

Course Outline

STAT 622: Statistical Inference (II)

Instructor: Dr. Khalaf S. Sultan

Time: Wednesday 8:00-11:00 am

Room #: 2B20 Building #4, Phone (office): 4676263,
E-mail ksultan@ksu.edu.sa,
ksultan2000@hotmail.com

Recommended Books:

1. Casella, G. and Berger, R. L. (2002). *Statistical Inference*, second edition, Duxbury, New York.
2. Lehmann, E.L. (1986). *Testing Statistical Hypotheses*. Wiley, New York.
3. E.L. Lehmann, E.L. and Romano, J.P. (2005). *Testing Statistical Hypotheses*, Springer, New York
4. Kendall, M. G. and Stuart, A. (1979). *The Advanced Theory of Statistics*, fourth edition, Volume 2, Charles Griffin, London.
5. *Mathematical Statistics (Second Edition)*. Jun Shao. Springer Texts in Statistics (2003).

Course Contents:

Topics Covered	Planned Contact Hours
The concept of testing hypotheses	3
Testing statistical composite hypotheses	3
The generalized likelihood ratio test	9
Power of the test.	3
Large sample properties and procedures and the Asymptotic distribution of LRT.	6
Wald test; Score test, Permutation test, and related topics	3
Bayesian Tests	6
Invariance principles	3
Non-parametric tests	3
Bootstrap and Resampling methods for interval estimation and testing hypothesis	3
General applications, discussion and problems	3

Grading Scheme:

- 1- Assignments, Projects and Presentation: (30 Marks)
- 2- Midterm Exam To be arranged (30 Marks)
- 3- Final Exam: To be arranged (40 Marks)

Attendance:

Student missing more than 25% of the total class hours won't be allowed to write the final exam.