

Statistics 110 and 201, Fall 2017
Outline of Lecture 16, Wed. November 22

For students who are unable to attend class today, here is an outline. You can get most of the material by reading Sections 5.4 and 7.2 in the textbook, and reading the two “seat location” examples posted with the lecture on Monday, Nov 20. If you don’t have the book, there are two copies on reserve in the Ayala Science Library.

Overall topic for today:

Once the null hypothesis of equal means has been rejected in ANOVA, how do we find out which means differ? Use techniques for “multiple comparisons.” We will use the two “seat location” examples posted on the website for Nov 20 lecture as examples of these methods.

Here is the outline:

1. Go over the 1st page of the GPA and seat location example, posted with the Nov 20 lecture.

Cover Section 5.4, including the following topics:

2. Discuss individual error rate and family-wise error rate, and why we want to control family-wise error rate.
3. Discuss relationship between tests and confidence intervals for a difference in two means.
4. Recall how to find a CI for a difference in two means.
5. Cover “Fisher’s LSD” method of multiple comparisons.

Cover Section 7.2, including the following topics:

6. The Bonferroni method for multiple comparisons
7. Tukey’s HSD method for multiple comparisons
8. Discuss trade-offs in the 3 methods (Fisher, Bonferroni, Tukey)

Finish examples:

9. Cover page 2 of the GPA and seat location example posted on Nov 20
10. Cover extended example: Party days and seat location posted under Nov 20 and Nov 22