STAT 5531 Final — Fall 2010

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1. (20%) Suppose that a study involves two characteristic measurements.

1. Evaluate and test the hypothesis with α = 0.05.

Comparing with critical value

We see and thus we reject at the level α = 0.05 and conclude that the population mean vector is not equal to.

1. Determine the lengths and directions for the axes of the 95% confidence ellipse.



The center is at and the half-lengths of the major/minor axes are:

The axes lie along

2. Suppose that a clinical study involves 3 characteristic measurements in two groups.

1. Perform the analysis of one-way MANOVA at α = 0.05.