To Submit: Each data set should be in its own sheet. Call the first sheet Central Tendency, the second sheet Variation, and the third sheet Stats Package. Save the excel file *yourlastname*DescriptiveStatistics.xlsx and email the file to asartor@fscj.edu

Technology Step by Step
EXCEL Step by Step
Finding Measures of Central Tendency

Find the mean, mode, and median of the data representing the population of licensed nuclear reactors in the United States for a recent 15-year period:

104	104	104	104	104
107	109	109	109	110
109	111	112	111	109

1. On an Excel worksheet enter the numbers in cells A2–A16. Enter a label for the variable in cell A1.

   On the same worksheet as the data:

2. Compute the mean of the data: key in **=AVERAGE(A2:A16)** in a blank cell.

3. Compute the mode of the data: key in **=MODE(A2:A16)** in a blank cell.

4. Compute the median of the data: key in **=MEDIAN(A2:A16)** in a blank cell.

These and other statistical functions can also be accessed without typing them into the worksheet directly.

1. Select the Formulas tab from the toolbar and select the Insert Function Icon  .

2. Select the Statistical category for statistical functions.

3. Scroll to find the appropriate function and click [OK].

	A	B	C
1	Number of Reactors		
2	104	107.7333	mean
3	104	104	mode
4	104	109	median
5	104		
6	104		
7	107		
8	109		
9	109		
10	109		
11	110		
12	109		
13	111		
14	112		
15	111		
16	109		

(Excel reports only the first mode in a bimodal or multimodal distribution.)

EXCEL Step by Step

Finding Measures of Variation

Example XL3–2

Find the sample variance, sample standard deviation, and range of the data:

9 10 14 7 8 3

1. On an Excel worksheet enter the data in cells A2–A7. Enter a label for the variable in cell A1.
2. In a blank cell enter **=VAR(A2:A7)** for the sample variance.
3. In a blank cell enter **=STDEV(A2:A7)** for the sample standard deviation.
4. For the range, compute the difference between the maximum and the minimum values by entering **=Max(A2:A7)-Min(A2:A7)**.

Note: The command for computing the population variance is VAR.P and for the population standard deviation is STDEV.P

These and other statistical functions can also be accessed without typing them into the worksheet directly.

1. Select the Formulas tab from the Toolbar and select the Insert Function Icon,  .
2. Select the Statistical category for statistical functions.
3. Scroll to find the appropriate function and click [OK].

	A	B	C	D
1	Strikes			
2	9		Variance	13.1
3	10		Standard Deviation	3.619392214
4	14		Range	11
5	7			
6	8			
7	3			

Descriptive Statistics in Excel
(Note: Analysis Tool-Pak must be loaded first)

Note: If Data Analysis is not there follow these steps

1. Click the File tab, click Options, and then click the Add-Ins category
2. In the Manage box, select Excel Add-ins and then click Go.
3. In the Add-Ins box, check the Analysis ToolPak check box, and then click OK.

Excel Analysis Tool-Pak Add-in Data Analysis includes an item called Descriptive Statistics that reports many useful measures for a set of data.

1. Enter the data set shown in cells A1 to A9 of a new worksheet.

   12 17 15 16 16 14 18 13 10

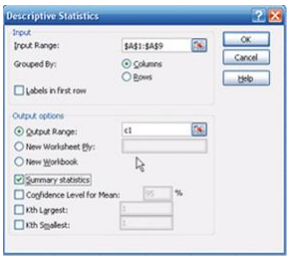
2. Select the Data tab on the toolbar and select Data Analysis.

3. In the Analysis Tools dialog box, scroll to Descriptive Statistics, then click [OK].

4. Type A1:A9 in the Input Range box and check the Grouped by Columns option.

5. Select the Output Range option and type in cell C1.

6. Check the Summary statistics option and click [OK].



Below is the summary output for this data set.

Column1	
Mean	14.55555556
Standard Error	0.85165054
Median	15
Mode	16
Standard Deviation	2.554951619
Sample Variance	6.527777778
Kurtosis	-0.3943866
Skewness	-0.51631073
Range	8
Minimum	10
Maximum	18
Sum	131
Count	9