

### **Assignment #3: Tables, Descriptive Statistics, Histograms & Bell Curves**

Test scores are provided for two tests taken by students in one course and the data (rows listing first name, score in Test #1, score in Test #2) are provided as a DOCX file online.

**(a)** Create a Data Table in Excel. Organize the table by alphabetizing the order variable (the names) using the “sort” function in Excel. Include a table title and table column headers.

**(b)** Using Excel, compute the following descriptive statistics for both sets of the legitimate variables (test scores): Count, average, standard deviation, minimum, maximum, median, and mode. These statistical data should appear in the Table below the data rows.

**(c)** Using Excel, create one marked scatter plot that shows the data of Tests #1 (red squares) and #2 (blue triangles). Include horizontal lines at the respective average value and using the appropriate color. Do the data clump?

**(d)** Create histograms for Tests #1 and #2. Full range of possible values, bin range  $\geq 3$ , no gaps.

**(e)** Compute values of the functions  $f(x) = (2\pi\sigma^2)^{-0.5} \exp(-(x-a)^2/2\sigma^2)$  using the averages  $a$  and standard deviations  $\sigma$  for Tests #1 and #2 and create unmarked line plots of the functions for  $0 \leq x \leq 100$  together in one graph. Are the test score distributions well described by a normal distribution?

**Submission & Deadline:** The assignment must be completed with MS Excel. Submit one Excel file “A03\_’your name’.xlsx” with **(a)-(c)** on sheet #1, **(d)** on sheet #2, and **(e)** on sheet #3 by Tuesday, 02/15/11, midnight. Bring one hardcopy to class on Wednesday, 02/16/11.