

MATH 452/552: Mathematical Statistics

Spring, 2023

TR 2:00–3:20 PM Boswell 302

Instructor: Larry Leemis

Office: Jones 116 (Phone: 221–2034)

Office hours: Tuesdays and Thursdays 3:30–4:50 PM or by appointment

Purpose:

A student completing this course should understand the mathematical foundations underlying classical and modern statistical techniques.

Prerequisite:

Multivariate calculus, linear algebra, foundations, calculus-based introductory probability.

Text:

Leemis, L., Mathematical Statistics (2020), Lightning Source.

Reference texts:

Casella, George and Berger, Roger (2002), *Statistical Inference*, Second Edition, Wadsworth and Brooks/Cole.

Hogg, Robert V., McKean, Joseph W. and Craig, Allen T. (2005), *Introduction to Mathematical Statistics*, Sixth Edition, Prentice-Hall.

Miller, Irwin and Miller, Marylees (2004), *Mathematical Statistics with Applications*, Seventh Edition, Prentice-Hall.

Software:

The R software will also be used occasionally for Monte Carlo simulations, graphics, and calculations.

Homework:

There will be a homework assignment distributed at the end of the Thursday class period. It will be due at the beginning of the following Thursday class period. Collaboration with classmates is based on the “empty hands” policy. In addition, students taking the graduate version of this course will submit a semester project.

Grades:

Course grades will be determined by these weights:

Homework	20%
Exam I	25%
Exam II	25%
Final exam	30%

The grading scale for the course will be:

90 - 100 %	A
80 - 90 %	B
70 - 80 %	C
60 - 70 %	D
0 - 60 %	F

Plus and minus grades may be assigned within each range.