

**Grand Valley State University**  
**Psychology 350 (Winter 25)**  
**Psychology Research and Data Applications**

**Professor**

Todd Williams, PhD  
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**Office Hours (by Zoom)**

Wednesday afternoons (5:00 – 6:00pm preferred)  
Please email me in advance with your availability and the reason for your meeting.

**Section**

**Classroom**

**Time**

T/R Morning (08)	Padnos Hall 211	11:30 a.m. - 12:45 p.m.
T/R Afternoon (09)	Lake Superior Hall 233	2:30 p.m. - 3:45 p.m.
Wednesday Evening (07)	Au Sable Hall 1142	6:00 p.m. - 9:00 p.m.

**Technology and Software:** A laptop with JAMOVİ software is required for in-class participation. Students are encouraged to bring headphones that connect to their laptops since coursework will be augmented with video instructions.

JAMOVİ is a user-friendly statistics program that is freely available here: [www.jamovi.org](http://www.jamovi.org).

**\*Please download the 'Solid' version to your laptop by January 9<sup>th</sup>.**

**Course Prerequisites:** Course prerequisites: PSY 101 or HNR 234, STA 215 or STA 312, PSY 300. You may not take any of these prerequisite courses concurrently with PSY 300.

**Course Description:** This course is designed to enhance your ability to organize, summarize, analyze, and visualize data in the context of psychological research. Throughout the course, you will engage in various hands-on activities that will aid the development of your ability to apply information to solve important problems. Additionally, you will learn how to effectively communicate quantitative findings both visually and in writing. Even non-psychology majors will find the skills taught in this course to be highly valuable. Utilizing, understanding and describing basic statistics is an essential skillset that is in high demand among current employers.

**Objectives:** This course is designed to help students develop their skills in the following areas:

- a) Quantitative reasoning: Understanding, critiquing, managing, interacting with, and analyzing data.
- b) Communication: Relaying information about data, orally, in writing, and graphically.

After successful completion of this course, students will be able to:

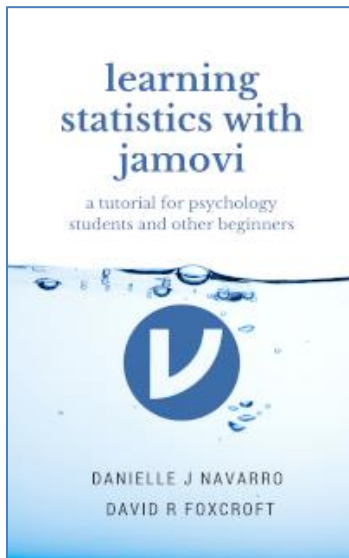
- 1) Interpret the results of correlational and experimental designs.
- 2) Assess reliability and validity quantitatively.
- 3) Identify and apply a variety of descriptive and inferential statistical tests appropriate for analyzing psychological data.
- 4) Explain orally, in writing, and graphically, the findings of psychological research.

It is the instructor's goal that students become proficient in each of these key areas. Evaluations are designed to assess proficiency in these areas.

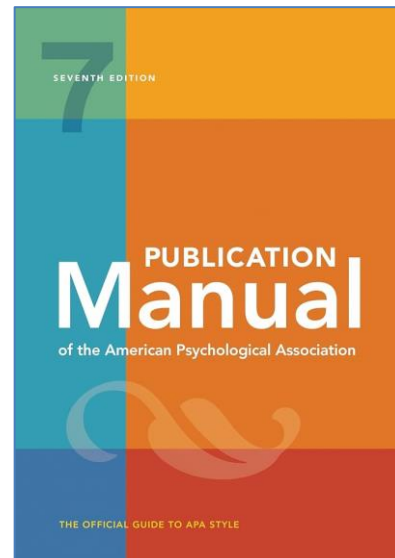
### Course Readings:

See Blackboard for course readings.

Navarro DJ and Foxcroft DR (2022). learning statistics with jamovi: a tutorial for psychology students and other beginners. (Version 0.75). DOI: 10.24384/hgc3-7p15



Publication Manual of the APA (7th edition) (2020). American Psychological Association.



