ES302 Class Assignment – Introduction to Geostatistics and Data Analysis – Due Wed. June 14

Part 1 Reading Assignment

Go to the class web site and download the following reading: "Introduction to Geostatistics and Data Analysis". Read the reference; briefly define the following terms, answer the following questions.

1. Frequency Distribution

2. Using Figure 1 on p.32 of the reading, draw a generalized, hypothetical histogram showing frequency (no. of occurrences) on the y axis and quantified scores on the x axis.

3. Tally -

4. Explain the difference between a relative frequency and cumulative frequency. Sketch a generalized diagram showing how each would be graphed.

5. Sketch the difference between a histogram graph and a frequency polygon graph.

6. Define "intervals of values", otherwise known as "bins"

7. Make a sketch of a histogram showing a normal distribution. Where do the most numerous frequency of occurrence plot in a normal distribution?

8. Looking at the example on Figure 5 (from Table 3), create a Pie Chart showing the distribution of the following geologic data for a rock sample; complete the table:

Mineral Type	Frequency	%Frequency	Portion of Pie Chart 360 circle
Plagioclase	524		
Potassium Feldspar	334		
Quartz	728		
Hornblende	123		
Augite	56		
Mica	224		

9. Define the following terms, write equations where necessary:

central tendency

mode

median

mean

sample

population

tail of distribution

weighted mean

- 10. In a perfectly normal frequency distribution of data, how will the mean, median, and mode compare to one another?
- 11. Define the following terms, write equations where necessary:

Dispersion of data

Data range

Variance

Standard Deviation

- 12. Question: at +/- 1 standard deviation away from the mean in a normal distribution, what total percentage of occurrences will fall in the central area of occurrence about the mean?
- 13. Define the following terms, write equations where necessary:

Null Hypothesis

Significance level

Write the equation for a t value, what is it used for?

Type I error

Type II error