Scientific Thinking in Psychology (PSY 301)

Course Syllabus
Summer 2020, University of Oregon
Location: Remote
12:00-1:50pm PST
Monday & Wednesday

Summer Sessions II-III
Eight Weeks from July 20 – September 13
This class has two instructors

Instructors:
Tamara Niella
tniella@uoregon.edu
Office: Straub
Office Hours: by Appointment

Alex Garinther
agarinthe@uoregon.edu
Office: Straub 468
Office Hours by Appointment

Communication: You can email either one of your instructors.
Tamara is point person for weeks 1-4 of the class, and Alex weeks 4-8.
Please try to direct your email to the appropriate instructor, but it is also OK to copy both
of us on an email if you are unsure. On every of your emails, please start the subject
with "PSY301-SU2020" that way it will be easier for us to find your emails and don’t miss
any.

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 some of the foundational
principles of how you can apply reasoning to empirical evidence in order to draw
conclusions about people. We will discuss a range of topics that will help you do that.
The topics will include: how science is supposed to work as a way of knowing and a
social institution; how to measure things about human minds and behavior; different
ways to design informative studies; identifying important patterns in data and drawing
inferences from them; and when and how you can infer cause- and-effect from data. The
goal will be to instill in you a habit to “follow the data” when people make claims about
the human mind and behavior, and to give you a set of skills to do that more wisely and
rigorously – whether you are reading media accounts of research, reading articles, or
conducting scientific research yourself.
COURSE MATERIALS and LEARNING PLATFORMS


   Option 1: Hardcopy from the Duck Store -- they will ship it to your home
   https://www.uoduckstore.com/

   Option 2: eBook through publisher website
   https://wwnorton.com/books/9780393617542

Note: Norton has made the first 3 chapters of the eBook available as a free trial. https://digital.wwnorton.com/researchpsych3, and their website has supplemental materials that may be helpful for your studying.

♦ Canvas: Canvas will be the backbone of the class this term. Additional readings and materials will be posted here, and you are encouraged to familiarize yourself with the class using the “Welcome” module on our Canvas site. Everything you need for each week can be found in the Module for that week.

♦ Zoom: You can run Zoom on a computer, a smart phone, or by dialing a number with a telephone. If you have a device that can run the Zoom app, please install the app and use it because the app has helpful features that are not available via a web browser or phone. Please use these links to get started.

You do not need to turn your camera on when using Zoom! Please use audio or video, whichever you like, on any given day.

Installing the Zoom app:
https://service.uoregon.edu/TDClient/2030/Portal/KB/ArticleDet?ID=101628

Getting started with Zoom:
https://service.uoregon.edu/TDClient/2030/Portal/KB/ArticleDet?ID=101392

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.

ASSIGNMENTS

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Detail / Platform</th>
<th>Grade %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Participation</td>
<td>Sona System</td>
<td>10%</td>
</tr>
<tr>
<td>InQuizitives</td>
<td>WW Norton (Access through link on canvas only)</td>
<td>10%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>Canvas</td>
<td>45% - 9% each</td>
</tr>
<tr>
<td>Consumer Research Paper</td>
<td>Critical Review Paper</td>
<td>20%</td>
</tr>
<tr>
<td>Class Participation</td>
<td>Activity Assignments, Participation on Zoom, Course Surveys, Concept Checks</td>
<td>15%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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<td>100%</td>
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ASSIGNMENT DETAILS

*Note: official due dates posted on Canvas.

**Research Participation**

This class requires participation in 2 research credit hours through the SONA system (you may be familiar with this process from PSY201 or 202). Full instructions about how to use this system can be found here: https://blogs.uoregon.edu/researchwithhumanparticipants/instructions-for-participants/

If you complete these two credits, you will receive 100% of these points. If one credit, 50%. This is due by the end of the term.