**Evaluation:**

	Description	Weight
Worksheets and Self-Tests	<p>Part of this class will involve working on worksheets designed to practice techniques for interacting with and analyzing data.</p> <p>To account for “life happens” moments, the lowest 2 worksheet grades will be dropped at the end of the semester. Any student that completes all the worksheets will receive a 5% bonus to their grade at the end of the semester.</p> <p>LATE POLICY: Due to the rigorous nature of this course, it is very important that worksheets be completed on time. 50% credit will be given for worksheets that are up to a week late.</p>	20%
Quizzes	The purpose of the quizzes is to help you check your understanding of course material and make sure you are keeping up with the material. Quizzes will be a combination of multiple choice and short answer questions.	30%
Lab Reports	Each lab will involve completion of a brief (approximately two to three page) report detailing the design, analysis and visualization of a dataset.	25%
Lab Exam	Rather than a traditional Final Exam, you will be asked to demonstrate your understanding of course concepts and skills in a lab practical. This means that you will be given a data set and asked to analyze and answer questions about it, working independently, during your section’s schedule Final Exam time (please see course schedule).	25%

**Missed: Worksheet, Quiz or Lab Report:** Email me prior to or within 48 hours of the due date with an explanation of the situation to receive an excused absence or extension. Multiple absences may require documentation from a health professional. The weight of the missed component will either be transferred to the final examination or re-scheduled.

This is a tentative grade distribution. The class average will be centered to 75% prior to assigning final grades.

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%

**Student Behavior:** (online at <http://www.gvsu.edu/studentcode/index.cfm>) and avoid any behavior which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offense. Academic dishonesty is a serious offense 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 the student has obtained credit 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.

**Accessibility:** If there is any student in this class who has special needs because of a learning, physical, or other disability, Please visit Student Accessibility Resources <https://www.gvsu.edu/accessibility/>. Please introduce yourself in person or by email and inform me how I can best support your learning needs. If you would like physical assistance evacuating this classroom in an emergency, please help me develop a plan to assist you.

**Student Academic Success Center:** Students who require help in developing strategies for better time management, writing, study or examination skills should contact the Advising Resource Centre (200 STU; <https://www.gvsu.edu/sasc/>) for free tutoring sessions.

***Schedule is TENTATIVE and will be updated periodically***

Week 1: Introduction January 7-9	
Introduction and course overview	Read: Syllabus Read: An introduction to JAMOV1 (Pages 43-55)  Install: JAMOV1 (w headphones)

Assignment #1 – Due January 11, by Midnight	
Week 2: JAMOVl environment January 14-16	
Descriptive Statistics	Read: Descriptive statistics (Pages 59-84)
Week 3: Descriptives and Visualizations January 21-23	
Data Visualization	Read: Drawing Graphs (Pages 85 – 96)
Week 4: Data Manipulation & Contingency Tables January 14-16	
Data Manipulation & Contingency Tables	Read: Pragmatic matters (Pages 97-117)
Week 5: Probability February 4-6	
QUIZ #1  Probability	Read: Introduction to Probability (Pages 127-150)
Week 6: Hypothesis Testing February 4-6	
Hypothesis Testing	Read: Hypothesis Testing (Pages 181-207)
Week 7: Categorical Data February 11-13	
Categorical Data Analysis	Read: Categorical Data Analysis (Pages 211-239)
Week 8: T-Tests February 18-20	
One Sample T-test Paired Samples T-test Independent Samples T-test	Read: Comparing two means (Pages 241-280)
Week 9: One Way ANOVA February 25-27	

Analysis of Variance (One-Way) Independent and Repeated Post-Hoc Tests	Read: Comparing several means (One-way ANOVA) • (Pages 327-360)
Week 10: Skibidi Break March 2-9	
SPRING BREAK!!!	
Week 11: Factorial ANOVA March 11-13	
QUIZ # 2  Factorial ANOVA • Independent and Repeated	Read: Factorial ANOVA (Pages 361-284)
Week 12: ANOVA Effect Testing March 18-20 Last Day to withdraw with a 'W' = March 21	
Factorial ANOVA • Post-Hoc • Planned-Comparisons • Simple Effects	Read: Factorial ANOVA (Pages 384-292)
Week 13: Regression March 25-27	
Correlation and Regression • Slopes • Models	Read: Correlation (Pages 281-292)
Week 14: Multiple Regression April 1-3	
Multiple Regression • Interactions • Simple Effects	Read: Linear Regression (Pages 292-325)
Week 15: Wind Up April 8-10 Student Scholarship Day Bonus Opportunity (April 9 <sup>th</sup> )	
QUIZ #3  Final Worksheet Due	April 8 and 9 <sup>th</sup> Regularly Scheduled Class  April 10 – Professor at Conference

### **Lab Exam Dates**

T/R Morning (08): Tuesday, April 22, 10:00 a.m. - 11:50 a.m.

T/R Afternoon (09): Thursday, April 24, 2:00 p.m. - 3:50 p.m.

W Evening (07): Thursday, April 24, 2:00 p.m. - 3:50 p.m.