, visit the [UO Basic Needs Resource Page](#) for information on how to get support. They have information food, housing, healthcare, childcare, transportation, technology, finances (including emergency funds), and legal support. If your need is urgent, please contact the Care and Advocacy Program by calling 541-346-3216, filling out the [Community Care and Support Form](#), or by [scheduling an appointment](#) with an advocate.

ACADEMIC DISRUPTION DUE TO CAMPUS EMERGENCY

In the event of a campus emergency that disrupts academic activities, course requirements, deadlines, and grading percentages are subject to change. Information about changes in this course will be communicated as soon as possible by email, and on Canvas. If we are not able to meet face-to-face, students should immediately log onto Canvas and read any announcements and/or access alternative assignments. Students are also expected to continue coursework as outlined in this syllabus or other instructions on Canvas.

INCLEMENT WEATHER

It is generally expected that class will meet unless the University is officially closed for inclement weather. If it becomes necessary to cancel class while the University remains open, this will be announced on Canvas and by email. Updates on inclement weather and closure are also communicated as described on the [Inclement Weather Webpage](#).

REPORTING OBLIGATIONS

I am a designated reporter. For information about my reporting obligations as an employee, please see [Employee Reporting Obligations](#) on the Office of Investigations and Civil Rights Compliance (OICRC) website. Students experiencing sex- or gender-based discrimination, harassment or violence should call the 24-7 hotline 541-346-SAFE [7244] or visit safe.uoregon.edu for help. Students experiencing all forms of prohibited discrimination or harassment may contact the Dean of Students Office at 541-346-3216 or the nonconfidential Title IX Coordinator/OICRC at 541-346-3123 to request information and resources. Students are not required to participate in an investigation to receive support, including requesting academic supportive measures. Additional resources are available at <https://investigations.uoregon.edu/how-get-support>. I am also a mandatory reporter of child abuse. Please find more information at [Mandatory Reporting of Child Abuse and Neglect](#).

PSY301 SCIENTIFIC THINKING

Fall 2025 Course Schedule

Week	Date	Topic	READING	DUE
1	T Sep. 30	Thinking like a scientist	Syllabus	Register your iClicker
	R Oct. 2	Pseudoscience	Morling Ch. 1-2; Oreskes (2014)	
	S Oct. 5			
2	T Oct. 7	Variables and claims	Morling Ch. 3 (pp. 55 – 67)	HW 1
	R Oct. 9	A framework for evaluating scientific claims	Morling Ch. 3 (pp. 68 – 85)	
	S Oct. 12			
3	T Oct. 14	A history of ethical violations in scientific research	Morling Ch. 4 (pp. 89 – 93); Judo (2013)	
	R Oct. 16	Modern guidelines for ethical research	Morling Ch. 4 (pp. 94 – 115)	
	S Oct. 19			
4	T Oct. 21	EXAM 1		
	R Oct. 23	Collecting representative samples	Morling Ch. 7; Pew Research (2017)	
	S Oct. 26			
5	T Oct. 28	Developing reliable and valid measures	Morling Ch. 5	Critique 1
	R Oct. 30	Self-report and observational methods	Morling Ch. 6	
	S Nov. 2			
6	T Nov. 4	Correlational studies	Morling Ch. 8; Vocativ (2015)	HW 2
	R Nov. 6	Mediation, moderation, and third variables	Morling Ch. 9	
	S Nov. 9			
7	T Nov. 11	NO CLASS (Veteran's Day)		
	R Nov. 13	EXAM 2		
	S Nov. 16			
8	T Nov. 18	Experiments	Morling Ch. 10; Ted-Ed (2016)	HW 3
	R Nov. 20	Threats to internal validity	Morling Ch. 11	
	S Nov. 23			
9	T Nov. 25	Quasi-experiments	Morling Ch. 13	Critique 2
	R Nov. 27	NO CLASS (Thanksgiving Day)		
	S Nov. 30			
10	T Dec. 2	The replication crisis	Morling Ch. 14 (pp. 431 – 440); Veritasium (2016)	
	R Dec. 4	The credibility revolution	Morling Ch. 14 (pp. 441 – 458)	
	S Dec. 7			
Finals	T Dec. 9 AT 8:00 AM			EXAM 3