**InQuizitive**

WW Norton hosts Inquisitive learning checks, and we will use these each week to track our progress. Please keep up with the schedule included in this syllabus as you complete your weekly Inquisitive exercises. **IMPORTANT: Please access InQuizitive by clicking through the links on Canvas (located within each weekly module). Do not go directly through the WW Norton website to access them, as it does not record your work that way.**
Quizzes
There will be five quizzes offered throughout the term. These will consist of conceptual and applied multiple-choice questions that are based in readings and the exercises we work on in class. Quizzes will cover either two or three chapters in the textbook.

Research Consumer Paper
A key objective of this course is to learn how to be an informed consumer of psychological research. You will gain practice critically evaluating empirical claims, connecting these claims to data, and communicating about psychological research through this paper assignment. It will require you to read and summarize empirical research, identify the claim the scientists are trying to make, and critically evaluate media coverage of that research.

Class Participation
We will meet on Zoom Monday (optional, except for Week 1) and Wednesday (required) of each week. On Wednesdays we will have Class Collaboration meetings that will consist of group discussions, mini-lectures, group assignments, and so on. Discussions, activities, and in-class assignments during this time are designed to help you grapple with the empirical process, and we will often do hands-on exercises that involve critically evaluating empirical claims and connecting these claims to data. Participating in these activities (which will often be turned in and graded for completion) is an essential part of the class. Monday meetings (except for week 1) will consist of Q&A sessions for which you can sign up for 10-min slots which you can take individually or in group. On canvas, you can find a Discussion section that is optional and free for all to use, communicate, and to coordinate slots for the Q&A sessions if you want to do questions to the instructor in groups. For more details, see the schedule below.

Readings
You should complete the assigned reading before class. The textbook is accessible and engaging, and although the reading load will be relatively demanding, it should be fun and rewarding to do. Material from the readings will be tested via quizzes and you will also apply principles from the readings to your in-class assignments.
# COURSE SCHEDULE - Schedule is subject to adaptation as the term unfolds -

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Reading</th>
<th>Meeting (Zoom)</th>
<th>Assignments</th>
<th>Due Date</th>
</tr>
</thead>
</table>
| 1    | Thinking Like a Scientist | Ch. 1 | - M 7/20: Introduction & Class Overview*  
- W 7/22: Group meeting* | - Pre-class survey  
- Discussion: Getting to know you  
- InQuizitive: How to Use InQuizitive | 07/21 11:59 pm |
|      |       |         |                | - InQuizitive: Mo.1-Ch.1 | 07/26 11:59 pm |
| 2    | Why Do Research? | Ch. 2 | - M 7/27: Q&A time (sign-up)  
- W 7/29: Class collaboration* | - InQuizitive: Mo. 2-Ch. 3  
- Class collab. Activity  
- Concept Checks  
- Quiz 1 | 08/02 11:59 pm |
| 3    | Variables, Three Claims, Four Validities | Ch. 3 | - M 8/3: Q&A time (sign-up)  
- W 8/5: Class collaboration* | - InQuizitive: Mo. 4-Ch. 6  
- Class collab. Activity  
- Concept Checks  
- Consumer Research Paper  
- Quiz 2 | 08/09 11:59 pm |
|      | Measurement and Reliability | Ch. 5 |                |             | 08/16 11:59 pm |
|      | Surveys and Observations | Ch. 6 |                |             | 08/12 11:59 pm |
| 4    | Sampling | Ch. 7 | - M 8/10: Q&A time (sign-up)  
- W 8/12: Class Collaboration* | - InQuizitive: Mo. 5-Ch. 8  
- Class collab. Activity  
- Concept Checks | 08/16 11:59 pm |
|      | Bivariate | Ch. 8 |                |             |                 |

* Attendance counts towards your Class Participation grade. Turn in assignment for full credit. If you cannot attend a meeting you can still complete the assignment and turn it in to obtain credit.

