

**KING FAHD UNIVERSITY OF PETROLEUM & MINERALS**  
**DEPARTMENT OF MATHEMATICS and STATISTICS**  
**DHAHRAN, SAUDI ARABIA**  
**STAT212: BUSINESS STATISTICS II (103)**

**Instructor:** Mohammad F. Saleh

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**Teaching Hours:** SUMTW 9:20-10:20am and SUMT 10:30-11:50

**Office Hours:** SUMT 8:30-9:150 am or by appointment

***Text and Package:***

1. Basic Business Statistics: Concepts and Applications, 11<sup>th</sup> edition, by Berenson, M.L., Levine, D.M., and Krehbiel, T.C., Pearson-Prentice Hall (2009).
2. MINITAB Statistical Package will be used.
3. Scientific calculator with statistical functions in every class and exam.

***Course Objectives:***

Introducing basic concepts of probability and statistics to business students. Emphasis will be given on the understanding of the nature of randomness of real world problems, the formulation of statistical methods by using intuitive arguments and thereby making meaningful decisions.

***Assessment:***

Assessment for this course will be based on homework, attendance, two Major exams and a final exam, as following

Activity	Weight
Quizzes <sup>1</sup> , attendance, homework and Lab work	(5%+5%+5%+5% = 20%)
Exam 1 (Chapters 9, 10 & 12 ) 17/7/2011	20%
Exam 2 (Chapters 13 & 14) 31/7/2011	20%
Final Exam (Comprehensive) 17/8/2011	40%

***General Notes:***

- Students are required to carry **pens**, **binder** and a **calculator** with statistical functions to **EVERY lecture, quizzes, and exams.**
- Students are also expected to take class notes and organize their learning material in a binder for easy retrieval to help them in study and review for class, exams, etc
  - It is to the student's advantage to keep a binder for storing class notes, homework, and other graded assignments. Students who are organized will find it easier to find important materials when studying for exams.
- To effectively learn statistics, students need to *solve problems* and *analyze data*. The selected assigned problems are specifically designed to prepare you for class quizzes, lab, majors and final exam. So, it is expected that you complete these problems *step-by-step* and with *comprehension*.
- ***Never round*** your intermediate results to problems when doing your calculations. This will cause you to lose calculation accuracy. Round only your final answers and you should not round less than 4 decimal places unless required otherwise.

***A formula sheet and statistical tables will be given for you in every exam, so you only need to bring with you pens, pencils, a sharpener, an eraser, and a calculator.***

<sup>1</sup> Once a chapter is completed, you should expect a class quiz.

## *Tentative Schedule*

<b>Week</b>	<b>Sections</b>	<b>Topics</b>	<b>Notes</b>
<b>1</b> 35/6 – 29/6	9.1-9.4	9.1: Fundamentals of Hypothesis Testing Methodology, 9.2: t test of hypothesis for the Mean, 9.3: one tail-tests, 9.4: Z-test for the proportion	5-July Last day for adding courses
<b>2</b> 2/7 – 6/7	10.1-10.4	10.1: Comparing two means of two independent populations, 10.2: Comparing the means of two related population, 10.3: Comparing two population proportions 10.4: F-test for the difference between two variances	10-July Last day for dropping course(s) without permanent record
<b>3</b> 9/7 – 13/7	12.1-12.5	12.1: Chi-Square test for the difference between two proportions (independent samples) 12.2: Chi-Square test for differences among more than two proportions 12.3: Chi-Square test for independence 12.4: McNemar Test for the difference between two proportions (related samples) 12.5: Chi-Square test for the variance or standard deviation	Exam 1
<b>4</b> 16/7 – 20/7	13.1-13.9	13.1: Types of regression models, 13.2: Simple Linear Regression Equation 13.3: measures of variation 13.4: Model Assumptions 13.5: Residual Analysis 13.6: Autocorrelation 13.7: inference about the Slope and Correlation 13.8: C.I and P.I. estimates 13.9: Pitfalls in regression	28-July Last day for dropping course(s) with grade of "W" thru web at <a href="http://regweb.kfupm.edu.sa">http://regweb.kfupm.edu.sa</a>
<b>5</b> 23/7 – 27/7	14.1-14.6	14.1: Developing a Multiple Regression model 14.2: $R^2$ , Adjusted $R^2$ , and overall F-test 14.3: Residual Analysis, 14.4: Inferences concerning the population Regression coefficients 14.5: Testing portion of the Multiple Regression Models 14.6: Using Dummy variables and interaction terms in regression models	4 August Last day for withdrawal from all courses with grade of "W" thru web at <a href="http://regweb.kfupm.edu.sa">http://regweb.kfupm.edu.sa</a>  Exam 2
<b>6</b> 30/7 – 3/8	15.1, 15.3-15.5	15.1: The quadratic regression model 15.3: Collinearity 15.4: Model building 15.5: Pitfalls in multiple regression	
<b>7</b> 6/8 – 10/8	16.1-16.8	16.1: The importance of Business Forecasting 16.2: Component forecasting of time – series models 16.3: Smoothing and annual time series 16.4: least square trend fitting and forecasting 16.5: Autoregressive modeling for trend and forecasting 16.6: Choosing an appropriate forecasting model 16.7: Time series forecasting of seasonal data 16.8: Index numbers	Exam 3 18 August Last day for major exams; Last day for withdrawal from <b>all</b> courses with grade of "WP/WF" thru the University Registrar
<b>8</b> 13/8 – 15/8		Review and catch up.	23 August Last day of classes

