# King Fahd University of Petroleum and Minerals Mathematics Department Dhahran, Saudi Arabia

## STAT212: Business Statistics II (Term 221)

Coordinator: Raid Anabosi

Instructor: Office: Phone: E-mail:

**Office Hours:** 

**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

Learning Outcomes: By completing this course, students should

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

#### **Textbook and Statistical Package:**

- ➤ Basic Business Statistics: Concepts and Applications, 12th edition, by Berenson, M.L., Levine, D.M., and Krehbiel, T.C., Pearson-Prentice Hall (2012).
- ➤ MINITAB Statistical Package will be used.
- ➤ Scientific calculator with statistical functions in every class, quiz and exam.

#### Assessment\*

Activity	Weight	
Homework (online) and Class Evaluation	10% (40 points)	
Quizzes (The average total grade of the quizzes of each section shall be in the	10% (40 points)	
interval [28, 30], i.e., [70%, 75%] of 40 points).	10 % (40 points)	
Major Exam 1: Chapters 9, 10 & Section 12.5.	25% (100 points)	
Major 1: October 4	25 % (100 points)	
Major Exam 1: Chapters 12, 13. Major 2: November 8	25% (100 points)	
Final Exam (Comprehensive).	30% (120 points)	

**MINITAB:** All MINITAB commands and procedures will be explained in the class and the student are expected to practice them during and after the class.

**Academic Integrity:** All KFUPM policies regarding ethics and academic honesty apply to this course.

## Weekly Schedule (*Tentative*)

Week 2	Week	Sections & Topics	Notes
Weck 2			
Week 3   11/9 - 15/9   12.2 Chi-Square Test for the Variance or Standard Deviation   10.1 Comparing the Means of Two Independent Populations   10.2 Comparing the Means of Two Independent Populations   10.3 Comparing the Means of Two Independent Populations   10.4 F Test for the Ratio of Two Variances   12.1 Chi-Square Test for the Difference Between Two Proportions   12.2 Chi-Square Test for the Difference Between Two Proportions   12.3 Chi-Square Test for Independence   12.4 McNemar Test for the Difference Between Two Proportions   12.3 Chi-Square Test of Independence   12.4 McNemar Test for the Difference Between Two Proportions   12.3 Chi-Square Test of Independence   12.4 McNemar Test for the Difference Between Two Proportions   12.3 Chi-Square Test of Independence   12.4 McNemar Test for the Difference Between Two Proportions   12.3 Chi-Square Test of Independence   12.4 McNemar Test for the Difference Between Two Proportions   12.3 Chi-Square Test of Independence   12.4 McNemar Test for the Difference Between Two Proportions   12.3 Chi-Square Test of Independence   12.4 McNemar Test for the Difference Between Two Proportions   12.3 Chi-Square Test of Independence   12.4 McNemar Test for the Difference Between Two Proportions   12.5 Chi-Square Test of Independence   12.4 McNemar Test for the Difference Between Two Proportions   12.5 Chi-Square Test of Independence   12.4 McNemar Test for the Difference Between Two Proportions   12.5 Chi-Square Test of Independence   13.4 Measuring Autocorrelation   13.4 Measuring Autocorrelation   13.4 Measuring Autocorrelation: The Durbin-Watson Statistic   13.7 Inferences About the Slope and Correlation Coefficient   13.8 Estimation of Mean Values and Prediction of Individual Values   13.8 Pitfalls in Regression Model   14.2 Inferences Concerning the Population Regression Coefficients   14.5 Testing Portions of the Multiple Regression Model   14.4 Inferences Concerning the Population Regression Coefficients   14.5 Testing Portions of the Multiple Regression Model   15.			
Week 3   11/9 - 15/9   12.5 Chi-Square Test for the Variance or Standard Deviation   10.1 Comparing the Means of Two Related Populations   10.2 Comparing the Means of Two Related Populations   10.2 Comparing the Means of Two Related Populations   10.3 Comparing the Means of Two Related Populations   10.4 F Test for the Ratio of Two Variances   10.4 F Test for the Ratio of Two Variances   10.4 F Test for the Ratio of Two Variances   10.4 F Test for the Ratio of Two Variances   10.4 F Test for the Ratio of Two Variances   10.4 F Test for the Ratio of Two Variances   10.4 F Test for the Ratio of Two Variances   10.4 F Test for the Ratio of Two Variances   10.4 F Test for the Ratio of Two Variances   10.4 F Test for the Ratio of Two Variances   10.4 F Test for the Ratio of Two Variances   10.4 F Test for the Ratio of Two Variances   10.4 F Test for the Ratio of Two Variances   10.4 F Test for the Ratio of Two Variances   10.4 F Test for the Ratio of Two Variances   10.4 F Test for the Ratio of Two Variances   10.4 F Test for the Ratio of Two Variances   10.4 F Test for the Ratio of Two Variances   10.4 F Test for the Ratio of Two Variances   10.4 F Test for the Proportions   10.4 F Test for the Difference Between Two Proportions   10.4 F Test for the Difference Between Two Proportions   10.4 F Test for the Difference Between Two Proportions   10.4 F Test for the Difference Between Two Proportions   10.4 F Test for the Difference Between Two Proportions   10.4 F Test for the Difference Between Two Proportions   10.4 F Test for the Difference Between Two Proportions   10.4 F Test for the Difference Between Two Proportions   10.4 F Test for the Difference Between Two Proportions   10.4 F Test for the Difference Between Two Proportions   10.4 F Test for the Difference Between Two Proportions   10.4 F Test for the Difference Between Two Proportions   10.4 F Test for the Difference Between Two Proportions   10.4 F Test for the Difference Between Two Proportions   10.4 F Test for the Difference Between Two Proportions			
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### The usage of mobile phones and smart watches

