STAT 873 Applied Multivariate Statistical Analysis Fall 2023

#### Instructor

Name: Christopher R. Bilder, Ph.D.
Office: Hardin Hall 342C
Office hours: Tuesdays and Thursdays after class until 10:45AM; also by appointment
E-mail: bilder@unl.edu
Course website: Available through <u>www.chrisbilder.com</u>; some additional items will be available on Canvas

# Suggested readings

Everitt, B. and Hothorn, T. (2011). An Introduction to Applied Multivariate Analysis with R. Springer. Online version available through UNL library.
Johnson, D. (1998). Applied Multivariate Methods for Data Analysts. Duxbury Press.
Johnson, R. and Wichern, D. (2007). Applied Multivariate Statistical Analysis. Wiley.
Zelterman, D. (2015). Applied Multivariate Statistics with R. Springer. Online version available through UNL library.

# Prerequisites

STAT 801: Statistical Methods in Research Strongly recommended courses – Regression modeling (STAT 870) and matrix algebra

#### Grades

Grades will be based upon the following:

	Test #1	Test #2	Test #3	Final Exam	Projects and quizzes
% of grade	5%	20%	20%	25%	30%

Grading Scale:

Α	B	С	D	F
≥90% and ≤100%	≥80% and <90%	≥70% and <80%	≥60% and <70%	<60%

+ and – letter grades are 2.5% from the above cut off points. For example,  $A^-$  is 90-92.5% and  $B^+$  is 87.5-90%.

All projects need to be turned in electronically via Word or PDF documents. A project completed in an unreadable or unprofessional manner will be returned for a zero grade. No late projects or quizzes are accepted.

I recommend completing the projects in groups. If you work in a group, all group members are expected to participate equally and have a complete understanding of all components for it. I will

lower a student's project grade if he/she does not abide by this group work policy.

## **Statistical software**

The statistical computing environment R will be used extensively in this class. R is available to download for free from <u>http://www.r-project.org</u>. Links to download the Windows and Mac versions are <u>http://cran.r-project.org/bin/windows/base</u> and <u>https://cran.r-project.org/bin/macosx</u>, respectively.

### **Class recordings**

All classes will be recorded during the semester. Links to these recordings will be posted to the course website. Please do not abuse their availability by skipping class. Use these recordings to review and as a back-up if extenuating circumstances prevent you from attending class.

## **Final exam**

The final exam is scheduled for 7:30AM to 9:30AM on Thursday, December 14.

## **Expectations of students**

Students are expected in this course to

- 1. Understand all the material in the course notes
- 2. Understand all programming code and calculations
- 3. Reproduce all parts of the examples in the course notes
- 4. Review the class recordings
- 5. Examine the practice problems
- 6. Ask questions when something is not clear

#### Additional statements

Please see the online syllabus supplement for additional statements that are required to be part of all syllabi at UNL.