

PSYCHOLOGY 399/389.006 (updated Sept 7)
RESEARCH IN INDUSTRIAL & ORGANIZATIONAL PSYCHOLOGY

Department of Psychology
 Fall 2017-18

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 Office Hours: **Thursday 11:30-1:30 p.m.**

Class Schedule/Location: **Tues & Thurs: 10:00 – 11:20 a.m., PAS 3026**

Background Reading: Your Psychology 291 textbook (or any textbook of research methods for the social sciences).

Reference Source: American Psychological Association. (2001). *Publication Manual of the American Psychological Association* (6th ed.). Washington, DC: Author.

Content of Course and Objectives

Two main objectives:

- (1) This course will develop your ability to critically evaluate and conduct research in I/O psychology and psychology in general. We will review the methods most commonly used in the study of I/O psychology, and will discuss several design and statistical issues of particular importance in field research. To broaden your research toolkit beyond your research courses thus far, we will introduce you to novel research methodology (survey design, mediation, moderation, and regression analysis).
- (2) You also get to be a researcher! You will develop and conduct your own research study, analyze the data, and present your research orally, create an academic poster, and write up your research, as if for publication. Therefore, you will learn a number of practical skills, which are important regardless of whether you continue on to graduate school or not.

My main hopes:

- To help you to become more discerning producers and consumers of psychological research!
- To sharpen your analytic thinking skills, and your ability to communicate orally and in writing.

Format of the Course

The course is structured as a series of discussions of prescribed readings. The readings are organized around a particular methodology or issue, and will provide a base from which relevant methodological, theoretical, and practical issues can be addressed. I have an extended reading list on hand, for those of you who are interested in pursuing specific topics in greater detail.

Note that this course is intended to build on earlier method courses you have taken, and as such we will generally discuss methodology in the context of empirical research. This has two advantages: (a) It will allow us to discuss more complex methodological issues in the context of actual research; (b) at the same time, it will expose you to a variety of research topics and theoretical issues in the field of I/O Psychology.

Course Assessment (more detail below)

| Assessment | Date | Weight |
|--------------------------------|-------------------|---------------|
| In-class Participation | All seminars | 15% |
| Discussion Leader | Twice | 15% |
| Test | November 16 | 25% |
| Project Proposal | October 17 | 3% |
| In Class Research Presentation | November 21-30 | 5% |
| Poster Fair | December 1 | 10% |
| Research Write Up | December 4 | 27% |
| Total | | 100% |
| Bonus Points | REG Participation | Up to 3% |

More Detail on Course Assessment

- 1. In-class participation: 15% of your grade.** This is an advanced undergraduate seminar, and I am keen to hear from you; therefore, you have a rare opportunity to actively participate in discussions of the material, regardless of whether or not you are a discussion leader (see below) in any particular class. The seminar has the potential to be a valuable and rewarding learning experience, but this is determined largely by you.

To prepare for each session, students should:

- READ the assigned article(s) carefully and summarize in writing the major ideas, issues, and conclusions, as they pertain to the day's topic
- REFLECT on the issues raised in the assigned reading(s), and on their implications for both future research and potential application in the workplace.
- PREPARE a few specific and insightful questions, observations, criticisms, endorsements, etc.

Students who read, reflect, and prepare for each session should have plenty to share with the class during each session. **Everyone is expected to bring forth his or her observations every class.** (see the information at the end of the syllabus for how to prepare for a seminar setting.)

There are a total of 10 seminars; each student will **lead twice once** and **participate 8 times.** **In-class participation will be assessed in two ways:**

- **CONTRIBUTIONS to the DISCUSSION:** After each session, the instructor will grade participation for that session (0-100%); grades will be averaged across the 8 sessions to yield a composite score. Guidelines for grading:

| Absent | Present but no Contribution | Limited Contribution | Satisfactory Contribution | Meaningful Contribution |
|--------|-----------------------------|----------------------|---------------------------|-------------------------|
| 0 | 25% | 50% | 75% | 100% |

- **PREPARED DISCUSSION QUESTION:** Each student will prepare and submit one meaningful discussion question prior to each seminar class. The question must be submitted to the appropriate discussion forum on LEARN by 8:30 am the morning of the session. It is recommended to do your posting completed the night before. If no question is submitted by 8:30 a.m., you will lose 25% from your participation grade for that seminar.

