



## PSYCHOLOGY 270

Introduction to Research Methods and Design:  
*How to Ask and Answer Questions in Psychology*

(PSYO 270 – Section 001)  
Winter 1, 2021  
Online

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University of British Columbia, Okanagan Campus  
Monday 9:30-11:00am (asynchronous – lectures posted on Canvas)  
Wednesday 9:30-11:00am (synchronous teamwork/live supervision with co-instructors)

### INSTRUCTIONAL TEAM

Instructor: Derrick Wirtz, Ph.D. ([derrick.wirtz@ubc.ca](mailto:derrick.wirtz@ubc.ca))  
Please email Dr. Wirtz for virtual office hour appointments.

Co-Instructors/  
Team Project Leaders Jean Bottomley ([sbotts@mail.ubc.ca](mailto:sbotts@mail.ubc.ca)) – Teams 1-10  
Harpreet Jaswal ([harp78@mail.ubc.ca](mailto:harp78@mail.ubc.ca)) – Teams 11-20  
Alexa Wong ([alexa.wong@ubc.ca](mailto:alexa.wong@ubc.ca)) – Teams 21-30  
Mariam Jaber ([mariam.jaber@ubc.ca](mailto:mariam.jaber@ubc.ca)) – Teams 31-40  
Sara Tipnis ([sarah.tipnis@ubc.ca](mailto:sarah.tipnis@ubc.ca)) – Teams 41-50  
Casandra Wood ([cwood888@student.ubc.ca](mailto:cwood888@student.ubc.ca)) – Teams 51-60

*For course questions, please contact the co-instructor that matches your team number. Once assigned, your team number can be found in Canvas by clicking on Grades.*

### Overview

In this course, you will learn to ask and answer questions in psychology by getting hands-on experience designing a research project with a team. Classes will alternate between giving you the background knowledge needed to understand, critically evaluate, and perform successful research in psychological science (asynchronous Monday lectures, accessible on Canvas) and allowing you to apply those skills to the development, analysis, and presentation of a research project (Wednesday synchronous teamwork with live supervision). In other words, weekly lectures may be viewed on Canvas at your convenience, while your team project will require synchronous teamwork that can generally be completed during the Wednesday class time.

### Textbook

Price, P. C., Jhangiani, R. S., & Chiang, I. A. (2015). *Research Methods in Psychology* (2<sup>nd</sup> Canadian edition). This is a free, open-access textbook which can be viewed online or downloaded in a variety of formats. URL: <https://opentextbc.ca/researchmethods/>.



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### **Detailed Course Description and Objectives**

This course is designed to introduce you to the philosophy of science and inquiry in psychology. We will accomplish this by combining online lectures with supervised collaborative work that has an applied focus. You will complete replication studies illustrating key research designs, learn and practice concepts from lectures and course readings, and ultimately conduct your own research project. Our course objectives include:

1. Understanding research methods and design in psychological science, including the concepts of research ethics, validity and reliability, measurement, single and multiple-variable research techniques, survey design, and data analysis and interpretation.
2. Increasing familiarity with scientific writing and reporting results in APA format.
3. Proposing a research idea (specification of a testable research idea, development of testable hypotheses).
4. Development of a research study (choosing the appropriate research design to test specific hypotheses; ethical guidelines; data management).
5. Analysis and interpretation of research results.
6. Professional conference-style presentation of research.
7. Critical evaluation of research and everyday claims made about research.

### **Research Project**

Through online lectures with Dr. Wirtz and live supervision on Zoom with the co-instructors, you will receive guidance in developing a testable hypothesis and research plan. Your research project must be designed with a few specifications that are essential to making the project possible within our course structure. You have two options for your study design: (1) one independent variable, 2 levels, or (2) two independent variables, two levels each. These designs will be discussed in class, in your textbook, and you will practice each one in class. Additional study specifications (e.g., number and type of dependent variables) will be described in class. Second, your project must take no more than a few minutes for respondents (your classmates) to complete. Third, your project must conform to ethical considerations; sensitive or potentially triggering topics should be avoided – your co-instructor will provide guidance. We will do everything we can to help you examine a question that you are interested in knowing more about and producing research that will provide you with an initial answer to that question, as appropriate for an introductory course.

