

MA221: Statistics I

Baker University — Fall 2023

Each section below is from *Statistics: Unlocking the Power of Data* (Third Edition) by Lock⁵.

Exam 1: Categorical and Quantitative Variables

- §1.1: The Structure of Data
- §1.2: Sampling from a Population
- §1.3: Experiments and Observational Studies
- §2.1: Categorical Variables
- §2.2: One Quantitative Variable — Shape and Center
- §2.3: One Quantitative Variable — Measures of Spread
- §2.4: Boxplots and Quantitative / Categorical Relationships
- §2.5: Two Quantitative Variables — Scatterplot and Correlation

Exam 2: Confidence Intervals and Linear Regression

- §2.6: Two Quantitative Variables — Linear Regression
- §3.1: Sampling Distributions
- §3.2: Understanding and Interpreting Confidence Intervals
- §3.3: Constructing Bootstrap Confidence Intervals
- §3.4: Bootstrap Confidence Intervals Using Percentiles

Exam 3: Hypothesis Testing and Statistical Inference

- §4.1: Introducing Hypothesis Testing
- §4.2: Measuring Evidence with p -Values
- §4.3: Determining Statistical Significance
- §4.4: A Closer Look at Testing
- §4.5: Making Connections
- §5.1: Hypothesis Tests Using Normal Distributions
- §5.2: Confidence Intervals Using Normal Distributions