A word on attendance: Obviously, your in-class participation grade is affected by attendance: If you are not present in class, then you have not participated, and so would **receive a zero for that session.** If a student is absent once, I will “overlook” this (your grade will not be affected). Absence beyond once, will however adversely affect your participation grade. If you are away for medical reasons (or another emergency), please let me know (before class or the day of class), and you will need to provide the appropriate documentation consistent with UW policy (see notes from Arts Faculty below).

Use of Laptop computers: Use of laptop computers interferes with good discussion and participation. This is a small, seminar in which discussion of concepts and participation is crucial – looking at a computer screen or trying to take notes of everything as you might in a lecture course are the opposite of what you need to do in a seminar course! This is your opportunity to engage in a high-level discussion, not to be passive behind a computer. **Therefore, laptops are not permitted in this seminar course.** From past years, it is clear that students perform much better when they engage actively in the sessions.

2. **Discussion Leader: 15% of your grade.** In small groups (size will depend on class size), you will be responsible for leading discussion each session – this will involve meeting outside class time with your group mates and preparing together. Your written thoughts generated from READ, REFLECT, and PREPARE are a good base on which to build. Keep in mind that your goal is **not merely to summarize the readings.** Your chief goal is to **generate discussion based on the assumption** that everyone has READ, REFLECTED, and PREPARED for the seminar. **Achieving success as a leader means stimulating the contributions of the other participants,** not dominating the conversation yourself.

You should aim to lead the discussion for 50 minutes of the 80-minute class period; I will use the remaining time 30 minutes (either at the beginning, ending, or during the discussion) to formally review the pertinent methodological concepts of the session in greater depth.

There are many ways to accomplish leading the discussion, and you are free to be creative in your efforts. **You should first create a lesson/discussion plan. In developing your plan, you should think carefully about what your learning outcomes are, and create activities and content tailored to achieve these outcomes.** You should not merely ask a litany of relatively unrelated questions (e.g., What was the independent variable? What are the weaknesses?) You should plan to meet with me to review your plan prior to the session. **Note: When you are discussion leader, bring in an extra copy of your lesson plan for me to keep.**

We will take 5 minutes at the end of each seminar, and solicit private structured peer feedback, to help you sharpen your discussion leading skills.

Because you are reading published articles, the statistics that employed will naturally be more sophisticated than what you have been introduced to in your past statistics courses. Do not panic, we will work through in class the key statistics that are reasonable for 3rd year. I make it very clear what fundamental statistics you need to understand. We will work through new analyses conceptually (vs. mathematically) which will give you a great basis for further coursework (Psych 492 and 391).

3. **Test: 25% of your grade.** Toward the end of the term (see topic list attached), you will write an exam that will test knowledge gained throughout the preceding weeks. The exam will test your abilities in formulating appropriate research designs, interpreting data, depicting data from results, and critiquing methodology.
4. **Research Project: 27% of your grade.** Working in groups (3-4 people), a major component of the course will be to design a research study and write it up as if you were submitting it to a psychological journal (using APA formatting). We will hold four workshops through the term, which will help you to complete various aspects of the project. It is critical that all group members attend these sessions; missing any of these workshops will prevent you from contributing in a meaningful way. Consequently, missing any of these sessions will result in a deduction of 5% from your grade on the research report. If you cannot attend one of these workshops for a legitimate reason (see above re: attendance) you remain responsible for coordinating with your group members to make up lost time. **More detail on the workshops and the project in the attached document.**

You will need to meet with your group members throughout the term outside of class. The research write up is due on **Monday, Dec. 4 before 4 pm.** The **maximum** length of the write up will be 10 standard pages (12-point font, double-spaced, 1-inch margins throughout), excluding references and tables, etc. Anything beyond 10 pages of text will not be considered; and the penalty for late submissions is 5% per day. See the attached Project Guidelines for more details!

