

KINGDOM OF SAUDI ARABIA		المملكة العربية السعودية
King Saud University		جامعة الملك سعود
Deanship of Common First Year		عمادة السنة الأولى المشتركة
Department of Basic Sciences		قسم العلوم الأساسية

## Syllabus and Contents of Course for **Second Semester 1442**

**Course Name:** Introduction to Probability and Statistics.

**Credit Hours:** 3 hours

**Course Number:** Stat 101

**Actual Hours:** 4 hours

**Textbook:** Introduction to Probability and Statistics, **Fourth Edition, 2020.**

**Authors:** Abouammoh A., Sultan K., Kayid M. and Sharahili M.

### Contents:

**Getting and Organizing Statistical Data:** Basic Concepts and definitions, Samples, Variables, Organizing of Raw Data and its Representation, Frequency Distributions and its Representation- and the Forms of Frequency Distributions.

**Measures of Position for Data:** Measures of Central Tendency, Quartiles, Deciles and Percentiles, The Five Numbers and the Representation of Data by Box Plot.

**Measures of Variation:** Measures of Dispersion, Coefficients for Compare two or more of Data sets and the z-standard score.

**Linear Correlation and Regression:** Person's Coefficient of Correlation and the Straight for the simple Linear Regression.

**Random Experiments and the Probability of Events:** Mathematical Concepts for Probability Calculation, Space of Elementary Event, Algebra of Events, Some Operations on Events, Probability Function and its Properties, Conditional Probability and the Independence of Events.

**Random Variables and Their Probability Distributions:** Concept of Random Variable, Probability Distribution Function of a Random Variable, Discrete Random Variables, Mathematical Expectation and Variance of a Discrete Random Variable, Continuous Random Variables, Mathematical Expectation and Variance of a Continuous Random Variable and the Standardization of a Random Variable.

**Introduction to Statistical Inference:** Estimator of a Parameter, The Central Limit Theorem, Point Estimation, Interval Estimation, Confidence Intervals, Statistical Hypothesis, Hypotheses Testing for the Population Mean and Hypotheses Testing for the Population Proportion.

**Linear Correlation and Regression:** Person's Coefficient of Correlation, Coefficient of Determination and the Straight for the simple Linear Regression.

### Important Instructions:

- 1- Absence shall be counted from the first day until the last day preceding the final exams for the semester.
- 2- If the student delayed more than ten minutes of the lecture is absent, and if the presence during the first ten minutes register late.
- 3- The student is deprived of the final exam if the percentage of absenteeism exceeded **25%** of the hours of attendance approved for teaching.
- 4- The student is evaluated during the semester based on:
  - a) The result of one midterm exam, with a score of **30** degrees,
  - b) The result of two home works, each with a score of **10** degrees (total **20** degrees),
  - c) The final test result, with a score of **50**.