### **Course Requirements**

You will be evaluated based on the requirements below. The dates of exams and assignments are provided in the weekly schedule in this syllabus. All assignments and exams must be completed on time, unless prior approval has been obtained from your co-instructor.

#### **Applied Research Project (40%)**

- A major portion of your course grade depends on the completion of a class research project. Since a research project is a major undertaking, you will earn these marks one week at a time. Your research project will consist of iterative assignments (totaling 25%) that build on each other and a conference-style poster and presentation (15%). These assignments usually take place during our second class meeting each week—but please consult the daily schedule for a few exceptions. You will be working collaboratively in a research team and it is highly recommended that you use the Wednesday class time for synchronous teamwork.



The co-instructors will be available during this scheduled class time (9:30am-11:00am) for live supervision on Zoom. It should be possible to finish or complete most of the team assignments during the scheduled class time on Wednesday. Some assignments will be completed in teams, while others will be individual. Assignments will be posted on Canvas each week. To receive credit for a team assignment, you must be present for team meetings and actively participating in your team. Assignments cannot generally be made up once missed; however, you will be allowed to miss 1 individual and 1 team assignment without negatively affecting your course grade; in support of your team, you are strongly encouraged to participate in all team assignments and to remain in contact with your team if it is necessary to miss an assignment. See the Daily Schedule for each week’s team and individual assignments.

- You will make a professional academic conference **poster presentation** of your results (see Daily Schedule). As this class is being carried out online, you will record a virtual poster presentation. In addition to presenting, you will get the chance to learn about the projects conducted by other research teams in class. All team members are evaluated on their individual contribution to the final team poster. This means that although the poster represents the efforts of the entire team, you will be assessed and marked on your individual presentation of the team’s findings and on your individual contribution to the team’s poster.

Exams (60%)

There will be two closed-book midterm exams (18% each) covering class and textbook content, plus any assigned readings, and one cumulative final exam (24%). Exams are typically a combination of multiple-choice and short-answer items. The dates and coverage of these exams are indicated on the syllabus – exams take place during your regular class time. Reading the textbook will be quite helpful in achieving a good grade on the tests in addition to regular class attendance. To create a secure test-taking environment, we will utilize Respondus Lockdown Browser. When completing course exams, Respondus will limit your ability to open other windows on your computer; no audio or video recording is performed when using Respondus. You will have the opportunity to practice using Respondus prior to the first midterm exam.

GRADING

Research Project:	40%
Exam 1:	18%
Exam 2:	18%
Final Exam:	24%

UBC GRADING SCALE

90-100 = A+
85-89 = A
80-84 = A-
76-79 = B+
72-75 = B
68-71 = B-
64-67 = C+
60-63 = C
55-59 = C-
50-54 = D
00-49 = F



PSYO 270 Daily Schedule (WINTER 1, 2021)

Note: Readings come from *Research Methods in Psychology – Second Canadian Edition* (<https://opentextbc.ca/researchmethods/>). Any additional readings will be distributed through Canvas. All assignments are to be completed individually unless noted as team assignments. Individual and team assignments are due by the start of the next scheduled class session (unless otherwise noted). For example, a Wednesday assignment is due by 9am Monday; a Monday assignment is due by 9am on Wednesday.

