

Kingdom of Saudi Arabia
Ministry of Education
Prince Sattam Bin Abdulaziz
University
College of Science & Humanity
Studies
Department of Mathematics



جامعة الأمير سّطام بن عبدالعزيز
PRINCE SATTAM BIN ABDULAZIZ UNIVERSITY

المملكة العربية السعودية
وزارة التعليم
جامعة الامير سّطام بن عبد العزيز
كلية العلوم والدراسات الإنسانية
قسم الرياضيات

Course Description

Course Code: Stat 2010	
Course Title: Elementary Probability and Statistics	
Credit Hours: 3(3, 1, 0)	
Level: Third	
Prerequisites: None	
Course Objectives The aim of this course is to understand 1- The basic concepts and principles in the descriptive statistics. 2- The basic probability concepts, sampling distribution. 3- The estimation and testing hypotheses about population mean and proportion.	
Course Contents Descriptive Statistics: Statistical data classification – Measures of central tendency – Measures of dispersion. Basic probability concepts: Conditional probability – Bayes law – Random variable and probability distribution – Binomial distribution – Normal distribution and its applications – Sampling distribution of the mean central limit theorem – Estimation of the population mean and proportion – Testing hypotheses about population mean and proportion.	
Exercises: Include problems to cover the entire course contents.	
Suggested Text Books 1- Elementary Statistics (A step by step approach), By Allan G. Bluman (8th edition), 2012. 2- Introduction in Statistics and probability with Application by Excel. Author Name: Abdullah Sheha and Adnan Bery, Publisher: Al-Shakery Library Year: 1429 H. 3- مبادئ الاحصاء والاحتمالات وتطبيقاتها باستخدام SPSS . د/ عبد الرحمن الخضيرى ود/ عبد الفتاح مصطفى. مطبعة الحمضي.	



Course Description

Course Code: Stat 2040	
Course Title: Statistical Methods	
Credit Hours: 3(3, 1,0)	
Level: Fourth	
Prerequisites: Stat 2010	
Course Objectives The aim of this course is to understand 1- The basic concepts and principles in the statistical distributions. 2- The Interval estimation. 3- Testing hypotheses and Correlation and regression.	
Course Contents Some Statistical distributions (without proofs) – Sampling distributions – Central limit theorem (without proof) – Chebychev's inequality – Interval estimation (two populations case) – Testing hypotheses (two populations case) – Introduction to experimental designs (CRD and RBD) – ANOVA (one and two ways) – Regression (simple regression) – Correlation (Pearson and Spearman) – Chi square tests and application – Some nonparametric tests.	
Exercises: Include problems to cover the entire course contents.	
Suggested Text Books 1- Probability and Statistics for Engineering and the Sciences (6th edition) by Jay L. Devore. Duxbury Press (2003). 2- Elementary Statistics (A step by step approach), By Allan G.Bluman (8th edition), 2012. 3- مفاهيم لطرق التحليل الإحصائي، اسم المؤلف: د. محمود هندي & د.خلف سلطان، اسم الناشر: مكتبة الرشد، سنة النشر: 1425 هـ.	

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Course Description

Course Code: Stat 2150	
Course Title: Probability (1)	
Credit Hours: 3(3, 1, 0)	
Level: Selective	
Prerequisites: Stat 2040	
Course Objectives The aim of this course is to understand basic concepts and principles in 1-The definitions and properties of discrete and continuous random variables. 2-Bivariate probability distributions and Independence and correlation. 3-Likelihoods of continuous random variable – functions of random variables.	
Course Contents Continuing the STAT 2010 concepts – Definitions and properties of discrete and continuous random variables – Famous discrete and continuous probability distributions – Discrete bivariate probability distributions – Marginal and conditional probability distributions – Expectation and variation – Multinomial and GHG distributions – Independence and correlation – Likelihoods of continuous Random Sample – Functions of random variables : χ^2, t, F .	
Exercises: Include problems to cover the entire course contents.	
Suggested Text Books 1- Applied Statistics and Probability for Engineers Third Edition, Douglas C. Montgomery, Arizona State, University George C. Runger Arizona State University John Wiley, Fundamental of Distribution Theory, Al Rziza, KSU. 2- مبادئ نظرية التوزيع – أ.د. عبد الرحمن بن سليمان الرزّيزاء منشورات جامعة الملك سعود.	



Course Description

Course Code: Stat 3280	
Course Title: Statistical packages	
Credit Hours: 4(3:0:1)	
Level: Fifth	
Prerequisites: Stat 2040	
Course objectives 1- To learn how use the statistical packages. 2- Understanding in depth the meaning of statistical analysis. 3- Train students to test the hypotheses for population parameters. 4- Increase student ability to understand the meaning of ANOVA. 5- Applications of statistical methods basis for calculation of the measurements of statistics. 6- Provide students with the ability to understand the basis and concepts of the statistical packages.	
Course contents Review of Basic Statistical Concepts (Branches of Statistics – Types of Data – Data Sources – Methods of Data Collection – Data Presentation) – Measures of Central Tendency – Measures of Dispersion – Correlation – Regression. Excel Program (Opening the program – Data Entry – Data analysis using Microsoft Excel Frequency distribution – Histogram – Descriptive statistics. Data analysis using Microsoft Excel (Select Random Sample – Generating random numbers – Correlation – Regression). SPSS Program (Run the program – Entering data in SPSS). Data analysis using spss (Frequency distribution – Descriptive statistics). Data analysis using spss (Hypotheses tests). Normality test – Normality test by graph – One Sample t-test. Independent t-test – Correlation – Regression – ANOVA.	
Exercises: Include problems to cover the entire course contents.	
Suggested Text Books 1- Using IBM SPSS Statistics for Research Methods by William E. Wagner, III. Publishing by SAGE PUBLICATIONS, INC. Edition (2013). Latest edition. 2- SPSS 13.0 Guide to Data Analysis by Marija Norusis Minitan Guide, Desmond J. Higham and Nicholas J. Higham A-Jin Publishing Company, 2006. Second Edition.	
3- مبادئ الاحصاء والاحتمالات وتطبيقاتها باستخدام SPSS. د/ عبد الرحمن الخضيرى ود/ عبد الفتاح مصطفى. مطبعة الحمضي.	