

# Grand Valley State University

## Psychology 300: Research Methods in Psychology

**Professor:** Todd Williams

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**Office Hours:** TR 1:30-2:30 (and by appointment)

Appointments can be made via email. Students with appointments will be given priority during office hours. Please indicate the reason for your visit in the email.

**Room:** Au Sable Hall 2320

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**Course Description:** A general introduction to research methods in psychology. Topics covered include theory development and hypothesis testing; measurement; reliability and validity of methods; experimental, quasi-experimental, and survey research designs; biases in experimentation; univariate data analysis; and research ethics.

**SWS:** This course is designated SWS. Completion of WRT 150 with a grade of C or better (not C-) is a prerequisite. SWS credit will not be given to a student who completes this course before completing the prerequisite. SWS courses adhere to certain guidelines. Students turn in a total of at least 3000 words of writing. Part of that total may be essay exams, but a substantial amount of it is made up of essays, reports, or research papers. The instructor works with the students on revising drafts of papers, rather than simply grading the finished piece of writing. At least four hours of class time will be devoted to writing instruction. At least one third of the final grade in the course is based on the writing assignments. Students must complete the course with a grade of "C" or better in order to receive SWS credit.

The Fred Meijer Center for Writing, with locations at the Allendale and Pew/Downtown Grand Rapids campuses, is a peer service available to assist you with writing for any of your classes. Writing consultants, who are fellow GVSU students, are trained to help you with all stages of your writing process, from brainstorming to organizing to editing your papers. Simply bring an idea, prompt, or draft of your paper along with the assignment sheet to any of the Center's locations. Also, through your Gmail account, you have access to online consultations through Google Docs. The Center's services are free and you can drop in and work with a consultant or make an appointment, either through our website or by calling the Center (331-2922). Peer support is available for research and speech/presentation through the Knowledge Market, where the Writing Center partners with the Speech Lab and the Peer Research Center. Additional

information about the Knowledge Market and Writing Center services and locations can be found on our website.

**Objectives:** The aim of this course is to acquaint students with basic research methods in psychology while exploring practical, theoretical, and ethical issues regarding research design and its implementation in psychology. Upon successful completion of this course students will be able to: (1) analyze the writing of a [lab report/case study/peer reviewed article]: identifying the author’s target audience, purpose, tone, context, and the ways the textual form and style achieves its function. (2) demonstrate an effective scientific writing process. (3) identify the strengths and weaknesses of their own writing processes. (4) design an empirical study consistent with the standards of psychological science.

**Course Prerequisites:**

**PSY 101, STA 215, and WRT 150.** You may not take any of these prerequisite courses concurrently with PSY 300.

**Required Text:**

Mitchell, M. & Jolley, J. (2007). *Research Design Explained* (7th ed). Belmont: Wadsworth

Note that this is an old version of this textbook. I’ve intentionally chosen an old edition to keep costs down for you. Any version of this text, old or new, will be suitable for this course. I have multiple copies that will be available for loan for those of you looking to keep costs down.

Research articles, supplemental readings, and lecture notes will be posted on BlackBoard.

**Recommended Text: (Assignments to be in APA format)**

American Psychological Association (2010). *Publication Manual of the American Psychological Association*. (6<sup>th</sup> ed). Washington, DC: Author.

*Copies are available in the Zumberge: BF76.7 .P83 2010*

\*Please DO NOT use pocket or non-APA published versions of this manual. Most have a number of mistakes (this includes some guides that are assigned in writing classes)

**Grade Evaluation:**

	<b>Description</b>	<b>Weight</b>
Homework	Homework assignments will be assigned throughout the semester. Unless the assignment is very small, you will be given at least 1 week to complete the assignment.	10%

Exams	There will be 3 exams evenly dispersed throughout the course. They may be multiple choice, short or long answer depending on the material being tested.  While exams will be focused on the material covered since the last exam, material covered earlier in the course generally serves as a basis for those covered later.	16.66% per exam  50% of total grade.
Research Proposal Draft	This will be a rough draft of your research proposal. It will include a brief literature review and the proposed methods, results, and implications of a two-variable experiment or quasi-experiment.  Additional information concerning this assignment will be posted on BlackBoard.	15%
Research Proposal	The final draft of your APA style research proposal.	15%
Peer Evaluations	Peer evaluation of your research project partners.	10%

**Grades will be determined by adjusting the class average to 76% (B) and assigning letter grades based on the below distribution. Thus, your grade in this class is based on your performance relative to the rest of the class.** Notice that the grading distribution below is much more lenient than what most of you are used to. (this is to avoid ceiling effects in the grading distribution)

