Final Exam Topics - Math 217

- Types of Variables (Numeric or categorical)
- Features of Experimental Design
  - Random Assignment
  - Control Group
  - Blinding
- Effects of variability of sample mean or proportion
  - due to sample size
  - due to population size
- Interpreting Box plots
  - Center
  - Spread
  - Shape
  - Outliers
- Difference between Samples and Populations
- Relative Frequency
- Histograms
- Effect of skewness on mean and median
- Empirical Rule (68%, 95%, 99.7% rule)
- Z-scores
- Rules for determining outliers
  - Z-score method
  - Interquartile Range Method
- Interpreting Scatterplots

- Regression
  - Interpreting Regression line
  - Interpreting r and r^2
  - Determining Residuals
  - Making Predictions
  - Dangers of Extrapolation
- Exponential Model
  - growth factor
  - initial value
- Two way tables and probability
  - Marginal Probabilities
  - Joint Probabilities (and, or)
  - Conditional Probabilities
  - Rule of Complement
  - Independence
- Discrete Random Variables
  - Finding probabilities
  - Finding expected value (μ)
- Normal Distribution
  - Finding Probabilities
  - Finding Percentiles
- Quadratic Model
  - Direction
  - Vertex
  - X & Y intercepts
  - Gravity Application