^ Attendance is optional. Sign up for a slot here: [https://appoint.ly/s/tiella/10-min](https://appoint.ly/s/tiella/10-min). You can also sign up for a slot in groups (feel free to make a comment in the discussion in canvas for Q&A sessions). If you want ensured one-on-one time, contact me for office hours.
<table>
<thead>
<tr>
<th>Correlations</th>
<th>Ch.</th>
<th>5/17: Q&amp;A time^ (sign-up)</th>
<th>Quiz 3</th>
<th>08/19 11:59 pm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental Designs</td>
<td>Ch. 10</td>
<td>M 8/17: Q&amp;A time^ (sign-up)</td>
<td>Quizzitive: Ch 10</td>
<td>08/23 11:59 pm</td>
</tr>
<tr>
<td>Correlation vs. Causation Confounds and Other Problems</td>
<td>Ch. 10</td>
<td>W 8/19: Class collaboration*</td>
<td>Quizzitive: Mo. - Ch 11</td>
<td>08/23 11:59 pm</td>
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<tr>
<td>- Ch. 11</td>
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<tr>
<td>Confounds and Other Problems</td>
<td>Ch. 11</td>
<td>M 8/24: Q&amp;A time^ (sign-up)</td>
<td>Class collab. Activity</td>
<td>08/30 11:59 pm</td>
</tr>
<tr>
<td>Review of Experiments Acknowledging Factorial Designs</td>
<td>Ch. 10-12</td>
<td>W 8/26: Class collaboration*</td>
<td>Class collab. Activity</td>
<td>08/30 11:59 pm</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Concept Checks</td>
<td></td>
</tr>
<tr>
<td>Quasi-Experimental Designs, Field Studies</td>
<td>Ch. 13</td>
<td>M 8/31: Q&amp;A time^ (sign-up)</td>
<td>Quizzitive: Mo. - Ch 13</td>
<td>09/06 11:59 pm</td>
</tr>
<tr>
<td>External Validity and Field Studies Continued</td>
<td>Caildini (2009)</td>
<td>W 9/2: Class collaboration*</td>
<td>Class collab. Activity</td>
<td>09/06 11:59 pm</td>
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<td></td>
<td></td>
<td>Concept Checks</td>
<td></td>
</tr>
<tr>
<td>Sampling &amp; Ethics</td>
<td>Ch. 4</td>
<td>M 9/7: Q&amp;A time^ (sign-up)</td>
<td>Quizzitive: Mo. - Ch 4</td>
<td>09/13 11:59 pm</td>
</tr>
<tr>
<td>Replicability and Generalization</td>
<td>Ch. 14</td>
<td>W 9/9: Class collaboration*</td>
<td>Class collab. Activity</td>
<td>09/13 11:59 pm</td>
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<td></td>
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<td>Concept Checks</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Quizzitive: Mo. - Ch 14</td>
<td>09/13 11:59 pm</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Quiz 5 (Ch. 13, 4, 14)</td>
<td>09/13 11:59 pm</td>
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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.

COURSE EXPECTATIONS

These are extraordinary times. As the university community adjusts to teaching and learning remotely in the context of the COVID-19 pandemic, course requirements, deadlines, and grading percentages are subject to change. We will be mindful of the many impacts the unfolding events related to COVID-19 may be having on you.

Although some live attendance and participation features are incorporated into the class, we will develop make-up activities which may be used by any student for any reason. During this unusual time, we encourage you to talk about what you are experiencing so we can work together to help you succeed in this course.
Grades
Grades will be distributed as follows:

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<thead>
<tr>
<th></th>
<th>A</th>
<th></th>
<th>B</th>
<th></th>
<th>C</th>
<th></th>
<th>D</th>
<th></th>
<th>F</th>
</tr>
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<tbody>
<tr>
<td>A+</td>
<td>99-100%</td>
<td></td>
<td>87-89.99%</td>
<td></td>
<td>77-79.99%</td>
<td></td>
<td>67-69.99%</td>
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<td>A</td>
<td>93-98.99%</td>
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<tr>
<td>A-</td>
<td>90-92.99%</td>
<td></td>
<td>80-82.99%</td>
<td></td>
<td>70-72.99%</td>
<td></td>
<td>60-62.99%</td>
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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/

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 papers, which should take up the bulk of your outside-of-class time), and studying for the exams. The workload will be relatively steady throughout the term, as we build skills through regular assignments and consolidate knowledge through regular exams and assignments.