**This is a *tentative* grade distribution**

Rating	Letter Grade	Grade Point Value	Percentage Grades
Excellent	A	4.0	90-100%
Excellent	A-	3.7	85-89%
Good	B+	3.3	80-84%
Good	B	3.0	75-79%
Good	B-	2.7	70-74%
Satisfactory	C+	2.3	65-69%
Satisfactory	C	2.0	60-65%
Satisfactory	C-	1.7	55-59%
Poor	D+	1.3	50-54%
Minimal Pass	D	1.0	45-49%
Failure	F	0	0-44%

**Missed Exam/Assignment:**

As many of you do not have adequate health coverage I do not require health certificates for absences for missed classes. However, if you miss more than 1 scheduled exam or homework I may require that you to provide a certificate from a certified health

professional. *If you miss an exam, you must report your illness to me within 48 hours of the exam/assignment due date.* In the case of a missed exam or assignment, I will either give an extension or have the weight of the missed examination/assignment added to the remaining assignments/exams.

**Missed Class:** I do not take attendance. This is a university level course and you are adults. While I both appreciate and encourage attendance, I consider this to be a choice that you should feel free to make relative to your life circumstances. Sometimes emergencies happen...I don't feel as though you should be punished for this. That said, you will likely find that in order to do well on my exams, attendance and a fair amount of studying will be necessary. I do ask that if you miss class for a non-legitimate reason that you do not add to my workload by asking me to re-iterate what you missed. For those who do miss class for a legitimate reason I recommend that you ask a peer for their notes, do the readings and come and see me during office hours if you have any questions. Due dates for homework assignments will not be extended for absences (except under extenuating circumstances), so please make sure to consult with a friend in the class to make sure you complete everything on time.

**Email/Important Communication:**

*Please type your name, course number, and section number into the titles of your emails.* Emails that have no identifying information make me want to kill myself with a rusty spoon.

In the case that you are notifying me about a medical condition, absence, or other important aspect of the course, please do so via email. I will always provide a confirmation note that I have received these types of email within 24 hours. If I have not done so, assume that I have not received your email and send another.

**Student Responsibilities:**

**ACADEMIC INTEGRITY:** Grand Valley State University is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of GVSU in this respect. Students are particularly urged to familiarize themselves with the provisions of the *Code of Student Behaviour* (online at <http://www.gvsu.edu/studentcode/index.cfm>) and avoid any behaviour which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from GVSU. No student shall represent another's substantial editorial or compositional assistance on an assignment as their own. Furthermore, no student shall submit in any course or program of study, without the written approval of the course instructor, all or a substantial portion of any academic writing, essay, thesis, research report, project assignment, presentation or poster for which credit has been obtained by the student or which has previously been or is being submitted by the student in another course or program of study at GVSU or elsewhere. All forms of dishonesty are unacceptable at GVSU. Cheating, plagiarism and misrepresentation of facts are serious offenses. Anyone who engages in these

practices will receive a grade of zero for the exam or paper in question and no opportunity will be given to replace the grade or redistribute the weights. Any offense will be reported to the Dean of the CLAS who will determine the disciplinary action to be taken.

**STUDENTS WITH DISABILITIES:** 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 (Room 200 STU; 616 331 2490). Furthermore, if you have a physical disability and think you will need assistance evacuating this classroom and/or building in an emergency, please make me aware so that I can develop a plan to assist you.

**ACADEMIC SUPPORT CENTRE:** Students who require additional help in developing strategies for better time management, writing, study or examination skills should contact the Advising Resource Centre (200 STU).

**General Course Policies:**

This course is subject to the GVSU policies listed at <http://www.gvsu.edu/coursepolicies/>

*Disclaimer: This syllabus is subject to change. Any changes will be announced in class.*

<b>Tentative Lecture Schedule &amp; Assigned Readings:</b>		
<i>Week 1</i>		
<b>August 28</b>	<i>Science, Psychology, and Society</i> What is science?	<b>Assigned Reading:</b> <b>Syllabus</b>
<b>August 30</b>	<i>Science, Psychology, and Society</i> Psychology as a science	Mitchell & Jolley (Chapter 1)
<i>Week 2</i>		
<b>September 6</b>	<i>Variables and Variability</i> <i>Reliability and Validity</i>	Mitchell & Jolley (Chapter 2)
<i>Week 3</i>		
<b>September 11</b>	<i>Psychology Information Literacy</i>	Mitchell & Jolley (Chapter 3) <b>Homework 1 due</b> (see research proposal documentation)  **Class will be held in LIB 001 Lab (basement of Zumberge)
<b>September 13</b>	<i>Generating Research Ideas and Hypotheses</i>	Mitchell & Jolley

