

Psychology 400

Advanced Research Methods in Psychology

Winter 2021

Instructor: Dr. Christine Smith

Office Hours: 2:30-3:30 T/TH via Zoom
9293219436 (passcode: 6rbyuV). I am
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This course is subject to the GVSU policies listed at

<http://www.gvsu.edu/coursepolicies/>

This section of PSY 400 is listed as a synchronous online course, however, some course content (lectures) will be asynchronously delivered. Synchronous class time will be devoted to actively working on applications of the course content (some of you may recognize this as a “flipped” classroom). We will not meet synchronously every single class period (however, I will be available to you each class day should you need me). We will most certainly meet every single class period early in the semester. A considerable amount of your work in this class will be done working collaboratively with your classmates as you design your experiments/quasi-experiments. Each collaborative work group will have its own virtual classroom to meet in and this room will be available to you 24/7 during the semester.

It is very important that you do not fall behind with your reading or with the lecture content as this will reduce the ability to solidify your understanding of the material during our active learning face-to-face sessions. During the course you will have the opportunity to complete multiple application activities, only some of which will be graded. Here again, it is very important to complete all of the application activities as they will give you insight into how well you understand the material. Completing the “practice” activities and receiving my feedback will also increase your ability to perform well on the graded assignments. I am sincerely committed to delivering a high-quality course in the most flexible manner possible. Please do not hesitate to reach out to me if there is something I can do to help you complete this course successfully.

Required Readings and Computer Software:

All reading material for this class will be shared with you as PDF documents posted to BB.

Writing assignments should follow APA style. At the link below, you will find several extremely helpful summaries of the most commonly used components of APA style. There is no need to purchase an APA style manual.

<https://apastyle.apa.org/instructional-aids/handouts-guides>

All students must have access to SPSS on their computers. There are two ways you can achieve this: 1) you may download the program directly onto your computer <https://www.gvsu.edu/it/how-to-download-and-install-spss-224.htm>, or 2) you may use GVSU's virtual computer lab. If you have a windows computer you can go to the virtual lab here <https://winlab.gvsu.edu>, and if you have a Mac computer you can get to the lab here (however, you will need a VPN) <https://maclab.gvsu.edu>. If you need to set up pulse secure you can find instructions to do so here <https://www.gvsu.edu/it/downloading-installing-and-setting-up-pulse-secure-222.htm>

During the first week of class, please choose one of these methods and give it a test run to ensure that you do indeed have access.

You will also be using the online survey platform Qualtrics to collect the data for your project. You can access Qualtrics here: <https://www.gvsu.edu/it/gvsu-qualtrics-survey-software-225.htm> with your GVSU login information. I have also posted an extremely helpful Qualtrics user's guide to BB.

Course Content and Objectives:

Objectives: Upon completion of this course, students will be able to:

- 1) Explain research methods issues including ethical issues, measurement, reliability and validity of methods, experimental, quasi-experimental and survey research designs, biases in experimentation, and univariate and multivariate data analysis
- 2) demonstrate the ability to design and conduct an empirical study in psychology.
- 3) Write a research paper describing a psychology experiment.
- 4) discuss their study in critical ways by recognizing limits and problems.

The aim of this course is to cover advanced research design and data analysis with emphasis upon the concepts of **interaction**. Students (working in small groups) will experience the entire research process in that they will

design, carry out, analyze, write up, and orally present a replication/extension study. The study must include a theoretically meaningful hypothesized interaction between independent variables and at least one independent variable must be manipulated experimentally. Students will gain experience working with the statistical package SPSS and Qualtrics. In addition to carrying out the research project, students will read, analyze, and critique several published research articles related to internal and external validity. I will teach the content of the course primarily through our discussions of these research articles/example studies, therefore, it is extremely important that you engage the course materials in a timely fashion.

Course Requirements and Grade Determination:

Your final semester grade will be based on classroom assignments, several brief comprehension quizzes (following lecture content), a research proposal, a formal written report of your completed original research project, and an oral presentation your final project. Detailed descriptions are provided below.

Class Assignments: Over the course of the semester we will read and discuss published journal articles, instructional chapters/papers, and critique several studies. Several application activities based upon these readings will be assigned. All work to be graded must be submitted to BB. **Students are strongly encouraged to complete all graded work by the posted deadline. Extensions of deadlines can be obtained but ought to be sought before the deadline passes.**

Research Project: All students will work collaboratively (in small groups) on a replication/extension project. The project must be based upon sound theoretical and empirical rationale, have two independent variable (one of which can be manipulated), and include a hypothesized interaction.