- Students are not allowed to use mobiles for any purpose during class time.
- Students who want to use electronic devices to take notes must take permission from their instructor.
- Violations of these rules will result in a penalty decided by the instructor.
- Academic Integrity: All KFUPM policies regarding ethics apply to this course. See the Undergraduate Bulletin.

### **Important Rules**

- 1- Students are not allowed to enter the exam hall without either KFUPM ID or Saudi ID/ Iqama ID.
- 2- Students must take the exam in the place assigned to them.
- 3- Students are not allowed to carry mobiles, smart watches, or electronic devices to the exam halls/rooms.
- 4- Violations of these rules will result in a penalty decided by the chairman of Math Department.

### **Cheating in Exams**

Cheating or any attempt of cheating by use of illegal activities, techniques and forms of fraud will result in a grade of **F** in the course along with reporting the incident to the higher university administration for further action. Cheating in exams includes (but is not restricted to):

- ➤ looking at the papers of other students
- ➤ talking to other students
- ➤ using mobiles or any other electronic devices.

### Missing an Exam

In case a student misses an exam (Exam I, Exam II, or the Final Exam) for a legitimate reason (such as medical emergencies), he/she must bring an official excuse from Students Affairs. Otherwise, he/she will get zero in the missed exam.

### <u>Attendance</u>

- > Students need to strictly adhere to the attendance policy of the university.
- ➤ If a student misses a class, he/she is responsible for any announcement made in that class.
- ➤ A DN grade will be assigned to any student who accumulates more than 20% unexcused absences (9 lectures) or 33% excused and unexcused absences (15 lectures).
- ➤ DN-Grade will be assigned to the eligible students after their instructors have

warned them twice.

**Note:** Absences are counted as follows:

- 1. For UTR-Lectures, missing one lecture is counted as 1 absence.
- 2. For UTR-Lectures, coming LATE to the lecture twice is counted as 1 absence.

### **Suggested Practice Problems:**

**Chapter 9:** 9.4, 9.13, 9.21, 9.28, 9.45, 9.50, 9.54, 9.56, 9.76

**Chapter 10:** 10.6, 10.10, 10.12, 10.18, 10.21, 10.27, 10.35, 10.44, 10.46, 10.50

**Chapter 12:** 12.4, 12.9, 12.13, 12.21, 12.26, 12.27, 12.32, 12.39, 12.45

**Chapter 13:** 13.3, 13.9, 13.15, 13.21, 13.24, 13.29, 13.33, 13.37, 13.41, 13.47, 13.55, 13.61

Chapter 14: 14.1, 14.4, 14.9, 14.14, 14.18, 14.23, 14.26, 14.31, 14.34, 14.38, 14.41, 14.44

**Chapter 15:** 15.1, 15.6, 15.8, 15.13, 15.14, 15.16, 15.21, 15.25

### Tips on how to enhance your problem-solving abilities

- Do all homework assignments on time.
- Practice (but not memorize) more problems than those in the above list.
- Solve review problems available at the end of each chapter.
- Solve the problems on your own before reading the solution or asking for help.
- If you find it difficult to handle a certain type of problems, you should try more problems of the same type.
- Practicing homework problems and reviewing the class lectures will make exam problems easier to tackle.
- Try to make good use of the office hours of your instructor. Always bring partial solutions of the questions that you want to discuss with your instructor.