		(Chapter 4)
<b>Week 4</b>		
<b>September 18</b>	<b><i>Beyond Correlation: The Experimental Method</i></b>  How to infer Causation	<b>Homework 2 due</b> (see research proposal documentation)  Mitchell & Jolley (Chapter 5 & 6)
<b>September 20</b>	<b><i>The Experimental Method</i></b>  Control and Randomization Sources of Variance	Mitchell & Jolley (Chapter 9)
<b>Week 5</b>		
<b>September 25</b>	<b><i>Variance, Methods, and Inferential Testing</i></b>  Sources of Variance and the Logic of Inferential Tests	<b>Homework 3 due</b> (see research proposal documentation)  Mitchell & Jolley (Chapter 9)
<b>September 26</b>	<b>Exam # 1</b>	
<b>Week 6</b>		
<b>October 2</b>	<b><i>Basic Statistics (Theory)</i></b> <i>Z-Scores</i> <i>Confidence Intervals</i>	
<b>October 4</b>	<b><i>Basic Statistics (Theory)</i></b> <i>T-Tests</i> <i>Central Limit Theorem</i>	Mitchell & Jolley (Chapter 10)
<b>Week 7</b>		
<b>October 9</b>	<b>Experimental Design</b> <i>Within and Between Subjects Designs</i>	<b>Homework 4 due</b> (see research proposal documentation)  Mitchell & Jolley (Chapter 10)
<b>October 11</b>	<b>Factorial Designs</b>	<b>Assigned Reading:</b>

	<i>Interactions</i>	Mitchell & Jolley (Chapter 11 & 12)
<b>Week 8</b>		
<b>October 16</b>	<b>Advanced Factorials</b>	Mitchell & Jolley (Chapter 13)
<b>October 18</b>	<b>Conducting Experiments</b> <b>Research Proposal Assignment</b>	<b>TBA</b>
<b>Week 9</b>		
<b>October 23</b>	<b>Exam #2</b>	
<b>October 25</b>	<i>Ethics</i>	
<b>Week 10</b>		
<b>October 30</b>	<b>Correlation</b>	<b>TBA</b>
<b>November 1</b>	<b>T-Tests</b>	
<b>Week 11</b>		
<b>November 6</b>	<b>Oneway ANOVA</b>	Christensen (Chapter 14) Part I & 2
<b>November 8</b>	<b>Two way ANOVA</b> <ul style="list-style-type: none"> <li>• Sum of Squares</li> <li>• Mean Squares</li> <li>• Interactions</li> </ul>	Mitchell & Jolley (Chapter 13)
<b>Week 12</b>		
<b>November 13</b>	<b>Regression</b>	
<b>November 15</b>	<b>Chi-Square</b>	<b>Research Proposal Draft Due</b>
<b><u>FALL BREAK!!! November 21-25</u></b>		
<b>Week 13</b>		
<b>November 27</b>	<i>Survey Methods</i>	Shaughnessy, Zechmeister & Zechmeister (Chapter 5)
<b>November 29</b>	<b>Exam 3</b>	
<b>Week 14</b>		
<b>December 4</b>	<b>Review/Paper Proposal Feedback</b>	
<b>December 6</b>	<b>Review/Paper Proposal Feedback</b>	

<b>December 12/14</b>	<p>GVSU policy dictates that instructors require their students to appear in person at the scheduled final exam period, even if no final exam is administered.</p> <p>Thus, you will be <b>required to submit PAPER copies of your final research projects AND PEER EVALUATIONS in person at the beginning of the final exam period.</b></p>	<p>PSY300 (02) Tuesday, December 11 4:00-5:00pm</p> <p>PSY300 (16) Thursssday, December 13 4:00-5:50</p>
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*\* You are responsible for understanding the content of the assigned reading), regardless of whether this content is discussed in class.*

## **RESEARCH PROPOSAL**

### **Research Proposal Objectives**

The research proposal in this class is designed to stimulate critical scientific thinking and to introduce you to a new area of psychology while simultaneously developing your understanding of research methods and introducing you to APA format and proper standards in scientific writing. In this assignment you will propose a study that will test a novel hypothesis. Completing this project will involve a series of sequential steps that will lead you to your final product; A 6-12 page APA style paper that will outline the theoretical rationale, methods, results and conclusions pertinent to your research question.

### **Description of Research Proposal**

You propose a novel study in any area of psychology and, in doing so, will conduct a literature review and utilize psychological theory and your knowledge of research methods to test a hypothesis that follows from a research question that you are interested in.

Both the development of your idea and the process of writing an APA style research report will occur through in-class and group discussions, homework assignments (below), lecture instruction and iterative feedback on your proposal drafts.

