

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

STAT302: Statistical Inference (201)

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Office Hours:

Textbook: Mathematical Statistics with Application, by Wackerly, Mendenhall and Scheaffer, Seventh edition.

Remarks:

- a. This course is a prerequisite to AS 483.
- b. Please note that 302 is only offered in the first semester, AS 483 in the second.

Course Objectives: Present a solid undergraduate foundation in statistical theory, its relevance and importance in solving practical problems in the real world.

Assessment

Assessment for this course will be based on attendance, homework, major exam on each chapter and a comprehensive final exam, as in the following:

Activity	Weight
Homework	15%
Exam 1 (Ch. 6)	7%
Exam 2 (Ch. 7)	8%
Exam 3 (Ch. 8)	10%
Exam 4 (Ch. 9)	15%
Exam 5 (Ch. 10)	10%
Exam 6 (Ch. 14)	10%
Final Exam (Comprehensive)	25%

Syllabus

Section	Title	Remarks
2.12	Random Sampling	
6.7	Order Statistics	
7.1	Introduction to Sampling Distributions	
7.2	Sampling Distributions Related to the Normal Distribution	
8.1-8.10	Estimation	
9.1-9.19	Properties of Point Estimators and Methods of Estimation	
10.1-10.12	Hypothesis Testing	
16.1-16.5	Introduction to Bayesian Methods for Inference	
14.1-14.7	Analysis of Categorical Data	If time permits

Important Notes:

● Lectures:

Because of the current COVID-19 situation, all lectures will be conducted online using **Blackboard Collaborate Ultra** or/and **Microsoft Teams**.

You need

- ✓ a computer (desktop or laptop) with a webcam and audio capabilities with Microsoft Teams installed.
- ✓ to install Microsoft Teams on your mobile phone.
- ✓ to have an excellent internet connection for attending virtual classes and attempting assessments. No makeup exams or attendance excuses will be given based on internet connection failure.
- ✓ to have a computer with webcam. During all assessments, you must keep your webcam turned on and the proctor will monitor you time to time
- ✓ a calculator with statistical functions.
- ✓ your book every class (soft/hard copy).
- ✓ to solve the suggested problems (will be uploaded to the blackboard at the beginning of each chapter).

● Class attendance policy:

- ✓ Attendance **on time** is very important.
 - Those who frequently face connection problems **will not be** considered present.
 - Any unexcused absence carries a penalty of 1 percentage point.
 - The student **must actively participate** in the lecture to be considered present.
 - During the class, if you need to get away from your computer, you need to take instructors permission.
 - Only an excuse issued by **Deanship of Student Affairs** will be accepted for not attending a class
- ✓ Excessive unexcused absences (**more than 8**) will result in a grade of **DN** in accordance with University rules.

● 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.

● Details and guidelines for Assessments:

- ✓ All exams will be conducted online using the blackboard.
- ✓ You will be able to see it in the "Assessments / Tests" section.
- ✓ Online assessments 1 and 2 will **start exactly at 5:45 PM**, and you will have only 5 minutes to login to the assessment. Same is true for midterm exam.
 - It means **after 5:50 PM you cannot login** to take the assessment.
- ✓ We expect you to abide by all ethical rules and work individually.

● Homework

- ✓ homework problems will be posted on the Blackboard later.
- ✓ Homework should be submitted in class on the first day after a chapter ends.
- ✓ No late homework will be accepted.
- ✓ Homework not submitted will get a score of zero.
- ✓ Homework problems solutions should be complete with justifications and reasons for all steps by referencing theorems, equations and discussion from your textbook.
- ✓ Copying from any source, human, print or electronic will result in a zero on the homework and will be reported to the department chairman for appropriate action in accordance with University rules. See Article 38 page 27 of “the Undergraduate Study and Examinations Regulations and the KFUPM Rules for their Implementation”

<http://registrar.kfupm.edu.sa/docs/pdf/AcademicRegulations.pdf>

Homework Problems*

Chapter	Problems
6	74, 75, 86, 89
7	10, 13, 14, 21, 26, 30
8	1, 2, 3, 5, 21, 25, 32, 33, 39, 43, 56, 60, 70, 71, 81, 82, 96, 97
9	1, 3, 4, 15, 28, 38, 39, 49, 56, 60, 71, 72, 81, 82
16	1, 2, 7, 8, 18, 24
14	2, 4, 14, 22, 23

* For Applet Exercises you can use Minitab or R