Technology Help
Remote education presents us with new opportunities and new challenges. It’s OK to ask for help at any time -- even if something seemed to be working and then all of a sudden something changed. We know that most of this is new (it’s new to us, too!), that not all devices and timezones and life circumstances may work smoothly with all technologies, and that some trial-and-error will be part of the process for all of us.
REACH OUT TO UO TECH SUPPORT IF YOU NEED HELP - they know a lot!
Website: service.uoregon.edu
Live Chat: livehelp.uoregon.edu Phone: 541-346-HELP (541-346-4357)

Accessible Education Center (AEC)
If you have a documented disability and anticipate needing accommodations in this course, please notify us 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 us 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 us, and (hopefully) disappointed in yourself. It’s not worth it. If you have any questions about what constitutes academic dishonesty, please ask us.

For more information, see the UO website regarding academic honesty at: http://uoregion.uoregon.edu/StudentConductandCommunityStandards/AcademicMisconduct.aspx

**Class Etiquette or Netiquette**
Please use good “net etiquette”: identify yourself with your real name and use a subject line that clearly relates to your contribution. Write or speak in the first person when sharing your opinions and ideas but when addressing other students or discussing their ideas, use their names (e.g. "I think red is the most important term in the poem, but I also think Kate is correct that blue is important, too"). Respect the privacy of your classmates and what they share in class. Understand that we may disagree and that exposure to other people’s opinions is part of the learning experience. Good netiquette also means using humor or sarcasm carefully, remembering that non-verbal cues (such as facial expressions) are not always possible or clear in a remote context. In addition, your language should be free of profanity, appropriate for an academic context, and exhibit interest in and courtesy for others’ contributions. Be aware that typing in all capital letters indicates shouting. Certain breaches of netiquette can be considered disruptive behavior. We understand it is difficult to adjust to the changing classroom environment.

**Inclusivity**
The University of Oregon is working to create inclusive learning environments. Please notify us if there are aspects of the instruction or design of this course that result in disability-related barriers to your participation. You are also encouraged to contact the Accessible Education Center at 541-346-1155 or uoaec@uoregon.edu.
Resources and Respect

Prohibited Discrimination and Harassment Reporting
Any student who has experienced sexual assault, relationship violence, sex or gender-based bullying, stalking, and/or sexual harassment may seek resources and help at safe.uoregon.edu. To get help by phone, a student can also call either the UO’s 24-hour hotline at 541-346-7244 [SAFE], or the non-confidential Title IX Coordinator at 541-346-8136. From the SAFE website, students may also connect to Callisto, a confidential, third-party reporting site that is not a part of the university.

Students experiencing any other form of prohibited discrimination or harassment can find information at respect.uoregon.edu or aaeo.uoregon.edu or contact the non-confidential AAEO office at 541-346-3123 or the Dean of Students Office at 541-346-3216 for help.

As UO policy has different reporting requirements based on the nature of the reported harassment or discrimination, additional information about reporting requirements for discrimination or harassment unrelated to sexual assault, relationship violence, sex or gender based bullying, stalking, and/or sexual harassment is available at http://aaeo.uoregon.edu/content/discrimination-harassment(link is external)

Specific details about confidentiality of information and reporting obligations of employees can be found at https://titleix.uoregon.edu(link is external).

Mandatory Reporting of Child Abuse

UO employees, including faculty, staff, and GEs, are mandatory reporters of child abuse. This statement is to advise you that that your disclosure of information about child abuse to a UO employee may trigger the UO employee’s duty to report that information to the designated authorities. Please refer to the following links for detailed information about mandatory reporting: https://hr.uoregon.edu/policies-leaves/general-information/mandatory-reporting-child-abuse-and-neglect/presidents-message