Proposal: Each research team will submit a written APA style research proposal describing their project during the first half of the course. The proposal should include references to **at least 15 scholarly journal articles/book chapters** (I will provide a small collection of relevant papers to get you started). A helpful guide to writing this proposal will be posted to BB.

Completed Project: All individual students will submit a formal APA style paper describing the results of their research project. Additionally, group members will co-present to the the findings of their research. This presentation should be approximately 10 minutes in length and include an overview of the area studied, the methodologies used, results obtained, and a discussion of implications. Presentations should be made using PowerPoint and Panopto. Additional guidelines for the presentation are posted to BB.

Grading: The course assignments and their point values are listed below

Graded application activities	120 points
Comprehension Quizzes	100 points
Proposal (group submitted)	40 points
Individual meeting hypothesized results	50 points
Final Paper (individually submitted)	100 points
Final Presentation (collaboratively presented)	50 points

Grade Distribution:

A	100-94%	A-	93.99-90%	B+	89.99-87%
B	86.99-84%	B-	83.99-80%	C+	79.99-77%
C	76.99-74%	C-	73.99-70%	D+	69.99-67%
D	66.99-60%				
F	59% and lower				

Course Schedule and Due Dates

Each week of class will have its own folder with content that should be completed by week's end. In each folder you will find a much more detailed schedule, however, the following provides a nice roadmap to the course.

Week 1

January 19-22

Introduction to the Course and the importance of scientific replication.

In the first week I will provide an overview of the course along with some review material from Psychology 300. Sometime before Thursday you should watch the voice-over lecture regarding the importance of replication. On Thursday we will work through some replication activities.

Due on Thursday: Your completed research topic sheet with topic rankings.

Week 2

January 26-28

Threats to experiments: Internal validity issues

This week, you will be assigned to your research topic and your collaborative research team. You will be given some additional readings related to your chosen topic. On Tuesday watch the voice-over lecture regarding issues related to internal validity. On Thursday we will work through some internal validity activities.

Week 3

February 2-4 Interactions

This week we will extend the simple experimental design and focus on the issue of interaction. We won't meet as a whole class this week, but rather, I will connect with each research team in their respective virtual classrooms to begin designing your projects.

Due on Thursday: Internal Validity Assignment I

Week 4

February 9-11 Interactions and External Validity

This week we will continue discussing the concept of interaction and we will also explore the importance of external validity. Often moderator variables are incorporated into research in an attempt to test a finding's external validity. We will meet as a whole class both Tuesday and Thursday to work through the interaction activities that have been assigned in week 3. This does not mean that you shouldn't meet with your groups virtually—we just won't take class time to do so. I will also introduce you to the data analysis computer software SPSS.

Due on Thursday: Internal Validity Assignment II

Week 5

February 16-18 Data analysis techniques and design consultations

This week voiceover lecture will address data analysis issues. I will meet with each group online to discuss your developing projects. Additionally, this week we will review the “funnel-shaped” introduction you should strive to create for your proposal.

Due on Thursday: Interpreting and describing an interaction

Week 6

February 23-25 Qualtrics

This week, voiceover lecture will address additional data analysis techniques and using Qualtrics. On Thursday, we will meet and do some activities related designing surveys/experiments in Qualtrics.

Due on Thursday: Interpreting and describing an interaction II

Week 7

March 2-4 Data Analysis Techniques

This week I will meet with each of you individually so that you may present your hypothesized interaction. If you are unable to make an appointment with me to do this live, you can also meet this requirement by creating a Panopto video. Live meetings will be scheduled using Zoom.

Week 8

March 9-11 SPSS and Data Analysis Techniques

This week we will continue to discuss/interpret data and we will work through several examples in class on Tuesday. On Thursday each group should choose one member to submit your research proposal to BB.

Due Thursday: Research proposal (please note, this is one day after the University mental health break day scheduled in March. Should this due date interfere with your ability to use the day as needed, you are welcome to submit it by the 13th with no penalty).

Week 9

March 16-18 SPSS and Data Analysis Techniques

On Tuesday in class we will work through various examples where you should be able to solidify your ability to interpret SPSS printout and describe the observed effects.

Due on Thursday: Data Analysis I

Final Weeks of Class

March 23-April 22 DATA ANALYSIS: Individual/Group Meetings/Consultations

During these weeks, students will sign up to consult with me individually regarding research findings and to discuss issues related to oral presentations of findings.

Final (individual) paper is due on April 22nd by 5:00 pm.

Final (group) Panopto presentation is due by April 29th by 5:00 pm.