

## Applied Statistics I

## EXAM II Topics to Review

### CHAPTER 10: Probability

- Density curves
- Relative frequency definition of probability

### CHAPTER 11: Sampling Distributions

- Parameters and statistics
- Sampling distribution of  $\bar{X}$  under various assumptions
- The Central Limit Theorem

### CHAPTERS 14-16: Confidence Intervals and Significance Tests

- Simple conditions for inference
- $z$  confidence interval for a population mean
  - Role of standard deviation, level of confidence and sample size
  - Interpretation of *confidence* and a confidence interval
- Sample size for desired margin of error  $m$
- $z$  test statistic and interpretation
  - Null and alternative hypotheses
  - $p$ -value and level of significance ( $\alpha$ )
  - Interpretation of the  $p$ -value in context
  - One- and two-sided tests
  - Practical vs statistical significance
- Duality of significance tests and confidence intervals

### STUDY HELPS

- End of section and end of chapter summaries.