

PSYC 398: INTERMEDIATE STATISTICS

University of Wisconsin-Stevens Point
Spring Semester 2023

PROFESSOR INFORMATION

Name: Mark A. Ferguson, Ph.D.
Email: mark.ferguson@uwsp.edu
Office: SCI D331 (or via Zoom)
Hours: MW 8-8:45am, M 10-11:30am,
or by appointment

COURSE INFORMATION

Section/Credits: 1/3
Meetings: W 10am-11:30pm
Location: SCI B346
Prerequisites: Instructor Consent

COURSE DESCRIPTION

The purpose of this course is to provide you with a level of familiarity and comfort with analyses typically encountered in graduate training programs. The course will focus on four core areas. First, it will focus on essential concepts in statistics. Second, it will focus on multiple regression and its derivations, such as mediation analysis. Third, it will focus on variants of the analysis of variance (ANOVA), such as multivariate analysis of variance (MANOVA). Fourth, it will focus on measurement-related analyses, such as exploratory factor analysis.

As an independent study course, the majority of your learning in this course will be based on what you do outside of this class. It will be essential to keep up with your readings, to practice the activities from your book, and to reach out when you need assistance. The course sessions will be used to clarify your understanding, answer questions, conduct analyses, etc. Keep in mind, you should not think about your professor as a lecturer, but rather as a discussant and consultant. I will serve as a guide, rather than as an information provider.

LEARNING OUTCOMES

After completing this course, students will be able to:

1. Describe the purpose and rationale behind intermediate statistical analyses
2. Conduct and interpret intermediate statistical analyses using appropriate software
3. Write-up intermediate statistical results for publication in APA-style manuscripts

COURSE TEXTBOOKS

Required: Warner, R. M. (2021). *Applied statistics II: Multivariable and multivariate techniques* (3rd ed.). Sage Publications.

Optional: Rasco, D. (2021). *An R companion for applied statistics II: Multivariable and multivariate techniques*. Sage Publications.

Resources: <https://edge.sagepub.com/warner3e>

COURSE CALENDAR

Date	Topic	Reading	Homework
Introduction			
W 2/1	Essential Concepts	(Chapter 2)	
W 2/8	The New Statistics	Chapter 1	
W 2/15	Data Screening	Chapter 2	H1 Assigned
W 2/22	Statistical Control	Chapter 3	
Regression Analysis			
W 3/1	Multiple Regression I	Chapter 4	H1 Due
W 3/8	Multiple Regression II	Chapter 5	
W 3/15	Dummy Predictors	Chapter 6	
W 3/29	Moderation	Chapter 7	H2 Assigned
W 4/5	Mediation	Chapter 9	
Analysis of Variance			
W 4/12	Analysis of Covariance	Chapter 8	H2 Due
W 4/19	Multivariate Analysis of Variance	Chapter 11	
W 4/26	Repeated Measures	Chapter 14	
Measurement			
W 5/3	Exploratory Factor Analysis	Chapter 12	H3 Assigned
W 5/10	Reliability Analysis	Chapter 13	
W 5/17	Final Exam Week	None	H3 Due

The reading in parentheses is from Warner, Volume I and is posted on Canvas. All other readings are found in your textbook.

GRADED ASSIGNMENTS

In this course, you will be required to complete three homework assignments—introduction, regression, and ANOVA and measurement. Students become more comfortable with statistics when they can correctly choose an analysis, when they can correctly perform this analysis, and when they can adequately write-up the results. Thus, homework assignments will involve these three elements—choosing analyses, conducting analyses, and writing up your results. These homeworks will be available and due on the dates listed on the calendar. Each will be worth 100 points or 1/3 of your final course grade. You can use the grading scale below to determine your final grade.

A = 279-300 points A- = 270-278 points B+ = 261-269 points B = 249-260 points
 B- = 240-248 points C+ = 231-239 points C = 219-230 points C- = 210-218 points
 D = 180-209 points F = 0-179 points.

COURSE POLICIES

Attendance

The professor will not take formal attendance. Nonetheless, consistent attendance is important for performing well in the course. Classes will clarify the readings and include other material that is covered on the homeworks. If you cannot attend class, please be sure to ask another student for a copy of their notes.

Communication

Please contact the professor with your questions or concerns related to this course, as well as other academic and career-related issues. Office hours are the most reliable means of contact. The professor will hold three office hours per week. If you cannot attend office hours, schedule an appointment. Email is the next most reliable means of contact. The professor will generally respond to emails within two business days (but not on evenings or weekends). Other methods of contacting the professor (such as stopping by outside of office hours) are usually unreliable.

Disabilities

UWSP is committed to reasonable accommodations for students with disabilities and temporary impairments. If you have a disability or acquire a condition where you need assistance, please contact the Disability Resource Center as soon as possible. Check out their website for more information: <https://www.uwsp.edu/disability-resource-center/>.

Emergencies

In the event of a *medical emergency*, call 911 or use the Red Emergency Phone in the hallway near our classroom. Offer assistance if trained and willing to do so. Guide first responders to those in need. In the event of a *tornado warning*, move to the lowest level interior room without windows. See <https://www.uwsp.edu/emergency/Pages/floor-plans.aspx> for floor plans showing the severe weather shelters (such as interior hallways and rooms). Avoid wide-span structures (such as gyms, pools, or large classrooms). In the event of a *fire alarm*, evacuate the building in a calm manner and meet on the south side of SCI (outside of TNR). Notify staff or emergency

personnel of any missing individuals. In the event of an *Active Shooter/Code React*, run/escape, hide, fight. If trapped, hide, lock doors, turn off lights, spread out, and be quiet. Call 911 when it is safe to do so. Follow the instructions of first responders. See the Emergency Management site for details about UWSP emergency procedures: <https://www.uwsp.edu/emergency/Pages/emergency-procedures.aspx>.

Extensions

Extensions will generally only be considered for students who cannot complete assignments on time due to academic, athletic, military, or religious obligations, major illnesses, and comparable reasons. Requests for extensions might require documentation, such as letters from coaches or physicians. In most cases, assignments will need to be completed in a week of the initial deadline to receive credit.

Incompletes

Incomplete grades will only be considered for students in exceptional situations, such as serious medical and emergency situations. They are not for students who feel overwhelmed by routine academic or extracurricular commitments. Requests for incompletes must be accompanied by documentation. In most cases, all coursework must be completed within one regular semester (fall or spring) to avoid receiving an automatic F in the course.

Misconduct

The professor takes academic misconduct (such as cheating and plagiarism) seriously. The minimum penalty for an instance of misconduct will be a zero for the assignment. Additional penalties will be considered under university policy. Please do not put yourself or others through disciplinary hearings. To read about UWSP's policies, go to <https://www.uwsp.edu/dos/Pages/Student-Conduct.aspx>.

Safety and Reporting

UWSP is committed to the promotion of safe, inclusive, and productive campuses—where people from all backgrounds and perspectives can actively and comfortably contribute to our learning communities. Thus, under federal and state laws, as well as university policies, the professor is required to report acts of an offensive or criminal nature that occur inside or outside of class. This includes acts of sexual harassment and assault, bias and hate crimes, illicit drug use, and violence. Disclosure or description of such incidents, past or current, may be reported to the Dean of Students office (<http://www.uwsp.edu/dos/>) or local authorities. If you would like to report incidents anonymously, please review the options on the Dean of Students' website: <https://www3.uwsp.edu/dos/Pages/Anonymous-Report.aspx>.