



Prince Sultan University
Department of Mathematical Sciences
2nd Semester, 2008 – 2009 (Term 082)
SYLLABUS for STAT 271

Course Code : STAT 271

Pre-requisite: STAT 101

Course Title : Statistical Analysis

Instructor: Dr. Quazi Abdus Samad

Credit Hours : 3 (Sat., Mon., Wed. 8:00-8:50am, 9:00-9:50am), E-mail: qsamad@oyp.psu.edu.sa,

E-mail: quaziabdussamad@yahoo.com

Office Hours: Sat., Mon., Wed., 7:30-8:00am (Room: E338)

Office Hours: Sun, Tues, 9:00-10:00am (Room: E338)

Textbook: Introduction to Probability and Statistics, 12th edition, 2006, by W. Mendenhall, R.J. Beaver and B.M. Beaver.

Course Content:

Week	Date	Section	Topic
1	February 28 – March 4	7.3 7.4	§7. Sampling Distributions Statistics and sampling distributions The central limit theorem
2	March 7 – 11	7.5 7.6	The sampling distribution of the sample mean The sampling distribution of the sample proportion
3	March 14 -- 18	8.4 8.5	§8. Large-Sample Estimation Point estimation Interval estimation: Large-sample confidence interval for a mean
4	March 21 – 25	8.5 8.6	Large-sample confidence interval for a proportion Estimating the difference between two means
5	March 28 – April 1	8.7 8.9	Estimating the difference between two proportions Choosing the sample size
6	April 4 – 8	9.1-9.2 9.3 9.4	§9. Large-Sample tests of hypotheses A statistical test of hypothesis A Large-sample test about a population mean A Large-sample test for the difference of 2 means
7	April 11 – 15	9.5 9.6	A Large-sample test about a population proportion A Large-sample test for the difference of 2 proportions
April 13, 2009, Monday: Midterm Exam I (Part of Ch7 + Ch.8 + Ch.9)			
8	April 18 – 22	10.1-10.2 10.3	§10. Inference from small samples Student's t distribution Small sample Inferences concerning a mean
Midterm break: 25 – 29 April			
9	May 2 – 6	10.3 10.4	Small sample Inferences concerning a mean Small sample Inferences for the difference of 2 means
May 6, 2009: Last day for dropping course(s) with grade of "W"			
10	May 9 – 13	10.4 11.1 11.4	Small sample Inferences for the difference of 2 means: independent random samples §11. The analysis of variance The design of an experiment The completely randomized designs
11	May 16 - 20	11.5 12.2 12.3	The ANOVA of a completely randomized design §12. Linear regression and correlation A simple linear probabilistic model Method of least squares
May 13, 2009: Last day for withdrawal from all courses with grade of "W"			
12	May 23 – 27	12.4	ANOVA for linear regression

Week	Date	Section	Topic
		12.5	Testing the usefulness of the linear regression mode
13	May 30 – June 3	13.1	§13. Multiple regression analysis
		13.2-13.3	Analysis of variance for multiple regression
	June 01, 2009, Monday: Midterm Exam II (Ch10 + Ch.11 + Ch.12 + Part of Ch13)		
14	June 6 – 10	14.1	§14. Analysis of categorical data
		14.2	A description of the experiment
		14.3	Pearson's Chi-square statistic
		14.4	Testing specified cell probabilities: the goodness-of-fit test
			Contingency tables: a two-way classification
June 10, 2009: Last day for withdrawal from all courses with grade of “WP/WF”			
15	June 13 – 17	15.2 - 15.3	§15. Nonparametric statistics
			Rank tests, Paired experiment
			Review

Grading Policy:

- Two Midterm Exams=40% (20% for each), Class Work=20%, and Final Exam=40%.
- The class work grade is expected to reflect the performance of the student throughout the semester and is based on at least **12 quizzes** and **12 home works**.

Class Attendance:

- Students should not **miss** any class lecture without a legitimate excuse.
- If you **miss** a class with a legitimate excuse, you should contact the student's affairs within the week.
- In case a student **misses** a class, he must contact any one of his classmates to get all information and topics covered of classes he **missed**.
- "**DN Grade**" will be issued to a student who **misses 13 classes**. This means you cannot enter any more classes or exams. (**1st warning: 5 absences; 2nd warning: 9 absences**).
- It is your responsibility to **check** your number of absences regularly.
- The attendance will be taken during the **first 5 minutes** of the class. If you come to class after 5 minutes, you will be marked **absent**.

Students are required to attend all classes starting from the first day of the semester. Attendance will be taken at the beginning of each class. Any excuses from students for missing classes, including medical reasons, will not be allowed. A student is responsible for his attendance in accordance with the rules and limits determined by the university and any absence will be counted against the student's allowable limit. The absence limit for this course is **13 (thirteen)**. If a student is late on **2 (two)** occasions this will be counted as one absence.

Calculators:

- Scientific calculators are required in this course. You must bring calculators with you in each class and you will not be allowed to borrow them from others. If you do so, marks will be deducted in each occasion. Mobile phones are not substitute for calculators. Anybody using mobile phones as calculators will also be penalized with marks.

Office Hours:

- You are advised and encouraged to seek help to clarify matters that are not clear to you as soon as possible, during office hours.
- In case you need assistance or you need to inquire about matters concerning your marks, absence, and so on, you can see me in the classroom or at my office (**Room E338**) at 7:30-8:00am on Saturdays, Mondays, and Wednesdays and also during 9:00-10:00am on Sundays and Tuesdays. If you need to see me at a different time, you may arrange with me in advance.

Home works & Quizzes:

- All home works assigned in a given week are due on Saturday of the following week.
- Quizzes and home works will be given on Wednesdays and ***no missed quizzes will be re-taken***. You must bring your text book, pen, pencils, note book etc. with you in all classes.