KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
DEPARTMENT OF MATHEMATICS & STATISTICS
DHAHRAN, SAUDI ARABIA

STAT201: STATISTICAL METHODS
Course Outline, Semester 121

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Office Hours: SM: 9:00 – 9:50 am and U: 10:00 am 11:50 am
Text and Package:
The recommended textbook and software are:
(1) Ross, S. H. Introductory Statistics, Elsevier, 2005.
(2) *MINITAB*.

Course Objectives:
STAT201 introduction to statistics is intended to be the first course in statistics for students. The emphasis is on understanding how to use statistics to solve real-world problems. Upon completion of this course you should:
- Be familiar with the techniques of data analysis studied;
- Understand the basic elements of probability studied;
- Understand the assumptions, methods, and implications associated with various methods of statistical inference studied; and
- Be proficient in using *MINITAB* and be able to interpret the associated output.

Assessment
Assessment for this course will be based upon homework, class work, attendance, quizzes, lab, two major exams and final exam (comprehensive), with the following weighting:

Activities	Weight
Quizzes, homework and class work	10%
Exam 1 (Chapters 1, 2, 3 and 4) *Wednesday October 2, 2012*	20%
Exam 2 (Chapters 5, 6 and 7) *Wednesday November 14, 2012*	20%
Lab reports and lab exam	10%
Final exam (comprehensive) *January6, 2013 , 12:30pm*	40%

Syllabus at a Glance

Week	Section	Topics
Week 1 1/9- 5/9	1.1 -1.3	Introduction, the nature of statistics, populations and samples
Week 2 8/9- 12/9	2.1-2.5 3.1- 3.4	Introduction, frequency tables & graphs, histograms, stem-&-leaf plot, set paired data Mean, median, mode
Week 3 15/9- 19/9	3.5-3.7 4.1-4.2	Variance & standard deviation, empirical rule and sample correlation coefficient Probability: sample space & events,
Week 4 22/9- 26/9	4.3-4.4 4.5-4.5	Properties, and equally likely outcomes Conditional probability and independence
Week 5 29/9- 3/10	5.1-5.2	Discrete random variables
Week 6 6/10- 10/10	5.3-5.5	Expected value & variance, binomial random variables
Week 7 13/10- 17/10	6.1-6.3	Continuous random variables, normal random variables
		18/10 – 2/11 Id Al – Adha vacation
Week 8 3/11 - 7/11	6.4-6.7	Standard normal random variable, probabilities, additive property and percentiles
Week 9 10/11 - 14/11	7.1-7.5	Sample mean, central limit theorem and sampling proportions
Week 10 17/11 - 21/11	8.1-8.6	Point estimates of population mean, proportion & variance and interval estimates of mean
Week 11 24/11 - 28/11	8.7, 9.1-9.2	Interval estimates of proportion. Hypotheses test & significance levels
Week 12 1/12 - 5/12	9.3-9.5	Hypotheses tests for mean and proportion
Week 13 8/12 - 12/12	10.1-10.4	Testing equality of means: Large & small sample
Week 14 15/12 - 19/12	12.1-12.5	Simple linear regression
Week 15 22/12 – 26/12	12.6-12.9	Coefficient of determination and correlation coefficient
Week 16 29/12		Normal Sunday class

Outfits

Students will be required to carry a calculator with statistical functions. A binder will also be an asset to organize yourself with selected lecture notes, handouts, solutions to home works, exams etc.

Notices:

Any notice about the course will be communicated to the instructors through the emails, or though hard copies in pigeonhole. Students will be communicated by the announcements by the instructor.

Homework and Tutorials

Students are required to do the homework problems at home. The first hour of the lab would be devoted to solve the tutorial problems, and to guide how to solve other problems. The second hour of lab would be devoted to show students how to use the MINITAB statistical package and to use it to solve real life problems.

Homework Problems (Ross, S. M. 2005)
Chapter Two: 2.2.1, 2.2.9, 2.3.2, 2.3.5, 2.4.3.
Chapter Three: 3.2.6, 3.2.14, 3.3.2, 3.3.10, 3.3.1.4, 3.4.1, 3.5.2, 3.6.1, 3.6.10
　　　　　　 3.7.3, 3.7.15.
Chapter Four: 4.2.3, 4.2.12, 4.3.2, 4.3.11, 4.4.2, 4.4.7, 4.5.4, 4.5.13.
Chapter Five: 5.2.6, 5.2.17, 5.3.4, 5.3.13, 5.4.8, 5.4.13, 5.5.5, 5.5.19.
Chapter Six: 6.2.3, 6.2.6, 6.3.2, 6.3.15, 6.4.2, 6.4.7, 6.5.3, 6.5.13, 6.7.4, 6.7.11.
Chapter Seven: 7.3.4, 7.3.6, 7.4.1, 7.4.4, 7.5.2, 7.5.7, 7.5.15
Chapter Eight: 8.2.4, 8.2.8, 8.3.4, 8.3.11, 8.4.2, 8.4.9, 8.5.3, 8.5.12, 8.6.2, 8.6.13, 8.7.3,
　　　　　　 8.7.9.
Chapter Nine: 9.2.1, 9.2.3, 9.3.2, 9.3.11, 9.3.1.2, 9.4.3, 9.4.8, 9.5.2, 9.5.14.
Chapter Ten: 10.2.2, 10.2.7, 10.3.1, 10.3.10, 10.4.2, 10.4.9.
Chapter Twelve: 12.2.3, 12.3.3, 12.3.8, 12.4.6, 12.5.4, 12.5.12, 12.6.4, 12.7.3, 12.8.2,
　　　　　　 12.9.1.