

**PSY 400: Advanced Research Methods – Winter 2024**  
**Wolfgang Friedlmeier**  
**ASH 1301**

**Section 09**  
**10 to 10:50 am**

**Section 10**  
**11-11:50 am**

## Instructor

Wolfgang Friedlmeier  
1317 Au Sable Hall  
331-2415  
Email: [friedlmw@gvsu.edu](mailto:friedlmw@gvsu.edu)

### Office Hours

Monday 1 to 2 pm

Wednesday 1 to 2 pm

Friday 1 to 2 pm

**Virtual Office Hours:** by appointment

Meeting ID: 406 828 8089

Passcode: 3UYDhZ or 490450

## Literature

Stangor, C. (2015, 5<sup>th</sup> ed.). *Research methods for the behavioral sciences*. New York: Houghton Mifflin Company. ISBN: 9780840031976

American Psychological Association (2009). *Publication Manual of the American Psychological Association* (Sixth Edition). Washington, D.C.: APA.

## Online Experimental Design

<https://www.gvsu.edu/it/gvsu-qualtrics-survey-software-225.htm>

## Course Overview

The aim of this course is to apply knowledge about research methods in psychology by designing an empirical study, collecting data, and writing a paper as part of a small group project. Theoretical and ethical issues, measurement, reliability, and validity of methods, experimental, quasi-experimental, and survey research designs, biases in experimentation, as well as univariate and multivariate data analysis will be discussed in class.

The course is designed to accomplish three main objectives: (1) Designing an empirical study in psychology. (2) Getting deeper insight into the research process, and (3) Increasing the overall knowledge about research in psychology.

## Learning Outcomes

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

1. creating scientific hypotheses based on a systematic literature search and review;
2. explain and apply 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;
3. demonstrate the ability to design and conduct an empirical study in psychology;
4. write a research paper describing the outcomes of a psychology experiment;
5. discuss the study in critical ways by recognizing limits and problems.

This course is subject to the GVSU policies listed at

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

## Prerequisites

### **PSY 101, STA 215, and PSY 300**

A good understanding of basic statistics is a must as the application of SPSS, data set handling, computing variables, and computing correlations and ANOVAs will be requested for this course.

## General Information

**Withdrawal.** The deadline for withdrawing from the class is **March 22, 5 p.m.**, through one of the Student Assistance Centers.

**Special Needs.** If there is any student in this class who has special needs because of a learning, physical, or other disability, please contact me and Disability Support Services (DSS) at (616) 331-2490. Furthermore, if you have a disability and think you will need assistance evacuating this classroom and/or building in an emergency, please make me aware so that the university and I can develop a plan to assist you. It is the *student's responsibility* to request assistance from DSS.

**Academic Integrity.** Students will do original work and will not take or receive the efforts of another person on any test or assignment, use unauthorized resources on quizzes or tests, plagiarize, or give/sell other students papers or assignments *not authorized by the instructor*. **You are responsible** for making yourself aware of and for understanding the policies and procedures that pertain to academic integrity. To that end, be sure to familiarize yourself with the GVSU Student Code [Section 223.01] related to academic integrity. **Furthermore, be sure to reference sources at all times.** If you are uncertain about such an issue prior to submission of an assignment, project, or test, please contact the instructor so we can eliminate that uncertainty. **Plagiarism or cheating will result in an F for the course.**

**IMPORTANT: When you use ChatGPT or similar devices to create text you are asked to cite these passages.** Here is some information how to do this. <https://apastyle.apa.org/blog/how-to-cite-chatgpt>. Failing to mark such text as citation counts as plagiarism and will be graded as Failed.

Example:

When prompted with “Is the left brain right brain divide real or a metaphor?” the ChatGPT-generated text indicated that although the two brain hemispheres are somewhat specialized, “the notation that people can be characterized as ‘left-brained’ or ‘right-brained’ is considered to be an oversimplification and a popular myth” (OpenAI, 2023).

In References Section

OpenAI. (2023). ChatGPT (Mar 14 version) [Large language model]. <https://chat.openai.com/chat>

### **Support for Writing.** Fred Meijer Center for Writing and Michigan Authors

The Fred Meijer Center for Writing provides writing assistance to all GVSU students, on any type of project and at any stage of the process and online support is available during all hours of operation. Students can access one-to-one writing support by connecting through Book It (<https://www.gvsu.edu/bookit/>) to schedule online appointments, virtually drop-in to work with a consultant (first-come/first-serve), or connect with asynchronous email support (72 hour response time). In addition to synchronous and asynchronous support, the Writing Center also maintains educational resources about a variety of topics and we look forward to working with you!

The Writing Center employs both undergraduate and graduate writing consultants from a variety of majors and disciplines. Consultants are trained to help writers brainstorm, organize, and/or develop their ideas; and they can help writers edit their own work and document sources correctly. The Center's services are free and students can work with an idea or assignment prompt all the way through drafting and finalizing their paper.

