

Spring 2026 Applied Statistics: Skills for Skill Quizzes

This course was standards-based, with student completion of the following skills on small quizzes as a key part of the grade bundles.

Descriptive Statistics Skills

- ☐ **D1:** Identify the population, sample, observational unit, variable, sample statistic, and population parameter in a given statistical study.
- ☐ **D2:** Determine if data is numerical or categorical. If numerical, determine if it is discrete or continuous. If categorical, determine if it is binary, nominal, or ordinal.
- ☐ **D3:** Transform displays of categorical data using tables and bar graphs.
- ☐ **D4:** Describe and interpret displays of numerical data including histograms and boxplots.
- ☐ **D5:** Use summary statistics such as measures of center, measures of spread, and percentiles to describe and compare datasets.

Data Collection Skills

- ☐ **C1:** Identify and evaluate the type of sampling used in a given statistical study.
- ☐ **C2:** Explain the conclusions that can and cannot be drawn from a given statistical study.

Probability Skills

- ☐ **P1:** Calculate probabilities of events from a probability distribution table.
- ☐ **P2:** Convert between z-scores and data values for normally distributed data and approximate normal distribution probabilities using the Empirical Rule.

Inference Skills

- ☐ **I1:** Interpret a given confidence interval, and identify the lower bound, upper bound, point estimate, and margin of error.
- ☐ **I2:** Interpret a given hypothesis test for one proportion, two means, or paired means.
- ☐ **I3:** Set up a hypothesis test for one proportion, two independent means, or paired means.

Regression Skills

- ☐ **R1:** Interpret scatterplots and correlation coefficients to describe the relationship between two numerical variables.
- ☐ **R2:** Interpret linear regression output or equations to describe the relationship between two numerical variables and make predictions.