

STAT 3119 ANOVA

08/29/2019 @GWU

Homework

- **Reading:** Chapter 15; Appendix A.
- Rerun the example R code in the lecture note to see if you can the same results. You get better quickly by practicing the examples.
- **Homework:** Problem 15.9, 15.14 (finish at home, no need to turn-in this time, we discuss in the next class)

*15.9. An economist compiled data on productivity improvements last year for a sample of firms producing electronic computing equipment. The firms were classified according to the level of their average expenditures for research and development in the past three years (low, moderate, high).

- a. Is this study experimental, observational, or mixed experimental and observational? Why?
- b. Identify all factors, factor levels, and factor-level combinations.
- c. What type of study design is being implemented here?
- d. What is the basic unit of study?

*15.14. A research laboratory was developing a new compound for the relief of severe cases of hay fever. The amounts of two active ingredients (low, medium, high) in the compound were varied at three levels each using 18 volunteers. Randomization was used in assigning volunteers to each of the treatment combinations. Data were collected on hours of relief.

- a. Is this study experimental, observational, or mixed? Why?
- b. Identify all factors, factor levels, and factor-level combinations.
- c. Describe how randomization would be performed in this study.
- d. What type of study design is being implemented here?
- e. What is the basic unit of study?