Web: Program information: <https://www.gvsu.edu/wc/>

Appointment scheduling - (<https://www.gvsu.edu/bookit/> )

Contact: [virtualwc@mail.gvsu.edu](mailto:virtualwc@mail.gvsu.edu) - (616) 331-2922 or Patrick Johnson (Director - [johpatri@gvsu.edu](mailto:johpatri@gvsu.edu) - (616) 331-8077)

**LIBRARY Support:** Each department has a designated librarian to support your research needs. Christine Malmsten is your liaison librarian for Psychology. Her email is [malmstec@gvsu.edu](mailto:malmstec@gvsu.edu) and her office is in Mary Idema Pew Library (Allendale), room 240. You are welcome to make an appointment with her. The psychology library subject guide (<http://libguides.gvsu.edu/psych>) contains links to all of the psychology databases and other specific resources for psychology students.

### **Library Research Center**

<https://www.gvsu.edu/library/km/library-research-center-11.htm>

Library Research Center is part of the Knowledge Market, where peer consultants are available to assist students with their research needs.

**STATS Support:** The **Statistics Tutoring Center** is a place for students in many levels of stats classes to get help. Our central location is in Mackinac Hall on the Allendale campus, but we will also have tutors available in the Eberhard Center on the PEW campus. Tutoring is primarily done by GVSU undergraduates and is **FREE** to any GVSU student. You can bring questions about your calculator, on methods and concepts, on specific problems, or on whatever you like. Don't have a question just yet? You can work on your stats homework and, if you have a question, help is at hand! Feel free to call us at **616-331-8969** if you have any questions. **All tutoring in the Stats Center is FREE with no appointment needed.** More info here: <https://www.gvsu.edu/tutoring/stats/>

**GENERAL Support: Student Academic Success Center (SASC)** – see <http://www.gvsu.edu/sasc/academic-skills-services-105.htm>. Students who would like additional help in developing strategies for better time management, writing, study or examination skills should contact the Advising Resource Centre (200 STU).

**COUNSELING Center:** Did you know that GVSU provides free counseling to any student? Check their website for more info: <https://www.gvsu.edu/counsel/>

**ACADEMIC ADVISING:** Questions about your major, your courses, or your graduation? Psychology majors have two options: (1) an appointment with a professional CLAS advisor, or (2) an appointment with their major advisor (a faculty member). Your advisor is listed on Banner, and you can also contact CLAS advising here: <https://www.gvsu.edu/clasadvising/>

### **Psych Friends Peer-to-Peer Mentors**

Psych Friends mentors are upper-level psychology and behavioral neuroscience students who are trained to provide support in many areas, such as: effective studying and time management techniques, exam preparation and reflection skills, understanding the PSY and BNS major requirements, potential jobs and careers in the field, the process of applying for graduate school, and how to maintain physical and mental health as a student. Visit <https://www.gvsu.edu/navigate> to schedule an online or in-person meeting today!

## **Grade Distribution**

A	94 - 100%	A-	90 - 94%	B-	80 - 83%
B+	87 - 90%	B	83 - 87%	C-	70 - 73%
C+	77 - 80%	C	73 - 77%		
D+	66 - 70%	D	60 - 66%		
F	60% and lower				

## Assignments and Research Paper

You will be required to work on a research paper by carrying out your own study (small group projects). Two oral presentations are required. The final research paper will be written in APA style.

## Quizzes

There will be 4 online quizzes with 10 points each. The quiz will test the content of the related topic that was discussed earlier. You will have about seven days after the announcement to answer and submit the answers. The answer time will be limited to 30 minutes. Three of the four quizzes will go into your final grade. If you miss the deadline of the quiz, 0 points will be in your record for the respective quiz.

## Culminating Experience

The presentation of the full projects will be the culminating experience of the semester. Presentations will start in the week before the final exam and some projects may be presented on the day of the exam in the exam week.

**Section 9: Monday, April 22, from 10 to 11:50 am.**

**Section 10: Wednesday, April 24, from 10 to 11:50 am**

## Evaluation and Grading

Your final grade in this class will be based upon the following achievements:

<b>Assignment 1: Present Research Article</b>	<b>20 points</b>
<b>Assignment 2: Submission of References (APA style)</b>	<b>20 points</b>
<b>Assignment 3: Research Proposal</b>	<b>50 points</b>
<b>Assignment 4: Exact Procedure and Design (IRB)</b>	<b>40 points</b>
<b>Assignment 5: Peer Review</b>	<b>30 points</b>
<b>Assignment 6: Data Collection</b>	<b>20 points</b>
<b>Assignment 7: Presentation of Project</b>	<b>40 points</b>
<b>Assignment 8: Final Paper</b>	<b>60 points</b>
<b>Group Evaluation</b>	<b>30 points</b>
<b>Quizzes (3 quizzes count)</b>	<b>30 points</b>
<b>Active Contribution (summaries, questions, discussion)</b>	<b>40 points</b>
<b>Total</b>	<b>380 points</b>

Note. This is a preliminary list of assignments and grading that may still be subjected to change.

