Math 341   Probability and Statistical Inference   Summer 2009

Instructor   Dr. Amites Sarkar

Text   Probability and Statistical Inference (7th ed.)
                        Hogg and Tanis

Calculator   TI-86 or TI-89

Syllabus   I will aim to cover Sections 1.1–1.6, 2.1–2.4, 2.6, 3.1–3.3,
                        5.1–5.5, 6.1, 6.4, 6.5, 6.7, 6.8, 8.1 and 8.2.

Overview

Probability deals with uncertainty: uncertainty about the future, and sometimes the past and present too. Statistics deals with the collection and analysis of data. Given this, it may seem surprising that the foundation for modern statistics is probability theory. The explanation lies in the fact that a set of data (e.g. on nutrition and life expectancy) is said to show a *statistically significant* effect if such an effect is **unlikely** to be the result of pure **chance**. Probability theory is required in order to make sense of the words "unlikely" and "chance" in the previous sentence.

This course is designed to help you learn intermediate college-level probability theory and statistical inference, and to develop your problem solving skills in the fields of probability and statistics.

Exams

Midterm 1   Thursday 9 July
Midterm 2   Thursday 30 July
Final   Thursday 20 August

Grading

The two midterms are each worth 30%, and the final is worth 40%. If you feel too ill to take an exam, don't take it, but bring a doctor's certificate to me when you feel better and I will make arrangements.

Office hours

My office hours are 11–12 on Mondays, Tuesdays, Wednesdays and Thursdays, in 216 Bond Hall. My phone number is 650 7569 and my e-mail is amites.sarkar@wwu.edu

Relation to overall program goals

Among other things, this course will

i) enhance your problem-solving skills;

ii) help you recognize that a problem can have different useful representations (graphical, numerical, or symbolic);

iii) increase your appreciation of the role of mathematics in the sciences and the real world.