Week 1 (September 6-10)	
MONDAY	<b>No Class</b> – Labour Day Holiday
WEDNESDAY	<u>Topic</u> : Why Do Research? <u>Reading</u> : Syllabus, Chapter 1 – The Science of Psychology <u>Individual Assignment</u> : My Research Interests
Week 2 (September 13-17)	
MONDAY	<u>Topic</u> : Getting Inspired by Research <u>Reading</u> : Chapter 2 – Getting Started in Research The <a href="#">Replication Crisis</a>
WEDNESDAY (Lab 1)	<u>Topic</u> : Teamwork & Research Collaboration; <a href="#">What Google Learned from Its Quest to Build the Perfect Team</a> <u>Team Assignment</u> : LAB 1 - Rough Project Idea  <i>Co-Instructors/Team Project Advisors Available for Live Supervision on Canvas</i>
Week 3 (September 20-24)	
MONDAY	<u>Topic</u> : How to Design an Experiment in Psychology <u>Read</u> : Chapter 6 – Experimental Research <u>Individual Assignment</u> : Replication Experiments 1 & 2
WEDNESDAY (Lab 2)	<u>Topic</u> : Guidelines for Team Experiments <u>Team Assignment</u> : LAB 2 - Refined Project Idea & Rough Materials  <i>Co-Instructors/Team Project Advisors Available for Live Supervision on Canvas</i>



Week 4 (September 27-October 1)	
MONDAY	<p><u>Topic:</u> Survey Do-s and Don'ts; Analysis of Replication Experiment 1 – <i>How Do We Know if it Worked, Part 1 (Descriptive Statistics)?</i></p> <p><u>Read:</u> Chapter 9 – Survey Research; Chapter 12 – Descriptive Stats</p> <p><u>Individual Assignment:</u> Descriptive Analysis of Replication Exp 1</p>
WEDNESDAY (Lab 3)	<p><u>Topic:</u> Second Draft of Research Materials</p> <p><u>Team Assignment:</u> LAB 3 - Second-Draft Materials</p> <p><i>Co-Instructors/Team Project Advisors Available for Live Supervision on Canvas</i></p>

Week 5 (October 4-8)	
MONDAY	<p><b>Exam 1</b> (Chapters 1, 2, 6, 9, 12, <a href="#">Replication article</a>)</p>
WEDNESDAY (Lab 4)	<p>Analysis of Replication Experiment 1 Revisited – <i>How Do We Know if it Worked, Part 2 (Inferential Statistics)</i></p> <p><u>Read:</u> Chapter 13 – Inferential Statistics</p> <p><u>Team Assignment:</u> LAB 4 - Third Draft Project Materials</p> <p><u>Individual Assignment:</u> Inferential Analysis of Replication Exp 1</p> <p><i>Co-Instructors/Team Project Advisors Available for Live Supervision on Canvas</i></p>

Week 6 (October 11-15)	
MONDAY	<p><b>No Class</b> – Thanksgiving Day Holiday</p>
WEDNESDAY (Lab 5)	<p><u>Topic:</u> Adding Another Variable: Factorial Research Designs; Intro to Replication Experiment 2 &amp; Descriptive Analysis of Factorial Research Designs</p> <p><u>Read:</u> Chapter 8 – Complex Research Designs</p> <p><u>Individual Assignment:</u> Descriptive Analysis of Replication Exp 2</p> <p><u>Team Assignment:</u> LAB 5 - Final Draft of Materials</p> <p><i>Co-Instructors/Team Project Advisors Available for Live Supervision on Canvas</i></p>



Week 7 (October 18-22)	
MONDAY	<p><u>Topic:</u> The Ethics of Psychological Science  <u>Read:</u> Chapter 3  <u>Individual Assignment:</u> Tri-Council Ethics Tutorial – Due Oct 25</p>
WEDNESDAY (Lab 6)	<p><u>Topic:</u> Inferential Analysis of Replication Experiment 2  <u>Individual Assignment:</u> Inferential Analysis of Replication Exp 2  <u>Team Assignment:</u> LAB 6 - Preparing for Data Analysis of Class Projects</p> <p><i>Co-Instructors/Team Project Advisors Available for Live Supervision on Canvas</i></p>

