

Scientific Thinking in Psychology (PSY 301)

Summer 2017, University of Oregon

Location: 128 CHI

10:00-11:50am

Monday-Thursday



Course Syllabus

Summer Session I (Four Weeks of June 26 - July 21)

Instructors:

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Lecture Weeks 1 & 3

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Lecture Weeks 2 & 4

***Note: this class has two instructors**

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SCHEDULE OF READINGS

Week	Date	Topic	Reading To Do Before Class	In-Class Activity
1	M 6/26	Course Overview, Thinking Like a Scientist	Ch. 1	Register iClicker
1	T 6/27	Why Do Research?	Ch. 2 Roediger & Gallo	FaceBook Activity
1	W 6/28	Overall Framework: Three Claims, Four Validities	Ch. 3 WaPo Rich People	Activity (#1)
1	R 6/29	Measurement and Reliability	Ch. 5 Iacoboni et al.	Using Databases Quiz 1
2	M 7/3	Research Reading and Writing	Ch. 6	Writing Activity
2	T 7/4	NO SCHOOL		Fireworks
2	W 7/5	Surveys, Observations	Ch. 7	
2	R 7/6	Bivariate and Multivariate Correlation	Ch. 8 & 9	Quiz 2
3	M 7/10	Experimental Designs	Ch. 10	
3	T 7/11	Confounds and Other Problems	Ch. 11	Activity (#4)
3	W 7/12	Complex Designs, Factorial Variations	Ch. 12	Activity (#5) Victim Activity
3	R 7/13	Quasi-Experimental Designs, Field Studies	Ch. 13 Cialdini (2009)	Quiz Field Study Activity
4	M 7/17	Replicability and Generalization	John Oliver Segment	
4	T 7/18	Sampling & Ethics	Ch. 4	
4	W 7/19	Review for Exam		Review
4	F 7/20	Writing day		Writing

ORIENTATION TO COURSE MINDSET

"Follow the data" is a core principle in all sciences. In this course, you will learn how to "follow the data" to make sense of human behavior and think like a psychologist. You will acquire the fundamentals of how to evaluate new knowledge about human behavior by carefully considering the properties of data collected from human beings. We will consider all aspects of an empirical endeavor, from formulating a testable scientific hypothesis, to collecting relevant and valid data, to analyzing and communicating these data, to asking what's next. Making sense of how and why people feel, think and act the way they do is something we all do everyday -- in this course, we will learn how to give ourselves the best shot at making conclusions that are true. Whether we read about others' discoveries or make our own, we should follow the data.

PSY 301 meets the criteria of a Group-Satisfying Science (SC) course by introducing you to the fundamental methods that are used in psychological science and demonstrating the way knowledge is created in the field. The course emphasizes the critical thinking skills that are essential for informative scientific endeavors. The course addresses upper division science group criteria by encouraging the specific application of general scientific principles and skills; for example, by requiring you to evaluate claims about human behavior that appear in scientific articles as well as in the media. The evaluation methods used in this course will measure a high level of understanding by expecting you to continually practice and apply sophisticated empirical thinking skills.

This course is the first course in the PSY 301-303 sequence for psychology majors. Majors will be building critical thinking skills and an understanding of how knowledge is generated in psychological research in preparation for acquiring data analysis skills in PSY 302. In PSY 303 you will be using the skills you gained in PSY 301 and PSY 302 to design, implement, analyze, draw conclusions from, write up, and present scientific research in psychology.

LEARNING OUTCOMES

You will develop many skills in this course. By the end of this course you should be able to:

- ♦ Think. Think like a scientist when you read science headlines – you will become a sharper consumer of scientific discoveries. Follow the data by searching for evidence, rather than just accepting claims you encounter.
- ♦ Find. Find key ideas and evidence in scientific literature and media reports. Identify research questions, hypotheses, research design, and evidence in scientific articles and news articles.
- ♦ Show. Show how evidence does or does not support an interesting hypothesis about human behavior. Critically evaluate research designs and the quality of evidence presented in scientific articles.
- ♦ Tell. Communicate clearly and effectively about psychological research, including methodological and ethical issues in psychology, based on an understanding of both the strengths and limitations of empirical evidence.

COURSE MATERIALS

♦ **Textbook:** Morling, B. (2015). *Research Methods in Psychology: Evaluating a World of Information* (2nd ed.). New York: Norton. The textbook has a website with supplemental materials that may be helpful for your studying:
<http://wwnorton.com/college/psych/research-methods-in-psychology/>

♦ **PDF files on Canvas:** Additional readings and materials will be posted on our Canvas site. See reading list at the end of the syllabus for full references.

♦ **iClicker:** If you do not own one already, you will need to purchase an iClicker for use in class. It will be used to track attendance and to do regular learning assessments.

ASSIGNMENTS

Assignment	Detail	Grade %
Participation/Attendance	iClicker Questions,	15%
In-Class Activities	Activity Assignments	10%
Quizzes	Three of them (8.33% each)	25%
Final Exam	Cumulative but Short	10%
Paper P2	Whole paper, critical review	40%
Total		100%

ASSIGNMENT DETAILS

Final Paper

Please see separate assignment handout available on Canvas with further instructions.
Due Sunday, July 23rd.

