1. Like the first two tests, this test will have a closed-book and an open-book portion.

2. The test covers everything that we covered from Chapters 12–15. We will not have finished Chapter 15 yet and the test covers only part of it. (This corresponds to days 29–39 on the daily activity list.) The relevant homework problems are 46–57. There were also two videos assigned in this part of the course.

3. We covered the following sections and topics:

   - Chapter 12
     Be able to find standard errors and confidence intervals for coefficients in a model (both using \texttt{R summary} as well as resampling). Be able to interpret a confidence interval. Understand the difference between confidence intervals and prediction intervals for given values of the explanatory variables. NOT IN BOOK: Day 30, the standard model.

   - Chapter 13
     The logical structure and language of hypothesis testing. Know: null and alternate hypotheses, test statistic, \( P \)-value, Type I and II errors. Be able to say exactly what a \( P \)-value is telling you, even when the person using a \( P \)-value hasn’t been too explicit about the null hypothesis. Understand how shuffling gives a test of the null hypothesis is certain circumstances.

   - Chapter 14
     Understand exactly what the null hypothesis considered in this chapter is: a hypothesis about the whole model. Know what the standard test statistics are (\( R^2 \) and \( F \)) and know how to get a \( P \)-value by shuffling and by reading standard \texttt{R} output. Know how to compute \( F \) by understanding our wonderful graph of \( R^2 \) against the number of model terms. Know also the relationship of \( F \) to sums of squares.

   - Chapter 15
     Only sections 15.1 and 15.5 are on the test. Focus your attention on ANOVA tables and summary reports from a model (\texttt{anova()} and \texttt{summary()}), Understand exactly how they are constructed and what hypotheses can be tested using them.