Syllabus

Math 448 Mathematical Statistics. Spring 2025.

Binghamton University

- Instructor: Vladislav Kargin
- Office: WH-136
- Meeting time and location: MWF 2:20 - 3:50 pm at CW 113.
- Office hours: MF 4 - 5pm, Tuesday 11:30AM - 12:30pm.

This course is a 4-credit course, which means that in addition to the scheduled lectures/discussions, students are expected to do at least 9.5 hours of course-related work each week during the semester. This includes things like: completing assigned readings, participating in lab sessions, studying for tests and examinations, preparing written assignments, completing internship or clinical placement requirements, and other tasks that must be completed to earn credit in the course.

Prerequisite

- A grade of C or better in Math 447

Description

Understand the fundamental idea of statistical inference; conduct standard inferences including point estimation, confidence interval and hypothesis testing. Derive, evaluate and compare point estimators and confidence intervals. If time permits: Apply statistical inference to simple linear regression models. Provides understanding of basic concepts needed for more advanced courses in statistics. Gives initial exposure to statistical software.

Recommended Texts

- “Mathematical Statistics with Applications” by Wackerly, Mendenhall, and Scheaffer. (We will cover Chapters 8 - 10 of the book and possibly some additional topics.)
- Course Lecture Notes – they will be made available at the Piazza webpage.

Lecture notes are mostly based on the book, however, sections are rearranged and some material is added.

Piazza

We will use Piazza (“http://piazza.com/”) for communication. All announcements will be sent to the class using Piazza. Brightspace will only be used minimally if at all.

Homework

Majority of homework will be assigned through WebAssign (https://www.webassign.net).

After a short grace period, you will be required to pay for your WebAssign account (around $120 per term).

Additional homework will be assigned through Gradescope (“https://www.gradescope.com/”).

Quizzes

There will be from 6 to 10 quizzes. The lowest scores for a third of the quizzes will be dropped.

Software

Some classroom demonstrations or homework may involve R or Python. Installation instructions and downloads for R can be found at https://www.rstudio.com/products/rstudio/download/. Python's notebooks can be written at https://colab.research.google.com/

Exams

There will be two midterms and a final exam. Approximate schedule:
Midterm 1 - February 28, Friday
Midterm 2 - ~~March 28, Friday~~ March 31, Monday
Final - as determined by the university

Grading

- Homework 15%
- Quizzes 15%
- Midterms 40% (20 each)
- Final Exam 30%