Note that, although you will develop the research proposal in groups, **ultimately you will each write up the project individually.**

5. **Project Proposal: 3% of your grade.** Your group will present your research idea in 5-10 (depending on class size) to the rest of the class for brief feedback.
6. **Research Oral Presentation: 5% of your grade.** In the last few weeks of class, you will present your initial proposal to the class (15-20 minute presentation depending on class size) and receive feedback from the instructor and other class members. You should present the theoretical background and rationale, your hypotheses, operationalizations, design and method, results, and implications. You are expected to attend these sessions even when your group is not presenting.
7. **Psych 398 Joint Research Fair: 10% of your grade.** Each group will also create a poster presentation of their research investigation that is worth 10% of your final grade. Posters will be presented together in conjunction with other sections of PSYCH398 on Friday December 1st from 2-4pm. Your team will prepare a **poster** that summarizes your project's hypothesis, method, results, and conclusions. This kind of presentation is common at professional scientific conferences. During the poster session you will be asked to evaluate four of your peers' presentations from another section, and four students from the other section will evaluate your poster. The average of these ratings will provide a grade out of 5. A teaching assistant from the other section will also evaluate your poster out of 5. Both these grades combined will produce a score out of 10. **More details about how to prepare for the poster session, and how to evaluate peer projects will be provided later in the term.**

THIS IS A MANDATORY COURSE EVENT. FAILURE TO PARTICIPATE WILL EARN A GRADE OF 0 ON THE POSTER PRESENTATION, SO MARK YOUR CALENDAR IMMEDIATELY.

8. **REG Participation Bonus:** Experiential learning is highly valued in this course, and the Department of Psychology more generally. Therefore, students can earn a bonus of 1-3% by participating in studies. Guidelines for participation, including alternative assignments, will be posted on the LEARN website (see REG Bonus Marks link).

Other Course Information

Computer and email accounts

All students should activate their UW computer accounts each term. **All faculty members are required to use UW email addresses.** For those students who wish to use alternative addresses, you must arrange for the email from your UW account to be forwarded, at your own risk.

Psychology majors should check the Psychology Undergraduate Web Site (<https://uwaterloo.ca/psychology/current-undergraduate-students>) regularly for updates (e.g., psychology course offerings for F/W/S, volunteer and/or part-time paid research positions, application deadlines for scholarships, etc.)

Additional Messages from the Faculty of Arts Council

Academic Integrity: in order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility.

Discipline: A student is expected to know what constitutes academic integrity, to avoid committing academic offenses, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offense, or who needs help in learning how to avoid offenses (e.g., plagiarism, cheating) or about “rules” for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. When misconduct has been found to have occurred, disciplinary penalties will be imposed under Policy 71 – Student Discipline. For information on categories of offenses and types of penalties, students should refer to Policy 71 - Student Discipline, <http://www.adm.uwaterloo.ca/infosec/Policies/policy71.htm>

Grievance: A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70 - Student Petitions and Grievances, Section 4, <http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm>

Appeals: A student may appeal the finding and/or penalty in a decision made under Policy 70 - Student Petitions and Grievances (other than regarding a petition) or Policy 71 - Student Discipline if a ground for an appeal can be established. Read Policy 72 - Student Appeals, <http://www.adm.uwaterloo.ca/infosec/Policies/policy72.htm>

Avoiding Academic Offences: http://arts.uwaterloo.ca/arts/ugrad/academic_responsibility.html

Other sources of information for students

Academic Integrity (Arts): <https://uwaterloo.ca/arts/ethical-behavior>

Academic Integrity Office (uWaterloo): <https://uwaterloo.ca/academic-integrity/>

Accommodation for course requirements:

Students who are requesting accommodation for course requirements (assignments, midterm tests, final exams, etc.) due to illness should do the following:

- seek medical treatment as soon as possible and obtain a completed UW Verification of Illness Form: http://www.healthservices.uwaterloo.ca/Health_Services/verification.html
- submit that form to the instructor within 48 hours.
- (preferably) inform the instructor by the due date for the course requirement that you will be unable to meet the deadline and that documentation will be forthcoming.

In the case of a missed final exam, the instructor and student will negotiate an extension for the final exam which will typically be written as soon as possible, but no later than the next offering of the course.

In the case of a missed assignment deadline or midterm test, the instructor will either:

- a) waive the course component and reweight remaining term work as he/she deems fit according to circumstances and the goals of the course, or
- b) provide an extension.

In the case of bereavement, the instructor will provide similar accommodations to those for illness. Appropriate documentation to support the request will be required.

Students who are experiencing extenuating circumstances should also inform their academic advisors regarding their personal difficulties.

