STATISTICS NOTES for Test – 1 (Major topics)

CHAPTER –1: DATA
1) Source of data: Individuals; Any entity that posses statistical information.
   (Respondents to survey questions, participants in an experiment, any object)
2) Types of data: Categorical, Numerical (quantitative) data.

CHAPTER –2: Displaying and describing categorical data:
1) Examples (grades, Educational majors, race)
2) Displays.(table, pictures)
3) Tables: a) Frequency table (class, count).
           b) Relative frequency table (class, percents/proportions).
4) Pictures (bar charts-vertical or horizontal, pie charts)
5) Contingency tables(marginal distribution-talks about the total, conditional
   distribution- information about one raw)
6) Segmented bar charts, side by side pie charts.

CHAPTER –3: Displaying quantitative data:
1) Table, histogram, relative frequency histogram, dot plots, stem-and leaf display, and
   time plots.(both single and side by side plots)
2) Describing distributions: Shape, center, spread, and any unusual features.
3) Shape: Unimodal, bimodal, multimodal.- symmetric/skewed, or any outliers.

CHAPTER –4: Describing distributions numerically:
 1) Central values: Mean, median, mode.
 2) Other location oriented values: Lower quartile, upper quartiles, minimum, maximum
 3) Spreads: Range, IQR, standard deviation.
 4) Box plot(use of calculator, single and side by side)

 5) Mean $\bar{y} = \dfrac{\sum y}{n}$, S.d. $s = \sqrt{\dfrac{\sum (y - \bar{y})^2}{n-1}}$

CHAPTER –5: Standard Deviation as a ruler and the Normal Modal.
1) Normal Modal – Properties a) area under a normal curve = 1,   b) 68-95-99.7 rule

2) Standard Normal Modal, z- score $z = \dfrac{y - \mu}{\sigma}$.

3) Calculator usage: Normal cdf, invnorm.

CHAPTER –11: Sampling Methods.
Read and complete worksheet

*** Should be able to display and describe data, discuss appropriateness and limitations,
and apply concepts.