Course title: Introduction to Statistics A

Code: 2-229771-0

**Instructor:** Dr. Rami Saad

**Credit hours:** 2

**Year:** 1; **Semester:** A

**Academic year**: 2021-22

**Course objectives:**

The objectives of this course are to provide students with advanced skills for analyzing, interpreting and drawing conclusions from raw data. This is an introductory course in statistics which is designed to provide students with the basic concepts of data analysis and statistical computing.

**Intended learning outcomes:**

By the end of the course students will have the following abilities:

1. Describe random sampling and systematic sampling
2. Create and interpret graphs to describe categorical and numerical variables
3. Construct and interpret graphs to describe relationships between variables
4. Population summary measures

**Schedule of lessons:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Lesson #** | **Topic** | **Details** | **Relevant reading assignments** |
| 1 | Describing Data: Graphical | Create and interpret graphs to describe categorical variables | **Chapter 1** |
| 2 | Describing Data: Graphical | Create a line chart to describe time-series data | **Chapter 1** |
| 3 | Describing Data: Graphical | Create and interpret graphs to describe numerical variables | **Chapter 1** |
| 4 | Describing Data: Graphical | Construct and interpret graphs to describe relationships between variables | **Chapter 1** |
| 5 | Describing Data: Graphical | Describe appropriate and inappropriate ways to display data graphically | **Chapter 1** |
| 6 | Describing Data: Numerical | Measures of central tendency, variation, and shape | **Chapter 2** |
| 7 | Describing Data:  Numerical | Population summary measures | **Chapter 2** |
| 8 | Describing Data:  Numerical | Five number summary and box-and-whisker plots | **Chapter 2** |
| 9 | Describing Data:  Numerical | Covariance and coefficient of correlation | **Chapter 2** |
| 10 | Describing Data:  Numerical | Pitfalls in numerical descriptive measures and ethical considerations | **Chapter 2** |
| 11 | Probability | Basic probability concepts and definitions   - Part 1 | **Chapter 3** |
| 12 | Probability -  continuance | Basic probability concepts and definitions   - Part 2 | **Chapter 3** |
| 13 | Summary | Recall important topics | **Chapter 1+2+3** |

**Grading scale:**

|  |  |
| --- | --- |
| **Assignment** | **Percentage of final grade** |
| Exam or final assignment – to be determined during the course | 100% |
| **Total** | **100%** |

**Bibliography:**

**Main bibliography:**

Newbold, P., Carlson, W., Thorne, B., (2020). Statistics for Business and Economics: Global Edition. 9th Edition. Pearson.

**Secondary Bibliography:**

McClave, J., Benson, P. G., Sincich, T., (2019). Statistics for Business and Economics: Global Edition. 13th Edition. Pearson.