FACULTY OF BUILT ENVIRONMENT &

SURVEYING GEOINFORMATICS

2/SBEGH

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SUBJECT	SPATIAL STATISTIC
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ASSIGNMENT TITLE	PORTFOLIO BY TOPICS

Topic 1

In this topic, we cover 3 topics which are conventional vs spatial statistics, spatial statistics and GIScience, and nature of geospatial data. In conventional and spatial statistics, I learn about the meaning for both and why we used it in GIS. Conventional means that methods that we used directly applicable to the attribute components of spatial data. In spatial statistics, there were three of example that we used such as point, line, and polygon. Three of example can be used to distributions of data. Other than that, I learn about scale of measurements. For example, nominal, ordinal, interval, ratio and the example of four example.

Topic 2

Next topic, I learn about sampling method. In this topic, I will learn about population, sample and other statistical, types of variables, and the theory of sampling. In the topic about population, I learn more about the meaning of population, sample, variable, and random variable. I also learn about parameter, statistic, probability, and distribution. Other than that, I also know that there were 2 types of samples which is independent sample and dependent sample. Independent sample is when member of the sample is not related to others member while dependent means each member of one sample is paired with a member of the other sample. There also have types of variables which is qualitative and quantitative. Qualitative can be placed into distinct categories, according to some characteristic or attribute. For example, gender while quantitative is numerical and can be ordered or ranked for example age. Next, I also learn about types of sampling that had 2 types which is probability, and non-probability. Probability has four types. For example, simple random, stratified random, random systematic, and cluster random while probability have one which is convenience.

Topic 3

For topic 3, I learn about point data analysis. In this topic, I learn about spatial density, centography, and pattern. Point can be categorized into 3 which is density (simple density, sampling density), centography (mean center, weighted mean center, and standard distance), and pattern (quadrat analysis, and nearest neighbour analysis). Mean center is the mean of x and y coordinates for a set of points. Centography is spatial equivalent for conventional descriptive statistic. Weighted mean center is produced by weighting each x and y coordinate by another variable. Besides that, I also study about quadrat analysis which so useful for finding out point pattern.

Topic 4

The second last topic that my lecturer teach is line data analysis. In this topic, I learn about network data and graph, branching network, circuit network, elementary graph theory measures, network connectivity, and network accessibility. In this topic, I learn more about the line of connection and why the connection is important in our life. Other than that, I learn about the branching network, and how to calculate the connection by the given formula. It shows that to know the connections, we should know the formula to calculate the total connections and with road is good for us to use. That is why network accessibility is important.

Topic 5

The last topic that I learn is areal data analysis. In this topic I learn about moran's l autocorrelation, Geary's C autocorrelation, and Joint count statistic. All the autocorrelation is important in our life because we use it every day. For joint count, it is a simplest way of quantitatively measuring spatial autocorrelation for a set of spatially adjacent polygons. It used black and white, black black, or white white. Moran mainly used for interval or ratio type of data, and it is a easiest way to solve is by using spatial weighted matrix it also used hypothesis testing. Last but not least, geary's c. It same as Moran's l. it also used hypothesis testing at the last calculation and have the little bit different with moran.