Hashemite University	 	**Principles of Statistics** (110108103) **3 Credit Hours**
Faculty of Science		**Pre-requisite:**
Department of Basic Sciences support	**Course Syllabus**	**First Semester 2014/2015**

Course Information

Instructor	Mohammad Alkhalaileh
Office Location	IT224
Office Hours	11-12 Sun , Tue , Thu -- 9:30-11 Mon , Wed
Text Book :	Introductory Statistics, Neil A. Weiss. Addison – Wesley, 2012, 9th Ed.
References(s)	1- Introduction to probability and statistics , By Mendenhaul 2- Statistics : A first course , By Donald H. Sanders 3- Principles of statistics , By Bulmar

Grading Policy:

1st Exam	25 %
2nd Exam	25 %
Final Exam	50%

Course Objectives

- To introduce descriptive measures, probability, statistical inference, linear regression and correlation.
- To give the student a clear understanding of basic statistical concepts and techniques.
- To present well-organized real life opportunities for applying the statistical concepts.

Teaching and Learning Methods

We intend to familiarize students with Minitab package and its usage in descriptive statistics, probability, random variables and normal distribution.

Course Contents		
Week	***Topics***	***Cha. In Text***
1	Statistics Basics	1.1
	Variables and Data	2.1
2	Distribution Shapes; Symmetry and Skewness	2.4
	Measures of Center	3.1
3	Measures of Variation; Range, variance(std), coefficient of variation, Z- score	3.2
	The Five-Number Summery; Box plot	3.3
4	Descriptive Measures for Populations	3.4
	Probability Basics	4.1
5	Events	4.2
	Some Rules of Probability	4.3
6	Contingency Tables	4.4
	Conditional Probability	4.5
7	The Multiplication Rule; Independence	4.6
	Discrete Random Variables and Probability Distributions	5.1
8	Expected value and Variance of a Discrete Random Variable	5.2
	Binomial Distribution	5.3
9	Introducing Normally Distributed Variables	6.1
	Areas Under the Standard Normal Curve	6.2
10	Working With Normally Distributed Variables, Normal approximation to Binomial	6.3
	Sampling Errors	7.1
	The Mean and Standard Deviation of $\bar{x}$	7.2
11	The Sampling Distribution of the Sample Mean	7.3
	Estimating a Population Mean	8.1
	Confidence Interval for One Population Mean When σ is Known	8.2
12	Margin of Error	8.3
	Confidence Interval for One Population Mean When σ is Unknown	8.4
13	The Nature of Hypothesis Testing	9.1
	Critical-Value Approach to Hypothesis Testing	9.2
	Hypothesis Testing for One & two Population Mean When σ is Known	9.3
14	Hypothesis Testing for One & two Population Means When σ is Unknown	9.6
	Hypothesis Testing for One & two Population proportions	12.2* &12.3*
15	Linear Equation with One Independent Variable	14.1
	Simple Linear Regression Equation	14.2
	Simple Linear Correlation	14.4

Participation and Exams:

Attendance is absolutely mandatory. Students missing 6 class sessions without a compelling excuse will qualify the student to be dismissed.