**Statistical Applications for Health Information**

**WRITTEN FINAL ASSIGNMENT**

**Master of Science in Health Informatics**

**A. INSTRUCTION**

One of the requirements of this course is to complete one final assignment of a given topic in **Statistical Applications for Health Information**. Attached in this packet are the guidelines, instructions, and due dates for the assignments. Please keep the following expectations in mind:

1. Each assignment is worth 100 points.
2. Read instructions carefully and be sure to complete all aspects of the assignments.
3. Be thorough and complete in your work. Simple “yes/no” answers or “I agree” comments are not sufficient.
4. The assignments are developed to correspond to topics that we will be studying throughout the term. You will get the most out of the assignments if they are done well. Therefore, you will need to turn in your work by the deadlines designated in your syllabus and on the assignment sheet. No late assignments will be accepted.
5. All written assignments must be typed and double-spaced.

**B. DIRECTIONS.** After reading your two textbooks, answer all the following questions and case study as comprehensive as possible.

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| **No.** | **QUESTIONS** | **MARK** |
| **1** | Describe the differences between the direct and indirect standardization methods of adjusting mortality and morbidity rates. | 10 marks |
| **2** | Describe the differences between neonatal mortality rate, post neonatal mortality rate, and infant mortality rate. | 10 marks |
| **3** | Differentiate between the following types of bar charts: one variable bar chart, grouped bar charts, stacked bar charts, and 100% component bar charts. | 5 marks |
| **4** | Organize the following statistics for the month of January into a table.  **Critical Care Cancer Research Institute Statistics for January**  **Discharges**  Medicine 198  Surgery 152  Gynecology 74  Otolaryngology 48  **Discharge Service Days**  Medicine 1,313  Surgery 947  Gynecology 328  Otolaryngology 290  **Average Length of Stay**  Medicine 6.6  Surgery 6.2  Gynecology 4.4  Otolaryngology 6.0 | 20 marks |
| **5** | Differentiate between the following aspects of validity: content, construct, and criterion related. | 5 marks |
| **6** | Compare and contrast the following scales of measurement: nominal, ordinal, ratio, and interval. | 5 marks |
| **7** | Why do measures of central tendency and variation of ungrouped frequency distributions differ from those of grouped frequency distributions? | 5 marks |
| **8** | Explain how sample size and variation affect the standard error of the mean. | 5 marks |
| **9** | Relate the concept of statistical power to beta error and sample size. | 5 marks |
| **10** | Differentiate between simple regression and multiple regression. | 5 marks |
| **11** | Differentiate between parametric and nonparametric statistical procedures. | 5 marks |
| **12** | Describe the circumstances under which it would be appropriate to use the chi-square test. | 5 marks |
| **13** | Distinguish between the Pearson *r* correlation coefficient and the  Spearman rho correlation coefficient. | 5 marks |
|  | **TOTAL** | **100 marks** |