

STAT 515 Fall 2024 Class Schedule

Ray Bai

* This schedule is tentative and is subject to change.

Basic Set Theory and Probability

- 8/21/24: syllabus and course overview, introduction to sets
- 8/23/24: basic set theory, basics of probability
- 8/26/24: basics of probability, counting rules
- 8/28/24: counting rules, conditional probability
- 8/30/24: Bayes' theorem, tree diagrams
- 9/2/24: Labor Day (no class)

Random Variables and Common Probability Distributions

- 9/4/24: random variables, continuous and discrete random variables
- 9/6/24: expected value and variance of discrete random variables
- 9/9/24: Bernoulli trials, binomial distribution
- 9/11/24: Poisson distribution, other discrete distributions
- 9/13/24: normal distribution
- 9/16/24: normal distribution
- 9/18/24: other continuous distributions, random sampling

Sampling Distributions and Central Limit Theorem

- 9/20/24: sampling distribution, Central Limit Theorem
- 9/23/24: Central Limit Theorem
- 9/25/24: Review for Exam 1
- 9/27/24: Exam 1 (in class)
- 9/30/24: sampling distribution of the sample mean
- 10/2/24: sampling distribution of the sample proportion
- 10/4/24: other examples of the Central Limit Theorem

Confidence Intervals for Means and Proportions

- 10/7/24: confidence intervals for population mean
- 10/9/24: variance estimation
- 10/11/24: confidence intervals for population mean with unknown variance
- 10/14/24: confidence intervals for population proportion
- 10/16/24: sample size calculations
- 10/18/24: **Fall break (no class)**

Hypothesis Testing for Means and Proportions

- 10/21/24: hypothesis testing, Type I and Type II errors
- 10/23/24: hypothesis tests for population mean
- 10/25/24: hypothesis tests for population proportion
- 10/28/24: p-values
- 10/30/24: p-values, connections between testing and confidence intervals

Two-Sample Inference

- 11/1/24: confidence intervals and hypothesis testing for difference of two means
- 11/4/24: confidence intervals and hypothesis testing for matched pairs
- 11/6/24: review for Exam 2
- 11/8/24: **Exam 2 (in class)**
- 11/11/24: confidence intervals and hypothesis testing for difference of two proportions

Simple Linear Regression, ANOVA, and Contingency Tables

- 11/13/24: simple linear regression
- 11/15/24: simple linear regression
- 11/18/24: simple linear regression, analysis of variance
- 11/20/24: analysis of variance
- 11/22/24: analysis of variance
- 11/25/24: **Thanksgiving holiday (no class)**
- 11/27/24: **Thanksgiving holiday (no class)**
- 11/29/24: **Thanksgiving holiday (no class)**
- 12/2/24: contingency tables
- 12/4/24: Pearson's chi-squared test for association
- 12/6/24: review for final exam
- 12/13/24: **Final Exam from 12:30-2:30 pm**