# BIOS7000: Biostatistics

## M2 Homework

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Summarizing and Visualizing Data

Descriptive Statistics

Types of Variables

Measurement Scales

Graphing Data

**Directions:** Please open the dataset named WK2HW\_HOSPITAL.sav. (This dataset is also printed on page 15 of Gerstman textbook.) An Excel version of this same dataset (WK2HW\_HOSPITAL.xls) is included, so practice importing the Excel file to SPSS. Refer to page 37 or Lesson 10 in the SPSS textbook.

Please use SPSS to come up with the answers to the homework problems, and attach the SPSS output file of your work when you submit your homework.

Before running the data, go into the variable view and label the variables according to the description on page 15 of the Gerstman textbook.

**Homework Questions**

On page 14 of the Gerstman textbook (*Basic Biostatistics*), please answer part *a* of question 1.7 in the space below:

**Please answer the homework questions shown below:**

1. What were the mean and median duration of hospitalization in the data?

2. What were the standard deviation (three decimals) and the range of duration of hospitalization in the data?

3. Let’s go one step further by examining sex and duration of the stay.

1. Complete the table shown below:

|  |  |  |  |
| --- | --- | --- | --- |
| Status | n  (sample size) | Mean  (Duration of Days in hospital) | Standard Deviations (s) |
| Male |  |  |  |
| Female |  |  |  |

1. Please comment on the results.
2. Please create a graph that would best convey the results to the public.

4. Now, let’s examine service and duration of the stay.

1. Complete the table shown below:

|  |  |  |  |
| --- | --- | --- | --- |
| Status | n  (sample size) | Mean  (Duration of Days in hospital) | Standard Deviations (s) |
| Medical |  |  |  |
| Surgical |  |  |  |

1. Please comment on the results.
2. Please create a graph that would best convey the results to the public.

5. Let’s continue by investigating antibiotic use and duration of the stay.

1. Please complete the following table:

|  |  |  |  |
| --- | --- | --- | --- |
| Status | n  (sample size) | Mean  (Duration of Days in hospital) | Standard Deviations (s) |
| Patients received antibiotics |  |  |  |
| Patients did not receive antibiotics |  |  |  |

1. Please comment on the results.
2. Please create a graph that would best convey the results to the public.

6. Create a scatter graph for the following:

1. Age on the X-axis and Duration of Stay on the Y-axis
2. Body Temperature on the X-axis and Duration of Stay on the Y-axis