

# STAT 203: Experimental Statistics II, part 1

This course introduces statistical concepts and essential techniques that are frequently used in biomedical data analysis. The emphasis will be equally divided between solid understanding of basic principles and their applications. R software is introduced and used for demonstration throughout the course. Topics covered in the second semester: test of statistical hypothesis; one- and two-sample tests; power and sample size calculation; analysis of variance (ANOVA); nonparametric tests; linear regression; analysis of categorical data; permutation and bootstrap; data analysis using R.

This is the first part of a two-part course. Registration is required separately for each part of the course.

## Learning Objectives

- Understand basic principles of probability and statistics
- Use appropriate statistical tools to analyze data for research

**Credits:** 2

**Class Type:** Graduate Course

**Prerequisites:**

STAT 202

The above course(s) or permission from the instructor. Working knowledge of Algebra II and one semester of Calculus is preferred.

**Program:** Bioinformatics and Data Science