KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
DEPARTMENT OF MATHEMATICS and STATISTICS
DHAHRAN, SAUDI ARABIA
STAT212: BUSINESS STATISTICS II (T212)

Instructor: …
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Text and Package:

1. Basic Business Statistics: Concepts and Applications, 12th edition, by Berenson, M.L., Levine, D.M., and Krehbiel, T.C., Pearson-Prentice Hall (2012).
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 quizzes, homework, attendance, lab work, two major exams and a final exam, as following:

Activity	Weight
Class work (Attendance, Homework , …etc.) + Lab work	10%
Quizzes (The average total grade of Quizzes for each section should be in the interval [70%, 75%].	10%
Exam 1 (Chapters 9, 10 & 12.1 – 12.3) Week 6 (Tuesday, February 22, 2022)	20%
Exam 2 (Chapters 12.4 – 12.5, 13 & 14) Week 11 (Saturday, April 2, 2022)	25%
Final Exam (Comprehensive) *TBA*	35%

Student Learning Outcomes:

Students are expected to
- 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.

The Usage of Mobiles and Electronic Devices:

Students are not allowed to use mobiles for any purpose during class time. Students who want to use electronic devices for notes taking have to take permission from their instructor. Violations of these rules will result in a penalty in students' class work grade.

Tentative Schedule

Week	Sections & Topics	
Week 1 16/1 – 20/1	9.1 Fundamentals of Hypothesis-Testing Methodology 9.2 T-Test of Hypothesis for the Mean (σ Unknown)	
Week 2 23/1 – 27/1	9.3 One-Tail Tests 9.4 Z Test of Hypothesis for the Proportion	
Week 3 30/1 – 03/2	10.1 Comparing the Means of Two Independent Populations 10.2 Comparing the Means of Two Related Populations 10.3 Comparing the Proportions of Two Independent Populations	
Week 4 06/2 – 10/2	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 Differences Among More Than Two Proportions	
Week 5 13/2 – 17/2	12.3 Chi-Square Test of Independence 12.4 McNemar Test for the Difference Between Two Proportions (Related Samples) 12.5 Chi-Square Test for the Variance or Standard Deviation	
Week 6 20/2 – 24/2	13.1 Types of Regression Models 13.2 Determining the Simple Linear Regression Equation 13.3 Measures of Variation	
Week 7 27/2 – 03/3	13.4 Assumptions 13.5 Residual Analysis 13.6 Measuring Autocorrelation: The Durbin-Watson Statistic	
Week 8 06/3 – 10/3	13.7 Inferences About the Slope and Correlation Coefficient 13.8 Estimation of Mean Values and Prediction of Individual Values 13.9 Pitfalls in Regression	
Week 9 13/3 – 17/3	14.1 Developing a Multiple Regression Model 14.2 R^2 , Adjusted R^2, and the Overall F Test 14.3 Residual Analysis for the Multiple Regression Model	
Week 10 20/3 – 24/3	14.4 Inferences Concerning the Population Regression Coefficients 14.5 Testing Portions of the Multiple Regression Model 14.6 Using Dummy Variables and Interaction Terms in Regression Models	
Week 11 27/3 – 31/3	15.1 The Quadratic Regression Model 15.3 Collinearity 15.4 Model Building	
Week 12 03/4 – 07/4	15.6 Aptness of the model 16.1 The Importance of Business Forecasting 16.2 Component Factors of Time-Series Models	
Week 13 10/4 – 14/4	16.3 Smoothing an Annual Time Series 16.4 Least-Squares Trend Fitting and Forecasting 16.5 Autoregressive Modeling for Trend Fitting and Forecasting	
Week 14 17/4 – 21/4	16.6 Choosing an Appropriate Forecasting Model 16.7 Time-Series Forecasting of Seasonal Data	
24/4 – 05/5	Eid Al-Fitr Holidays	
Week 15 08/5 – 12/5	16.8 Online Topic: Index Numbers	
	Final Exam (Comprehensive) TBA	

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 must bring an official excuse from Students Affairs. Otherwise, he will get zero in the missed exam."

General Notes:

- Students are required to carry **pens**, **binder** and a **calculator** with statistical functions to **EVERY lecture, and exam**.
- 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. Therefore, 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 four 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_.

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 anywhere he likes.
- In accordance with University rules, _Nine (9) unexcused absences_ will automatically result in a grade of _DN_. It is students' responsibility to provide valid written excuses on time before a _DN_ report is issued.
- _Attendance_ on time is _very_ important.
- 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 Blackboard, so the student _must_ check his Blackboard inbox _at least once_ a day.

Cheating and Plagiarism:

This course is composed of individual assignments. It is important that your individual assignment be completed with your own efforts instead of copying it from your fellow student. KFUPM instructors follow "zero tolerance" approach with regard to cheating and plagiarism. During examinations (quizzes, major exams, lab tests) 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.

Suggested Homework 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