

## Ch 1 – Some basic terminology

### Populations & Samples p 3

Samples – the measurements we know

Associated Population – what we would like to know

– may be concrete (enumerative studies,  
or hypothetical (analytic studies)

### Probability and Inference p 6

Probability – assume population, deduce properties of samples

Inference – observe samples, infer properties of the population

Variables – one, two, many – univariate, bivariate, multivariate

Descriptive vs Inferential Statistics (Mostly Descriptive in this Chapter)

Designed Experiments - in which treatments to be compared are assigned to experimental units – like Example 1.4

**Descriptive Methods** (for frequency distributions, or characteristics of them):

#### graphical methods:

stem-and-leaf

dotplot

histogram

discrete data – quantitative or qualitative

continuous data – quantitative only

distribution shapes for quantitative data

boxplots (especially for comparison of distributions)

Note time series (order matters) See Example 1.7 - histogram not useful in this case.

#### numerical methods

quantitative data:

mean, median, percentiles (incl quartiles)

range, standard deviation (and variance)

interquartile range

outliers, extremes,