STAT 269

Basic Definitions

- **Data**: pieces of information to which meaning has been attached
- **Statistics**: a collection of methods for planning experiments, obtaining data, and then organizing, summarizing, presenting, analyzing, interpreting, and drawing conclusions based on the data.
- Basic Terms
 - **Population**: the complete set of all individuals or units that are of interest in the study
 - $-\operatorname{\mathbf{Sample}}$: the subset of the population that is actually studied
- Two Key Types of Numbers
 - **Parameter**: a numerical measurement, usually unknown, describing some characteristic of a population
 - **Statistic**: a numerical measurement describing some characteristic of a sample

• Branches of statistics

- **Experimental Design**: the branch of statistics that deals with planning experiments and obtaining data
- **Descriptive Statistics**: the branch of statistics that deals with organizing, summarizing and presenting data
- Inferential Statistics: the branch of statistics that deals with analyzing, interpreting, and drawing conclusions based on the data

• General Method of Statistical Inquiry

- 1. Form a specific question to be answered
- 2. Collect data according to some design (randomness)
- 3. Analyze data and form conclusions