**Principles of Data Science**

**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 **Principles of Data Science**. 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** | List and discuss the four levels of data. | 20 marks |
| **2** | Explain the FIVE (5) steps of data science. | 20 marks |
| **3** | Compare and contrast the “Frequentist approach” and the “Bayesian approach”. | 20 marks |
| **4** | Identify and discuss effective and ineffective visualizations. | 20 marks |
| **5** | List and explain the differences between machine learning and statistical modeling and how machine learning is a broader category of the latter. | 20 marks |
|  | **TOTAL** | **100 marks** |