Course No. & Code	STAT 145
Course of Units	Biostatistics
Number of Units	2 (2+0)
Pre-requisite	N/A
Co-requisite	N/A
Equivalent Requisite	N/A
Beneficiaries	College of Medicine
	College of Dentistry
	College of Medical Sciences
	College of Pharmacy
Course Definition & Description (Brief Contents)	Descriptive Statistics, Quantitative and Qualitative data, Graphic presentation. Measures of central tendency, measures of dispersion. Simple probability rules, specificity, sensitivity and Bayes' rule, Binomial distribution. Poisson distribution. Normal distribution and its applications. Confidence intervals of one and two population means and proportions. Tests of Hypothesis about means and proportions and paired data.
Main topics	Detailed contents follows.
Course Objectives:	Students are expected to have knowledge of elementary probability and probability distributions. They should be able to summarize data by a suitable statistic, graphical presentation of data including Box plot. They should be able to conduct hypothesis tests about one and two means and proportions and draw conclusion.
Teaching Methods	Power point slides presentations, lectures and exercises
Curriculum book	Book Title: Biostatistics - Basic Concepts and Methodology for the Health Sciences .
	Author: Wayne W. Daniel.
	Publisher: Wiley, ninth edition
Evaluation System	1- Two Exams in the semester plus Home Works and Quizzes
	2- Final Exam
Semester Exam	Time: 1 Hour 30 min | Week: 7^{th} and 11^{th}
Marks Distribution	Semester Works: Test 1, Test 2, 20 marks for each test. Home Works and Quizzes 10 marks
	Final Exam: 50 marks
Final Exam Time	3 Hours
Date of Approval	

Main Topics (Detailed Contents)	**Introduction:** Introduction to Bio-Statistics, types of data and graphical representation
	Descriptive statistics: Measures of Central tendency- Mean , median, mode. Measures of dispersion - Range, Standard deviation, coefficient of variation. Calculating Measures from ungrouped Frequency Table.
	Basic Concepts of probabilities: Basic probability, conditional probability, concept of independence, Sensitivity, Specificity etc, and Bayes Theorem for predictive probabilities.
	Discrete probability distributions: Some discrete probability distributions: Cumulative Probability Distribution, Binomial, and Poisson –their means and variances.
	Continuous Probability Distributions: Normal distribution, Standard normal and t distributions.
	Statistical Inference: Point and interval estimation. Concept of P-value. Testing hypothesis about one and two sample means and proportions including paired data – different cases under normality.

Chairman of Department of Statistics and Operations Research

Name: Dr. Ahmad M. Alshamrani

Signature: