

MATH 251C : Statistics

Topics include basic measurements of central tendency and variability, frequency distributions, probability; binomial, Poisson, Chi-square, Student t, and normal distributions; sampling distributions, estimation of parameters, hypothesis testing, correlation, and linear regression. A graphing calculator will be required.

Credits 4

Lab/Practicum/Clinical Hours 0

Lecture Hours 4

Prerequisite Courses

MATH 092C

Prerequisites

High school Algebra II with a C or higher [or equivalent]; MATH 092 with a C or higher; or recommendation of the Math/Physics Department

Learning Outcomes

- Identify types of data and sampling methods.
- Identify, create, and interpret common statistical graphs.
- Calculate basic descriptive statistics (central tendency, variation, and position).
- Apply basic probability concepts (addition rule, multiplication rule, complement).
- Identify and solve problems involving discrete probability distributions.
- Identify and solve problems involving continuous probability distributions.
- Apply the Central Limit Theorem to problems involving sampling distributions.
- Calculate a confidence interval estimate of population mean, proportion, or standard deviation.
- Test a claim concerning a population mean, proportion, or standard deviation.
- Calculate and interpret the linear correlation coefficient.
- Produce a linear regression model to solve an application problem.