Reading Assignments

You should complete the assigned reading *before* coming to class. The textbook is accessible and engaging. Although the reading load will be relatively demanding, it should be fun and rewarding to do. Material from the readings will be on quizzes and the final exam, and you will also apply principles from the readings to your activity assignments.

Attendance/Participation

You will be asked to participate in class exercises using your iClicker to get credit for each day you attend lecture. While you will have some free “miss” days/points, you shouldn’t use them unless absolutely necessary; if you skip class, you will miss important information. **Important note on iClickers: You are required to have an iClicker and register it on Canvas during the first day or two of class, or you may begin to lose attendance points.**

In-Class Activity Assignments

These are a fun way to work through the material as we go, and also serve to break up the monotony of lecture. You will be expected to build your skills consistently throughout the term. In that spirit, the first few activity assignments will be ungraded (or “mock” graded -- everyone gets full points), and we will go through the rubric together.

These assignments are designed to help students learn to actively grapple with the empirical process – they are hands-on exercises that involve critically evaluating empirical claims and connecting these claims to data. You will receive specific written instructions for each assignment. Your best bet is to attend lectures every week as this will help you build skills with your instructor and fellow student colleagues. These activities are meant to be fun and engaging, and a little challenging.

Quizzes

There will be a small number of in-class quizzes throughout the term. Quizzes will consist of conceptual and applied multiple-choice questions and one or two short-answer questions, similar to the exercises we work on in class. Quizzes will cover all material from class and the readings since the previous quiz.

Final Exam

The final exam will be cumulative but short. It will cover the entirety of material that was presented in class and the readings (but will focus on big, important points). It will likely take the form of 25-30 multiple-choice questions. **This final exam will be hosted on Canvas and is tentatively scheduled for Wednesday, July 19th.**

Grades

Grades will be distributed as follows:

A+ 97-100%, B+ 87-89%, C+ 77-79%, D+ 67-69%, A 93-96%, B 83-86%, C 73-76%, D 63-66% , A- 90-92%, B- 80-82%, C- 70-72%, D- 60-62%, F 0-59%.

Please see the psychology department guidelines for a description of the type of achievement that each grade signifies:

<http://psychology.uoregon.edu/courses/department-grading-standards/>

COURSE EXPECTATIONS

Class attendance is essential to your success in this course. Attendance will be tracked using iClickers. Class sessions will focus on developing your skills as consumers of psychological research, but they will also provide you with tools necessary for being producers of research. This course promotes active learning through discussion, in- class exercises and activity assignments. When in class, you should stay engaged with the material rather than just going through the motions. Do the in-class exercises. Ask questions. Take notes. Go to office hours.

Come to class **prepared**. Read the assigned readings prior to class, think about what you read, and bring questions if you have them. You will not do well on quizzes and assignments if you do not keep up with the reading.

STUDENT WORKLOAD

When you complete this course, you will earn 4 credits toward your degree. Four credits is the equivalent of 120 hours of work across the term, or 30 hours per week for 4 weeks. You will spend about 8 hours in class each week. The other 22 hours will be spent doing a combination of the following: completing readings (about 1-2 hours per class), working on assignments (most importantly the paper, which should take up the bulk of your outside-of-class time), and studying for quizzes and the final exam. The workload will be relatively steady throughout the term, as we build skills through regular assignments and consolidate knowledge through regular quizzes and assignments.

SPECIAL ACCOMMODATIONS

Accessible Education Center (AEC)

If you have a documented disability and anticipate needing accommodations in this course, please notify me as soon as possible. Also, please request that a counselor at the Accessible Education Center (uoaec@uoregon.edu, 541-346-1155) send a letter verifying the type of accommodation that is appropriate. For a list of resources provided by the Accessible Education Center, please see <http://aec.uoregon.edu>.

Students for Whom English is a Second Language

If you are a non-native English speaker and think you may have trouble in this course due to language difficulties, please see me as soon as possible to make any necessary special arrangements.

ACADEMIC INTEGRITY

We take academic integrity seriously. **All work submitted in this course must be your own.** Cheating includes providing or accepting information on an exam or assignment, or allowing someone else to copy your work. In addition, lying to try to get points (e.g., lying about having turned in an assignment on time) is considered academic dishonesty and will be treated as cheating. Plagiarism means copying someone's written work without proper citation (this includes your classmate's work, scholarly articles, Wikipedia, or other websites).

All instances of cheating and plagiarism will have serious consequences. You will receive a zero on the assignment and be reported to UO's student conduct coordinator. If the offense is serious, you will receive an F in the course.

Simply put: Don't cheat and don't plagiarize. You will be mad at me, and (hopefully) disappointed in yourself. It's not worth it. If you have any questions about what constitutes academic dishonesty, please ask me.

For more information, see the UO website regarding academic honesty at:

<http://uodos.uoregon.edu/StudentConductandCommunityStandards/AcademicMisconduct.aspx>

CLASSROOM ETIQUETTE

As a courtesy to your instructor and to your fellow classmates, please arrive on time for class and stay for the duration of the class period. Getting up in the middle of class is very disruptive. Please turn off cell phones and any electronic devices that might be distracting to others at the beginning of class. Treat your fellow students and your instructor with respect.