STAT371: Introductory Applied Statistics for the Life Sciences Spring 2018

Chapter 1 — Introduction Summary

- 1. What is Statistics?
 - Statistics is the science of converting data into knowledge.
 - Statistics is "learning in the presense of variation." (Wardrop)
- 2. Populations and Samples
 - A **population** is any well-defined collection of things.
 - A **sample** is any subset of a population.
- 3. Types of Statistics
 - Descriptive statistics: Summarizing data either graphically or numerically.
 - Inferential statistics: Using a sample to make statements (infer) about the properties of a population.
 - Estimation
 - Testing
 - Fitting models
- 4. Types of Data
 - Numerical: Data that consists of numbers.
 - Continuous: Any value in a specified range is possible. (measurements)
 - Discrete: Only certain specific values are possible. (for example, counts)
 - Categorial: Data that is not numbers.
 - Nominal: No natural order.
 - Ordinal: A natural order exists, but no associated numbers.