

Intro. to Statistics 1

MAT-123



CHAPTER ONE

TERMINOLOGY

Sample vs Population



- **Sample**

- a group that does not include every member of the entire population (i.e. 30 students from MCC).

- **Population**

- every member of a category (i.e. the census gathers information from every US citizen).

Statistic vs Parameter



- Statistic
 - information gathered from a Sample
- Parameter
 - information gathered from a Population

Four common data types



- **Quantitative data-** numerical data that can be measured.
 - ✦ height, distance, temperature, GPA
- **Qualitative data-** non-numerical immeasurable data
 - ✦ categories or just names: letter grades, car types, states
- **Discrete data-** data that is countable
 - ✦ number of people in a room
- **Continuous-** data that is measured, and can be repetitively divided in half
 - ✦ i.e. years → nanoseconds

Chapter 1: Levels of measurement



- **Nominal- just categories**
 - ✦ Alabama, New Jersey, Arizona
- **Ordinal- categories that can be put into an order**
 - ✦ Small, medium, large
- **Ratio-differences with a natural zero--there cannot be negative values.**
 - ✦ tuition cost, distance
- **Interval- differences with no natural zero—values can be negative**
 - ✦ Temperature: -15°F or 90°F

More examples on page 8

Five common sampling methods

Random Sampling

Every member of the population has an equal chance of being picked

Pick out of a hat

Cluster Sampling

Break into several groups and pick all members of a few groups

Have each group count as a classroom on campus. Only count people in this classroom and the tutoring center

Stratified Sampling divide into 2 or more groups and pick the same number from each group.

Boys: Tom, Allan, Darryl

Girls: Jane, Staci, Mary

Systematic sampling

Every n^{th} data point

The 2nd 4th 6th 8th 10th person in line

Convenience sampling

Pick members that are convenient