

KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
DEPARTMENT OF MATHEMATICAL SCIENCES
DHAHRAN, SAUDI ARABIA

STAT211: BUSINESS STATISTICS I
Course Outline for Semester 093

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Text and Package:

1. Basic Business Statistics: Concepts and Applications, 11th 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

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 home work, lab, attendance, quizzes, two major exams and a comprehensive final exam, as in the following:

Activity	Weight
Quizzes ¹ , attendance, homework and Lab work	(7%+3%+3%+7%)
Exam 1 (Chapters 1, 2, 3, 7.1-7.2) Tuesday July 27, 2010	20%
Exam 2 (Chapters 4, 5 & 6) Tuesday Aug 10, 2010	20%
Final Exam (Comprehensive) Thursday Aug 26, 2010 (8:00 AM)	40%

General Note on Problem solving in Homework, and Exams:

Students are required to carry pens 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 study and review for class, exams, etc

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.

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.

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.

¹ Once a chapter is completed, you should expect a class quiz.

Tentative Schedule

Week	Sections	Topics	University dates
1 July 3 – 7	1.1 – 1.6 & 7.1&7.6	What is Business Statistics, Tools for Data Collection, Populations, Samples, Data Types and measurement levels, Sampling Techniques.	
2 July 10 – 14	2.1 - 2.3 3.1 & 3.3 & 3.4	Graphs, Charts and Tables Measures of Location	Sat, July 10 Last day for dropping course(s) without permanent record
3 July 17 – 21	3.1 - 3.5	and Measures of Variation, Coefficient of Variation, Empirical Rule, Tchebysheff's Inequality and Standardized Data Values	
4 July 24 – 28	4.1- 4.3	Basic Concepts of Probability and Rules of Probability,	1st Exam July 27.
5 July 31 – Aug 4	5.1 - 5.5 6.1 - 6.5	Probability Distributions. The Binomial and Other Discrete Distributions, The Normal Distribution. Other Continuous Distributions (Exponential & Uniform)	Wed, Aug 4 Last day for dropping course(s) with grade of "W" thru Internet http://regweb.kfupm.edu.sa
6 Aug 7 – 11	7.2 - 7.5	Sampling Error, Sampling Distributions of the Mean and Proportion	2nd Exam Aug 10.
7 Aug 14 – 18	8.1 - 8.5	Point and Confidence Interval Estimation of the Mean Sample Size Determination for Estimating the Mean and Estimating a Population Proportion	Wed, Aug 18 Last day for major exams; Last day for withdrawal from all courses with grade of "WP/WF" thru the University Registrar Office
8 Aug 20 – 23	Parts of 10.1-10.2 Part of 10.3	Estimation for Two Population Means and Estimation of Two Population Proportions	Mon, Aug 23 Last day of classes

Important Notes:

- ✓ 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 unexcused absences* will result in a grade of *DN*.
- ✓ *Attendance* on time is *very* important. Therefore, ½ % will be deducted 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 times late* 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.

Home Work Problems:

- Handout problems will be posted on the WebCT towards the end of each chapter.
- The *Homework* should be submitted in the first Saturday after completing the chapter *and no need for an announcement in advance*.
- No late homework will be accepted.

Learning Objectives: By completing this course, students should be able to

- **Distinguish** between a *sample* and a *population*
- **Distinguish** between a *statistic* and a *parameter*
- **Design** a business *data collection effort* by using the most appropriate data sampling strategy
- **Classify** business data into the most appropriate *type and measurement levels*
- **Distinguish** between *continuous* and *discrete* data

- **Calculate** *summary descriptive statistics* manually and by MINITAB
- **Interpret** the correct *meaning of summary statistics* for particular real-life business problems
- **Graph** a *correct graphical display* for the correct type of data manually by MINITAB
- **Interpret** the *correct meaning of graphical display* for a particular real-life business problems
- **Choose** the *correct graphical display* for a particular business decision
- **Choose** the *correct summary statistics* for a particular business application

- **Assess** the correct probability for a particular business application manually and by MINITAB
- **Calculate** probability for different types of regular business events (marginal, conditional, and joint events) and for updated posterior business events
- **Calculate** expected values of future business events
- **Recognize and use** the correct probability distribution model for a particular business application manually and by MINITAB
- **Distinguish** between *continuous* and *discrete* probability distribution model
- **Distinguish** between *distribution for sample data, distribution for population data, and distribution for sample statistics*
- **Understand** the role of *central limit theorem* in the distribution of sample statistics

- **Evaluate** the *correctness and error levels* of a procedure for estimating a population parameter
- **Design** a business data collection effort by finding the *minimum necessary sample sizes* manually and by MINITAB
- **Estimate** *parameters* of a business population of interest manually and by MINITAB
- **Choose** the most *appropriate statistical procedure* for a particular type and measurement level of business data