## Semester Schedule

Date	Topic	Specific tasks
<b>Week 1 Introduction and overview</b>		
1/8	Introduction	
1/10	Project examples, groups and assignments	Read Stangor-Appendix A
1/12	Structure of the research paper (Appendix A) project examples continued Use PsycInfo for lit search	AS1, AS2 PRE: Read two articles
<b>Week 2 Research Designs</b>		
1/15	<b>MLK</b>	
<b>Step 1: Theoretical Background and Hypotheses</b>		
1/17	Central topic for all research groups (discussion about articles)	Task: Articles AS3
1/19	Hypotheses and empirical part (ch. 2)	Task: Stangor – ch. 2
<b>Week 3 Research Designs</b>		
1/22	Experimental designs: one-way designs	Task: Stangor – ch. 10 Study exercises
1/24	Experimental designs: two-way designs Interaction effects	Task: Stangor – ch. 11 Study exercises
1/26	Use of Qualtrics, APA rules and Article presentation	Quiz 1: Research designs
<b>Week 4 Presentation of relevant articles</b>		
1/29	Research papers – group 1 and 2	DEADLINE: AS1
1/31	Research papers – group 3 and 4	DEADLINE: AS1
2/2	Research papers – group 5	DEADLINE: AS1 DEADLINE: AS2 <b>Deadline: Quiz 1</b>
<b>Step 2: Theoretical Background, Hypotheses, Design, Empirical Testing</b>		
<b>Week 5 Internal Validity – Finalizing Project Proposals</b>		
2/5	Internal Validity 1	Task: Stangor – ch. 12
2/7	Internal Validity 2	Study exercises
2/9	Internal Validity 3 and Using Qualtrics	Quiz 2
<b>Week 6 Presentation of proposals</b>		
2/12	Group 2 and 3	DEADLINE: AS3a
2/14	Group 5 and 1	DEADLINE: AS3a
2/16	Group 4	DEADLINE: AS3a DEADLINE: AS3b <b>Deadline: Quiz 2</b>

### ***Step 3: Methods – Sample, Procedure, Materials***

#### **Week 7 IRB proposal, peer review, and writing**

2/19 IRB - Guidelines for ethical issues (ch. 3)  
Overview for AS4

2/21 Issues about ethics for project  
Peer-review process

2/23 Finalize your IRB proposal,

AS4: IRB proposal  
Task: Stangor – ch. 3  
DEADLINE: AS 4  
AS5: Peer-Review

#### **Week 8 Finalizing of projects and ANOVA**

2/26 APA style

2/28 Finalizing projects to run study 1

3/1 Finalizing projects to run study 2

Study exercises

Read Stangor – ch. 10/11  
Study exercises

### ***Step 4: Data Collection***

#### **Week 9 Spring Break**

3/4 to 3/8

#### **Week 10 ANOVA (between design and repeated measures)**

3/11 ANOVA – Overview

3/13 ANOVA – Exercises

3/15 SPSS: Descriptive analyses

Read Stangor – ch. 10/11  
AS6, Quiz 3  
Study exercises  
DEADLINE: AS5

### ***Step 5: Data Preparations and Analyses***

#### **Week 11 ANOVA - Interpretation of results**

3/18 SPSS: 1-way ANOVA (Appendix D)

3/20 SPSS: 2-way ANOVA (Appendix D)

3/22 SPSS: ANOVA: Tables and Figures

DEADLINE: AS6

#### **Week 12 ANOVA – Documenting results**

3/25 SPSS: ANOVA with repeated measures

3/27 SPSS: ANOVA: Interpretation of results

3/29 Transfer of Qualtrics data into SPSS

**Deadline: Quiz 3**

#### **Week 13 Specific Data Analysis**

4/1 SPSS: Data analysis of project data

4/3 SPSS: Data analysis of project data

4/5 Paper structure and paper presentation rules, APA style

Task: APA Style  
Quiz 4

***Step 6: Data Analyses and Interpretation***

**Week 14 Project Analysis (Meetings with separate groups)**

4/8 Project analysis: Group 3 and Group 4

4/10 Project analysis: Group 1 and Group 2

4/12 Project analysis: Group 5

**Deadline: Quiz 4**

***Step 7: Finalizing the Project Paper***

**Week 15 Group presentations**

4/15 Paper presentation: Group 3 and 4

4/17 Paper presentation: Group 1 and 2

4/19 Paper presentation: Group 5

DEADLINE: AS7

DEADLINE: AS7

DEADLINE: AS7

**Week 16 Final Exam**

4/22 10 to 11:50 am - Section 9: Paper presentation continued

4/24 10 to 11:50 am - Section 10: Paper presentation continued

DEADLINE: AS 8