

12.11: Learning Outcomes



The content, assignments, and assessments for Concepts in Statistics are aligned to the following learning outcomes. A full list of course learning outcomes can be viewed here: [Concepts in Statistics Learning Outcomes](#).

Module 1: Types of Statistical Studies and Producing Data

- Types of Statistical Studies
- Sampling
- Conducting Experiments

Module 2: Summarizing Data Graphically and Numerically

- Categorical vs. Quantitative Data
- Dotplots
- Histograms
- Measures of Center
- Measures of Spread
- Describing a Distribution

Module 3: Examining Relationships: Quantitative Data

- Scatterplots
- Linear Relationships
- Association vs. Causation
- Linear Regression
- Assessing the Fit of a Line

Module 4: Nonlinear Models

- Exponential Relationships

Module 5: Relationships in Categorical Data with Intro to Probability

- Two-Way Tables

Module 6: Probability and Probability Distributions

- Another Look at Probability
- Probability Rules
- Discrete Probability Distribution
- Continuous Probability
- Normal Random Variables

Module 7: Linking Probability to Statistical Inference

- Distribution of Sample Proportions
- Statistical Inference

Module 8: Inference for One Proportion

- Estimating a Population Proportion
- Hypothesis Testing

- Hypothesis Test for a Population Proportion

Module 9: Inference for Two Proportions

- Distribution of Differences in Sample Proportions
- Estimate the Difference Between Population Proportions
- Hypothesis Test for Difference in Two Population Proportions

Module 10: Inference for Means

- Distribution of Sample Means
- Estimating a Population Mean
- Hypothesis Test for a Population Mean
- Inference for a Difference in Two Population Means

Module 11: Chi-Square Tests

- Chi-Square Test for One-Way Tables
- Chi-Square Test for Two-Way Tables

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