

Statistics Midterm 2 Review

The Midterm will be open book and open notes. Bring your own paper and calculator.

The Midterm will cover material from Chapters Ch. 6, 7, 8, 9, 10.

Ch.6 Categorical Variables

- Bar Graphs
- Risk, Relative Risk, Baseline Risk
- see page 177

Ch. 7 Probability

- Interpretations of Probability (Classical, Long-Run Relative Frequency, Personal)
- Random outcomes and events
- Complements, disjoint/mutually exclusive, and independent events
- Probability Rules
- Conditional Probability, Bayes Rule
- Simulation

Ch. 8 Random Variables

- Discrete Random Variables $P(X=k)$
- Probability Distribution
- Expected Value $E[X]$
- Binomial Distribution, page 261, $\mu = E[X] = np$, $\sigma = \sqrt{np(1-p)}$
- Continuous Random Variables
- Standard Normal Distribution
- Normal Distribution
- Standardization $Z = \frac{x - \mu}{\sigma}$
- $P(a \leq Z \leq b) = P(Z \leq b) - P(Z \leq a)$
- $P(Z \geq c) = 1 - P(Z \leq c)$

Ch. 9 Means and Proportions as Random Variables

- statistics, parameter
- sampling distribution
- Central Limit Theorem for sample proportions, page 298
- Central Limit Theorem for sample means, page 304
- Central Limit Theorem, page 309

Ch 10 Estimating Proportions with Confidence

- Margin or Error
- Confidence interval, confidence level
- See page 335