

# Grand Valley State University

## Psychology 400: Advanced Research Methods in Psychology



### TODD J. WILLIAMS, PhD

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Office Hours:

Tuesdays: 4:00 – 5:00 p.m.

Wednesday: 6:00 – 7:00 p.m.

Or email for an appointment

**Co-Director:** [Social Cognition Research Laboratory](#)

**Course Description:** Experimental and survey methods in psychology. Topics covered include philosophy of science; theory development; measurement; reliability and validity of methods; experimental, quasi-experimental, and survey research designs; biases in experimentation; univariate and multivariate data analysis; and research ethics.

**Course 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.

**Course Prerequisites:** PSY 101, STA 215, WRT 150 and PSY 300. You may not take any of these prerequisite courses concurrently with PSY 400.

**Supplemental Readings:**

Saylor Academy (2012). *Research Methods in Psychology*. Creative Commons-NonCommercial-ShareAlike 4.0. [https://saylordotorg.github.io/text\\_research-methods-in-psychology/](https://saylordotorg.github.io/text_research-methods-in-psychology/)

American Psychological Association (2020). *Publication Manual of the American Psychological Association: the official guide to APA style*. (7<sup>th</sup> ed). Washington, DC: Author.

*Copies are available in Pew, call number: BF76.7 .P83 2020*

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

**Grade Evaluation:**

	Description	Due	Weight
Introduction Video  Enroll in Research Group	Record a 2-minute introduction video using Panopto	01.26	Complete/Incomplete
Research Topic Assignment	Reading/writing	02.08	2%
CITI Ethics Certification	Online Course	02.15	6%
Research Blog (Group)	Each group is required to summarize the key elements of their research meetings to help other group members stay informed in the case of absence or illness.	Weekly	2%
Assessment 1	Quiz (Multiple Choice/Short Answer)	02.26	10%
Research Presentation (Partner)	Record a 8-10 minute presentation summarizing and critiquing published psychological research in your chosen research area	03.08	10%

Research Question, Design and Hypotheses (Group)	Proposal for research	03.15	5%
Experiment Materials into Qualtrics	Programming for research	03.22	Complete/incomplete
Data Collection	Recruitment of subjects	03.30	Complete/incomplete
Lab 1	T-Tests / Reliability	04.06	10%
Lab 2	Analysis of Variance	04.13	10%
Lab 3	Regression	04.20	10%
Assessment 2	Quiz (Multiple Choice/Short Answer)	04.26	15%
Final Research Paper	APA style research proposal	04.29	20%
Effective Learning Methods	Bonus Assignment	04.26	3%

Final grades are determined after combining scores from the assignments, peer evaluation, class participation and the final exam. Students are ranked in order of total scores and a grade is assigned so that the class average falls between the 75th and 79th percentiles (Letter grade = B)

**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:**

Unfortunately, many of you do not have adequate health insurance. Because if this, I typically will not require a note from a health professional to document your absence. However, documentation is necessary if you miss more than one major assignment or exam, or in the case you miss the final exam. A registered health professional must provide the medical certificate, acknowledge the date of the missed exam/assignment,

and provide his/her contact information. If you miss any class component, you must report your illness to me within 48 hours of the exam/assignment due date, however your documentation may be provided at a later date. If a single class component is missed, the student will be given an extension or have the weight of the missed examination/assignment added to the final examination.

### **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 the University 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 the University. 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 in the University or elsewhere. All forms of dishonesty are unacceptable at the University. 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.

**CELL PHONES:** As long as you are not disruptive, feel free to use it.

**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 Resources (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, study skills or examination skills should contact the Advising Resource Centre (200 STU).

**WRITING CENTER:** <http://www.gvsu.edu/wc/>

The writing center has a number of my ex-students who provide advice and support in scientific writing and composition of research reports. Please contact the writing center directly to make an appointment.

***Disclaimer*\*\*\*PLEASE NOTE that updates to this schedule will be posted periodically throughout the semester. Please check blackboard frequently for the most recent version!**

<b>January 19 - 25</b>		
<b>Task</b>	<b>Topic</b>	<b>Reading(s)</b>
Introduction Video (Due January 26)  Enroll in Groups	Introduction to the course	Syllabus Hergenhahn (2001) Field (2016)
<b>January 26 – February 1</b>		
Research Topic Assignment (Due February 8)	Ethics in Research	Saylor Academy (2012: Chapter 3)
<b>February 2 – February 8</b>		
CITI – Ethics Certification (Due February 15)	Review of Experimental Methods The Simple Experiment	Mitchell & Jolley (Chapter 10)
<b>February 9 – February 15</b>		
	Multi-Condition Experiments	Mitchell & Jolley (Chapter 11)
<b>February 16 – February 22</b>		
	Factorial Experiments  Interpreting Experimental Effects	Mitchell & Jolley (Chapter 12)
<b>February 23 – March 1</b>		
Assessment 1  (Due Friday February 26 at 4:00)  Assessment will be available via BB p.m. and must be completed within the specified time window (TBA	Review and Assessment  *Students are required to complete course assessments during the assigned time period unless approval has been granted PRIOR to the exam time.	
<b>March 2 – March 8</b>		

Research Presentations (Due March 8 <sup>th</sup> )	Synthesizing, writing and presenting research	Mitchell & Jolley (Chapter 15)  Gernsbacker (2017)
<b>March 9 – March 15</b>		
<b>March 10: DESIGNATED DAY OFF</b>		
Research Question, Design and Hypotheses (Group) Assignment (Due March 15)	Development of project materials and Qualtrics programming	
<b>March 16 – March 22</b>		
Experiment materials and Qualtrics programming (Due March 22)	Survey Methods	Saylor Academy (2012: Chapter 9)
<b>March 23 – March 29</b>		
Data Collection for Research Projects Due March 30	Research group consultations	Chapter 8 (Privitera)
<b>March 30 – April 5</b>		
<b>April 1: DESIGNATED DAY OFF</b>		
<b>April 2: DESIGNATED DAY OFF</b>		
<b>April 5: DESIGNATED DAY OFF</b>		
<b>April 6 – April 12</b>		
Laboratory 1 (Due Monday April 6)	One and Two Sample T-Tests  Reliability and Item Analysis  Analysis of Simple and Multi-group Experiments	Privitera  (Chapter 9) (Chapter 10)
<b>April 6 – April 12</b>		
Laboratory 2 (Due Monday April 13)	Analysis of Between and Repeated Measures Factorials	Privitera  (Chapter 12) (Chapter 13)

		(Chapter 14)
<b>April 13 – April 19</b>		
Laboratory 3 (Due Monday April 20)	Linear, Multiple and Hierarchical Regression	Pritivera (Chapter 16)
<b>April 20 – April 29</b>		
Assessment 2  Assessment will be available via BB.  Monday April 26 at 4:00)  Final Research Paper (Due Thursday April 29)	Review and Assessment	