

## SM339 FINAL EXAM INSTRUCTIONS

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### 1 Final Exam structure

The final exam will consist of **two parts for a total of 3 hours**, described below. The exam is cumulative and will cover the suggesting topics:

1. The Simple Linear Regression Model, assessing conditions and inference on the regression coefficient
2. Transformations
3. Inference for Regression Slope, ANOVA
4. Regression, Correlation and Intervals for Prediction
5. Multiple Regression and Assessing them
6. Comparing Two Regression Lines, Coding Categorical Variables
7. Testing Subsets of Predictors
8. Logistic Regression and Odds Ratios

#### 1.1 Part 1 (60 points):

1. **Laptops are not permitted on Part 1.** Allowed resources are:
  - Calculator
  - A formula sheet, handwritten by the student, **not to exceed two sides of 8.5x11" paper** (e.g., one page, front and back).
2. Questions on this part 1 will consist of **multiple choice (Approximately 10 questions) and short answer questions (Approximately 3 to 5 problems with multiple parts)**. These may require making calculations (such as constructing a CI, partition of variability calculation, use the model for prediction just to name a few). Students **should not and will not be asked to provide R code**, but they should be prepared to interpret R (or any statistical software) output.
3. Answers will be written directly on the test/exam document/paper.
4. You may spend up to 90 minutes on Part 1. When you submit Part 1, you'll be given Part 2 to work on for the remaining time.

#### 1.2 Part 2 (40 points):

This part 2 will have two problems with multiple parts each. One on **multiple linear regression** and one on **Logistics regression** with a more emphasize on Logistics regression as we haven't really test you on that.

1. Student may use the remaining time (of the three hours) on Part 2.
2. **Laptops are permitted on Part 2.** Allowed resources are:
  - Calculator
  - Your formula sheet from Part 1.
  - R or RStudio or any other statistical software as directed by your instructor, on your laptop (NO INTERNET), including any R (or any other statistical software) scripts from lecture notes you have previously saved during the semester. No other applications may be open on your laptop. Internet search of any sort will be consider as violation of honor conduct. (R help is still available without internet.)

3. You will be asked to conduct analyses and interpret your results. Problems will be similar in style to examples from classes, quizzes, exams and/or homework problems. For any problem, if there exists a "shortcut" command, you should feel free to use it.
4. **Answers for this part will be reported as directed by your instructor.**

## 2 Use of Unauthorized Resources

1. Students may not collaborate on any part of the exam. If you have questions, you should direct them to your instructor or whoever is proctoring the exam.
2. **If you use unauthorized resources on the exam (for example, the internet), your grade may be penalized, up to earning an F in the course.** This will certainly be classified as a violation of honor conduct.

## 3 Final Exam Day and Time:

The final exam for this class is scheduled on **Wednesday May 10th at 1300**. The location is most likely **NOT** your regular classroom. Your instructor will be communicating to you the location where your final exam will take place.

**Important Notes:** If you are taking the **ALTERNATE** final exam for this class, it is scheduled on **Thursday May 11th at 0755 in CH106**.