

I. **Sections to Read** (All content from DeGroot and Schervish's *Probability and Statistics* unless otherwise noted) A digital copy of the textbook is available for on our class PWeb site, under the Day One Access tab.

- (a) Section 9.1 (pages 538 - 540, and 545 - 547 only, sections titled "The p -value" and "Hypothesis-Testing Terminology")

II. **Objectives** (By the end of the day's class, students should be able to do the following:)

- Give the precise definition of the p -value of a test with respect to significance levels.
- Provide an intuitive meaning for p -value in cases where the null hypothesis is simple, and large values of statistic are unlikely.
- Calculate the p -value of a sample, both in cases with simple and composite hypotheses.

III. **Reflection Questions** (Submit answers on Gradescope <https://www.gradescope.com>)

- 1) Suppose you perform a hypothesis test and find a p -value of 0.049. Explain why it would be incorrect to say that there is a 4.9% chance that the null hypothesis is true.
- 2) Determine whether each of the following statements is true or false. Briefly explain.
 - i. Every hypothesis test procedure has exactly 1 size.
 - ii. Every hypothesis test procedure has exactly 1 level of significance.
 - iii. Every hypothesis test procedure has exactly 1 p -value.

IV. **Additional Feedback** Are there any topics you would like further clarification about? Do you have any additional questions based on the readings / videos? *If not, you may leave this section blank.*