*Homework 1* – Drawing from personal interest, popular media, reputable news outlets, or class lecture, submit two paragraphs outlining two topics in psychology that you are interested in and may serve as the topic of your research proposal (e.g. Persuasion, Body Image, Lying). In your description of these two topics provide operational definitions and explain the importance of understanding this topic for the betterment of society.

*Homework 2* – Use Psyc Info in finding four peer-reviewed, empirically based research articles/reviews of your research topics (two articles per topic). Provide a half-page summary of

each topic that your articles discuss. Explain any ideas that you have that might extend the ideas discussed in the research articles that could serve as the basis for Homework 3

*Homework 3* - Read 3 additional articles on your topic and propose a two-condition experiment that will provide a useful extension or test a novel question related to your topic.

- You should include:
- A paragraph summarizing the research you've reviewed.
- A paragraph summarizing what your study will demonstrate and how it will extend past research on the topic.
- Your proposed design (within or between subjects)
- Your hypothesis. (in statement and written form)
- Details on what variables will be controlled or randomized in order to ensure the internal validity of your study.
- Your predictions

*Homework 4* – With your partner discuss your proposed experiment from Homework 3. As a team, choose a topic and summarize 4 articles (peer-reviewed, use psycinfo) that you have read on that topic. One summary will be submitted per research team.

*Homework 5* (Maximum 1 page) – Propose an experiment or quasi-experiment with two independent variables and a single dependent variable that tests an interactive prediction. The first paragraph will introduce your topic and the background research related to it. A second paragraph will provide your research question, and operational definitions of your variables. You will also provide a 2x2 table showing your experimental conditions and the predicted results of your study (similar to the in-class factorial exercises). You will receive feedback on your ideas and will be asked to revise this assignment until your proposed design is free of confounds and provides a systematic test of your research question. One proposal will be submitted per research team.

## **Assignment 1**

You and your partner must propose an *experimental* or *quasi-experimental* design to test your hypothesis. The proposed study should predict an *interaction* and contain two independent variables. One or both of these variables *should be manipulated*. (That is, there should be a treatment and a control condition.) Your *independent* variables can be categorical (nominal) or continuous (ratio, interval or ordinal), but your dependent variable must be continuous. You are permitted to use one non-manipulated variable if it suits your design (ie: age, self-esteem, gender, personality characteristics).

Your proposed study in APA manuscript format. Include a cover page (title, header, running head, page numbers, authors, institution affiliation etc.) abstract, introduction, methods, proposed results (with or without illustrative table), and a reference section. You do not need a discussion section at this point, but feel free to include one if you're feeling keen.

What I am expecting is a draft of an APA paper. In each section, simply provide an effective description of what you're planning. I am not expecting that this draft be perfect, but the more comprehensive it is, the better feedback (and grade) you will get.

*Abstract* – 150-250 word summary of the project

*Introduction* – An introduction describing previous literature in the area and the relevance of what you want to do. End this section with a summary of the literature reviewed, your research question and predictions.

*Method* – Tell me what type of design you are using (within/between subjects?)

Hint: While you are not going to actually run this study, I do expect that you make an effort to propose something that would be reasonable to do in real life.

*Results* – What are you expecting to find? Be sure to predict an interaction between your two independent variables. Please provide a fake graph or table of your predicted results. You do not need to describe your data analysis techniques in this draft.

*Discussion* – While it should be clear from your introduction, you could include a paragraph on why finding the predicted results would be important. This is an **optional** section for this assignment.

References – Use in-text citations throughout the paper and include an APA format references section.

***Tentative Marking Scheme for Assignment 1:***

APA formatting (Includes references section)	No one has ever gotten perfect marks on this...I dare you to be the first.	5 Marks
Literature Review	Does it cover a reasonable amount of research in the area (ie: 10 articles that are pertinent)	10 Marks
Research Idea	Does it make sense relative to the previous literature?	10 Marks
	Is it a novel idea?	
	Is the idea conveyed clearly?	
	Is the idea psychological?	
Methods	Are variables described properly?	10 Marks
	Are the proposed methods suitable for testing the idea?	
Results	Do the predicted results match with the theoretical background?	10 Marks
	Is an interaction predicts?	
	Are the expected results communicated clearly?	

**Assignment total /45**

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**Final Research Proposal (Assignment 2)**

This paper should be APA format research report that addresses a novel research question. Paper length is not set, however most projects that receive good grades are approximately 8-12 pages in length. The originality and relative contribution of the research will be graded in addition to the cohesiveness and clarity of the paper, the accuracy of the statistical techniques employed and the strength of the literature review and discussion sections.

APA formatting – 5 marks

Overall readability of the paper – 5 marks

Relative contribution of research idea -10 marks

Research design and methods – 10 marks

Proposed Analysis and Predicted Results – 10 marks

Discussion, implications and directions for future research – 10 marks

**Assignment total /50**