### Important Notes:

- ✓ Students will be required to carry a scientific calculator with statistical functions to every class, quiz, and exam.
- ✓ We will explain the MINITAB commands in the class and the student free to do his homework any were he likes.
- ✓ In accordance with University rules, Nine (9) unexcused absences will automatically result in a grade of DN.
- ✓ Attendance on time is *very* important. Therefore, ½ % will be reduced for *each* one absence
- ✓ Mostly, attendance will be checked within the *first five minutes* of the class. Entering the class after that, is considered as one late, and *every two lateness* equals to one absence.
- ✓ All contacts or announcements between the instructor and the students are supposed to be held on the WebCT, so the student *must* check his WebCT inbox *at least once* a day.
- ✓ Quizzes: In general, there will be a quiz at the end of every chapter.

### *Home Work Problems:*

- The Homework should be submitted the first Saturday after completing the chapter *and no need for an announcement in advance*.
- No late homework will be accepted.
  
- Chapter 9: 9.1, 9.3, 9.6, 9.11, 9.13, 9.19, 9. 21, 7.27, 9.33, 9.39, 9.47, 9.51, 9.55
- Chapter 10: 10.2, 10.10, 10.13, 10.19, 10.25, 10.26, 10.31, 10.33, 10.36, 10.39, 10.41, 10.45, 10.49, 10.52
- Chapter 12: 12.1, 12.3, 12.7, 12.13, 12.15, 12.19, 12.21, 12.13, 12.25, 12.27, 12.31, 12.33, 12.35, 12.41, 12.45
- Chapter 13: 13.3, 13.5, 13.9, 13.13, 13.17, 13.19, 13.25, 13.29, 13.33, 13.37, 13.39, 13.41, 13.43, 13.49, 13.53, 13.55, 13.57, 13.61
- Chapter 14; 14.1, 14.3, 14.7, 14.9, 14.11, 14.17, 14.19, 14.21, 14.23, 14.25, 14.29, 14.31, 14.35, 14.38, 14.41, 14.45
- Chapter 15: 15.1, 15.3, 15.7, 15.15, 15.19, 15.21, 15.25
- Chapter 16: 16.3, 16.5, 16.7 16.11, 16.15, 16.19, 16.25, 16.29, 16.33, 16.35, 16.42, 16.47, 16.51, 16.52, 16.55,

### *Student Learning Outcomes:*

#### **Students are expected to**

1. Know the correspondence between *levels of measurement* and *statistical procedures*.
2. Know the *assumptions* underlying statistical procedures.
3. *Select* the appropriate statistical *procedure* for various applied business situations.
4. Accurately *compute* procedures *manually* and by *MINITAB* and *interpret the results* of these statistical procedures.
5. Finally, make the *right* decision.