Accommodation for Students with Disabilities

The AccessAbility Services office, located on the first floor of the Needles Hall extension, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the AS office at the beginning of each academic term. <https://uwaterloo.ca/disability-services/>

Counselling & Psychological Services

The Counselling & Psychological Services office at the University of Waterloo, located on the second floor of the Needles Hall extension, offers a variety of resources for those struggling with the challenges of university life, including coping skills seminars and workshops, peer support, group therapy, and clinical referral. <https://uwaterloo.ca/counselling-services/>

Student Success Office

The Student Success Office at the University of Waterloo, located on the second floor of South Campus Hall, offers tutoring, workshops, success coaching, and a variety of other resources for students looking for guidance to be successful in university. <https://uwaterloo.ca/student-success/>

Writing Centre

The Writing Centre, located on the second floor of South Campus Hall, works across all faculties to help students clarify their ideas, develop their voices, and communicate in the style appropriate to their disciplines. Writing Centre staff offer one-on-one support in planning assignments, using and documenting research, organizing papers and reports, designing presentations and e-portfolios, and revising for clarity and coherence.

You can make multiple appointments throughout the term, or drop in at either the Dana Porter or Davis Centre libraries for quick questions or feedback. Group appointments for team-based projects, presentations, and papers are also available. To book a 50-minute appointment and to see drop-in hours, visit: <https://uwaterloo.ca/writing-centre/>

WEEKLY TOPIC AND READING LIST

- Sept 7** **Overview of the Course and Introduction to I/O Psychology**
 (+ pick groups for project; select discussion leader dates; review list of key terms)
- ** Homework:** Carefully read the Syllabus, Project Guidelines, and list of key terms attached to ensure you keep pace with the coming weeks!
- Sept 12 & 14** **Theory, Constructs, and Overview of Methods**
- Tues: RB: overview of methods and methodological issues, which will set the stage for the remaining seminars.
- Judd, C. M., Smith, E. R., & Kidder, L. H. (1991). *Research methods in social relations* (6th ed.) Holt, Rinehart and Winston, Inc. Chapter 2: Examining Social Relations Research
- Sackett & Larson (1990) article. Research strategies and tactics in I/O psychology. **pp 420-428.**
- ** Homework for Thursday:** Meet with your group to discuss research interests from construct list; start learning about the constructs of interest from the literature
- Thurs:** **Workshop 1a:** Discuss group research interests (60 min); Literature review in PsychInfo (refresher).
- Sept 19 & 21** **Correlational Research 1**
- Tues: **Psychological Measurement and Construct Validity**
- Allen, N.J. & Meyer, J.P. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organization. *Journal of Occupational Psychology*, 63, 1-18.
- For interest: You can also refer to a more recent (thus more complex) paper for another example if interested: Ferris, D. L., Brown, D. J., Berry, J. W., & Lian, H. (2008). The development and validation of the Workplace Ostracism Scale. *Journal of Applied Psychology*, 93, 1348-1366.
- Thurs: **Survey Design and Analysis 1 (Introduction to Regression)**
 Folger, R. & Konovsky, M. A. (1989). Effects of procedural and distributive justice on reactions to pay raise decisions. *Academy of Management Journal*, 32, 115-130.
- ** NOTE: ROOM CHANGE – MEET IN AL208**

Sept 26 & 28**Correlational Research 2**

Tues:

Mediation in Survey Design (Regression continued)

Turnley, W. H., & Feldman, D. C. (2000). Re-examining the effects of psychological contract violations: Unmet expectations and job dissatisfaction as mediators. *Journal of organizational behavior*, 21, 25-42.

Thurs:

Moderation/Interaction in Survey (Regression continued)

Witt et al. (2002). The interactive effects of conscientiousness and agreeableness on job performance. *Journal of Applied Psychology*, 87, 164-169.

Oct 3 & 5**Correlational Research 3**

Tues:

Workshop 1b: Discuss group research interests (Your ideas should be quite far along by this point; be prepared to briefly present your working ideas to the group for feedback)

Thurs:

Moderation/Interaction in Survey Again

Spector, P. E., & Zhou, Z. E. (2014). The moderating role of gender in relationships of stressors and personality with counterproductive work behavior. *Journal of Business and Psychology*, 29, 669-681.

Oct 10 & 12**Limitations of Correlational Research and How to Improve It**

Tues:

Study break

Thurs:

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critique review of the literature and recommended remedies. *Journal of Applied Psychology*, 88, 879-903.

Oct 17 & 19**Project Proposal + Mixed Methods 1 (Experimental & Correlational)**

Tues:

Workshop 2: Project proposal formal oral presentation and turn in **1-page synopsis** (required for data analysis). See attached Project Guidelines.

