

KINGDOM OF SAUDI ARABIA

King Saud University

Deanship of Common First Year

Department of Basic Sciences



المملكة العربية السعودية

جامعة الملك سعود

عمادة السنة الأولى المشتركة

قسم العلوم الأساسية

Syllabus and Contents of Course for **Second Semester 1446**

COURSE NAME: INTRODUCTION TO PROBABILITY AND STATISTICS. COURSE NUMBER: STAT 101	CREDIT HOURS: 3 HOURS ACTUAL HOURS: 4 HOURS
Head of the Department: Dr. Abdulrahman Alzahrani E-mail: chair-math@cfy.ksu.edu.sa	Office: 2562 Phone: 94070
Course Coordinator: Prof. Dr. Hamid Al-Oklah E-mail: stat140@cfy.ksu.edu.sa	Office: 2469 Phone: 94582
Textbook: Introduction to Probability and Statistics, Sixth Edition, 2022. 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.

Distribution of grades on semester works and exams:

Two paper home works	Two electronic home works	Discussions and activity	Midterm Exam	Final Exam	Total
8	7	10	25	50	100