Week 8 (October 25-29)	
MONDAY	<p><u>Topic:</u> Nothing So Practical as a Good Theory? The Role of Theory in Psychological Science; The College Sophomore Problem  <u>Read:</u> Chapter 4; also Stanovich – The Artificiality Criticism and Psychology (see Canvas)</p> <p><u>Due:</u> Tri-Council Ethics Tutorial (Individual Assignment)</p>
WEDNESDAY (Lab 7)	<p><u>Topic:</u> Thinking Ahead: What Will Your Results Show?  <u>Team Assignment:</u> LAB 7 - Hypothesized Results and Practice Analysis</p> <p><i>Co-Instructors/Team Project Advisors Available for Live Supervision on Canvas</i></p>

Week 9 (November 1-5)	
MONDAY (Lab 8)	<p><u>Topic:</u> We Only Know What We Can Measure: Conducting a Psychometric Analysis  <u>Read:</u> Chapter 5 – Identifying Good Measurement  <u>Individual Assignment:</u> Lab 8 - Data Collection – Due Wednesday 11:59pm</p>
WEDNESDAY	<b>Exam 2</b> (Chapters 3, 4, 5, 8, & 13 + Stanovich Chapter)



Week 10 (November 8-12)	
MONDAY	No Class – Midterm Break
WEDNESDAY	No Class – Midterm Break

Week 11 (November 15-19)	
MONDAY (Lab 9)	<u>Topic</u> : Data Analysis <u>Team Assignment</u> : LAB 9 - Analyzing Your Data & Interpreting Your Results
WEDNESDAY (Lab 10)	<u>Topic</u> : Talking to the Scientific Community and the Public <u>Read</u> : Chapter 11 – Presenting Your Research <u>Team Assignment</u> : LAB 10 – First Draft Conference Poster

Week 12 (November 22-26)	
MONDAY (Lab 11)	<u>Topic</u> : Conference Poster Presentations <u>Team Assignment</u> : LAB 11 – Final Draft Conference Poster (Written)
WEDNESDAY (Lab 12)	<u>Topic</u> : Conference Oral Presentations <u>Team Assignment</u> : LAB 12 – Final Draft Conference Poster (Oral)  <i>Co-Instructors/Team Project Advisors Available for Live Supervision on Canvas</i>

Week 13 (November 29-December 3)	
MONDAY	<u>Topic</u> : Making the Most of Your Research Experience in PSYO 270
WEDNESDAY	Poster Presentations <u>Individual Assignment</u> : Conference Poster Viewing



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Week 14 (December 6-10)	
MONDAY	Poster Presentations <u>Individual Assignment</u> : Conference Poster Viewing
WEDNESDAY	Poster Presentations <u>Individual Assignment</u> : Conference Poster Viewing

Final Exams
Cumulative FINAL EXAM - To Be Announced

Note: Any alterations to this syllabus will be announced in class and/or through Canvas.





## UBC OKANAGAN POLICIES

### Final Examinations

The examination period for 2021 Winter Term 1 is December 11 - 22, 2021. Except in the case of examination clashes and hardships (three or more formal examinations scheduled within a 24-hour period) or unforeseen events (such as ill health or other personal challenges that arise during a term or changes in the requirements of an ongoing job) students are not permitted to apply for out-of-time final examinations unless they are representing the University, the province, or the country in a competition or performance; serving in the Canadian military; observing a religious rite; working to support themselves or their family; or caring for a family member. Further information on Academic Concessions can be found under Policies and Regulation in the Okanagan Academic Calendar

<http://www.calendar.ubc.ca/okanagan/index.cfm?tree=3.48.0.0>

### Academic Integrity

The academic enterprise is founded on honesty, civility, and integrity. As members of this enterprise, all students are expected to know, understand, and follow the codes of conduct regarding academic integrity. At the most basic level, this means submitting only original work done by you and acknowledging all sources of information or ideas and attributing them to others as required. This also means you should not cheat, copy, or mislead others about what is your work. Violations of academic integrity (i.e., misconduct) lead to the breakdown of the academic enterprise, and therefore serious consequences arise and harsh sanctions are imposed. For example, incidences of plagiarism or cheating may result in a mark of zero on the assignment or exam and more serious consequences may apply if the matter is referred to the President's Advisory Committee on Student Discipline. Careful records are kept in order to monitor and prevent recurrences.

