STAT 880 Introduction to Mathematical Statistics Fall 2021

An individual in this course has a documented need for face coverings to be required in this course. Without divulging personal or identifying information, such a documented need might be that a member of their household is unable to be vaccinated or has a health condition that makes vaccines less effective for them. As a result, the College of Agricultural Sciences and Natural Resources has determined that face coverings will be required in this course. If you are unwilling to comply with this requirement, please visit with your advisor about different sections or possible alternative courses that you might take in lieu of this one.

### Instructor

Name: Christopher R. Bilder, Ph.D.

Office: Hardin Hall 342C

Office hours: Tuesdays after class (in-person and Zoom), Thursdays at 12:30PM-1:30PM (Zoom), and by appointment (Zoom)

E-mail: bilder@unl.edu

STAT 880 website: Available through <u>www.chrisbilder.com</u>; additional items available on Canvas Zoom: Web link available on Canvas; all office hours are guaranteed for the first 30 minutes—if no students are present at this time, office hours are ended

### Textbooks

- Wackerly, D., Mendenhall, W., and Scheaffer, R. (2008). Mathematical Statistics with Applications, 7<sup>th</sup> edition.
- Walpole, R., Myers, R., Myers, S., and Ye, K. (2017). Probability & Statistics for Engineers & Scientists, 9<sup>th</sup> edition.

### Prerequisites

Calculus II and a previous introductory course in statistics like STAT 218

### Grades

Grades will be based upon the following:

	Tests*	Final Exam	Projects, Quizzes, etc.**
% of grade	50%	20%	30%

\* There will be three tests during the semester with the lowest grade on them dropped. The remaining two tests each will be worth 25% of your overall course grade. If you miss a test, this will be your drop test. This policy includes class absences that are "university excused" or due to extenuating circumstances. If you miss more than one test, please contact me to discuss the situation and include any documented proof needed to support your case.

\*\* Based on the total number of points earned out of the total number of points possible.

Grading Scale:

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

+ and – letter grades are 2.5% from where the grade levels change. For example,  $A^-$  is 90-92.5% and B<sup>+</sup> is 87.5-90%.

You are required to turn in all projects electronically, and all projects need to be completed in Word or PDF documents. A project completed in an unreadable or unprofessional manner will be returned to the student for a zero grade. No late projects, quizzes, etc. will be 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.

### 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>. The specific link to download the Windows version is <u>http://cran.r-project.org/bin/windows/base</u>.

The symbolic computing environment Sage will be used in this class as well. This will help with algebra and calculus. Sage is available to download for free from <a href="https://www.sagemath.org">https://www.sagemath.org</a>; however, we will focus on using a web-based version available via a Jupyter Notebook at <a href="https://cocalc.com">https://cocalc.com</a>.

## **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 Friday, December 17.

### **Expectations of students**

Students are expected in this class 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. Watch the videos
- 5. 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.