Thurs:

Moderation/Interaction Again

Thau, S., Derfler-Rozin, R., Pitesa, M., Mitchell, M. S., & Pillutla, M. M. (2015). Unethical for the sake of the group: Risk of social exclusion and pro-group unethical behavior. *Journal of Applied Psychology*, 100, 98-113

Oct 24 & 26**Mixed Methods 2 (Experimental & Correlational)**

Tues: **Mediation in Survey Again**
 Allen, T.D., & Rush, M.C. (1998). The effects of organizational citizenship behavior on performance judgments: A field study and a laboratory experiment. *Journal of Applied Psychology*, 83, 247-260.

Thurs: **Workshop 3a:** Testing your hypotheses (Data Analysis 1; attendance mandatory)

Oct 31 & Nov 2

Tues: **Workshop 3b:** Testing your hypotheses (Data analysis 2; attendance mandatory)

Thurs: **Quasi-experimental design**

Schmitt & Klimoski (1991), pp 386-391. (for background)

Greenberg, J. (2006). Losing sleep over organizational injustice: Attenuating insomniac reactions to underpayment inequity with supervisory training in interactional justice. *Journal of Applied Psychology*, 91, 58-69.

Nov 7 & 9

Tues: **Workshop 4: Communicating your research (written project and poster presentation)**

- Turn in 1 page synopsis of research write up for feedback
- Some materials will be posted on LEARN to read in preparation for this Workshop.

Thurs: **Are your Findings Real? Replication; Meta Analysis**

Open Science Collaboration (2015). Estimating the reproducibility of psychological science. *Science*, 349, aac4716-1 – aac4716-8. **Focus on the summary 1 page for gist.**

Stanley, D. J., & Spence, J. R. (2014). Expectations for replications: Are yours realistic? *Perspectives on Psychological Science*, 9, 305-318., **(some of the stats are dense but read for understanding of their message re using meta analysis vs. replication)**

Example Meta-analysis (to illustrate method and its advantages), Read all: Shaw, J. C., Wild, E. & Colquitt, J. A. (2003). To justify or excuse?: A meta-analytic review of the effects of explanations. *Journal of Applied Psychology*, 88, 444-458.

Nov 14 & 16

Tues: **Q & A prep**

Thurs: **Test**

Nov 21 & 23

Tues: Presentations

Thurs: Presentations

Nov 28 & 30

Tues: Presentations; course reflections; course evaluation

Thurs: Exam answers review + open consultations for last minute questions on poster or research write up

Poster Fair, Friday December 1, 2-4 pm.

Optional course celebration at the Bombshelter Pub afterward ☺

RESEARCH WRITE UP DUE: Monday, Dec 4, 2017 (before 4:00 pm)

Discussion Dates, Topics, Names of Leaders

| | | |
|----------------|----------------------------------------------------------------|--|
| Tues, Sept 19 | Psych Measurement & Construct Validity | |
| Thurs, Sept 21 | Survey Design and Analysis 1 (intro to Regression) | |
| Tues, Sept 26 | Mediation in Survey Design (Regression continued) | |
| Thurs, Sept 28 | Moderation/Interaction in Survey Design (Regression continued) | |
| Tues, Oct 5 | Moderation/Interaction in Survey Design Again | |
| Thurs, Oct 12 | Limitations of Survey Research and How to Improve it | |
| Thurs, Oct 19 | Mixed Methods 1: Moderation/Interaction Again | |
| Tues, Oct 24 | Mixed Methods 2: Mediation in Survey Again | |
| Tues, Nov 2 | Quasi-Experimental Design | |
| Thurs, Nov 9 | Replication and Meta-Analysis | |

Research Project Groups

Terms (Key Research Concepts) you should know

(if not now, you will know them by the end of the course)

| | |
|--------------------------------------------|-------------------------------------------|
| internal validity | manipulation vs. measurement |
| threats to internal validity | interaction |
| external validity | reliability of measures |
| construct validity | -internal consistency or Cronbach's alpha |
| experiment | -test-retest |
| independent variable | discriminant validity |
| dependent variable | convergent validity |
| correlational study | Predictor variable |
| demand characteristics | Criterion/outcome variable |
| experimenter bias | continuous vs. categorical variables |
| between-subjects designs | operational definition |
| within-subject / repeated measures designs | confound |
| factorial design | error vs. bias |
| random assignment | mediator and moderator |