A more detailed description of academic integrity, including the University's policies and procedures, may be found in the Academic Calendar at <http://okanagan.students.ubc.ca/calendar/index.cfm?tree=3.54.111.0>.

### UBC Okanagan Disability Resource Centre

The Disability Resource Centre ensures educational equity for students with disabilities, injuries or illness. If you are disabled, have an injury or illness and require academic accommodations to meet the course objectives, please contact Earlene Roberts, the Diversity Advisor for the Disability Resource Centre. Location: UNC227A; Telephone: 250.807.9263; email [earlene.roberts@ubc.ca](mailto:earlene.roberts@ubc.ca);

Web: [www.ubc.ca/okanagan/students/drc](http://www.ubc.ca/okanagan/students/drc)

### UBC Okanagan Ombuds Office

The Ombuds Office offers independent, impartial, and confidential support to students in navigating UBC policies, processes, and resources, as well as guidance in resolving concerns related to fairness.

UBC Vancouver Ombuds Office: email: [ombuds.office@ubc.ca](mailto:ombuds.office@ubc.ca)

Web: [www.ombudsoffice.ubc.ca](http://www.ombudsoffice.ubc.ca)

### UBC Okanagan Equity and Inclusion Office

UBC Okanagan is a place where every student, staff and faculty member should be able to study and work in an environment that is free from discrimination and harassment. UBC prohibits discrimination and harassment on the basis of the following grounds: age, ancestry, colour, family status, marital status, physical or mental disability, place of origin, political belief, race, religion, sex, sexual orientation or unrelated criminal conviction. If you require assistance related to an issue of equity, discrimination or harassment, please contact the Equity and Inclusion Office.

Location: UNC 227C; telephone: 250.807.9291; email: [equity.ubco@ubc.ca](mailto:equity.ubco@ubc.ca); Web: [www.equity.ok.ubc.ca](http://www.equity.ok.ubc.ca)

### Health & Wellness

At UBC Okanagan health services to students are provided by Health and Wellness. Nurses, physicians and counsellors provide health care and counselling related to physical health, emotional/mental health and sexual/reproductive health concerns. As well, health promotion, education and research activities are provided to the campus community. If you require assistance with your health, please contact Health and Wellness for more information or to book an appointment.

Web: [www.students.ok.ubc.ca/health-wellness](http://www.students.ok.ubc.ca/health-wellness)

### SAFEWALK

Don't want to walk alone at night? Not too sure how to get somewhere on campus? Call Safewalk at 250-807-8076.

For more information, see: [www.security.ok.ubc.ca](http://www.security.ok.ubc.ca).



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### Online Learning Outside of Canada

During this pandemic, the shift to online learning has greatly altered teaching and studying at UBC, including changes to health and safety considerations. Keep in mind that some UBC courses might cover topics that are censored or considered illegal by non-Canadian governments. This may include, but is not limited to, human rights, representative government, defamation, obscenity, gender or sexuality, and historical or current geopolitical controversies. If you are a student living abroad, you will be subject to the laws of your local jurisdiction, and your local authorities might limit your access to course material or take punitive action against you. UBC is strongly committed to academic freedom, but has no control over foreign authorities (please visit <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3.33.86.0> for an articulation of the values of the University conveyed in the Senate Statement on Academic Freedom). Thus, we recognize that students will have legitimate reason to exercise caution in studying certain subjects. If you have concerns regarding your personal situation, consider postponing taking a course with manifest risks, until you are back on campus or reach out to your academic advisor to find substitute courses. For further information and support, please visit: <http://academic.ubc.ca/support-resources/freedom-expression>