

Probability and Statistical Inference for
Economists, ECON 3640-002, Spring 2012
Class: OSH 132; T,H 12:25-1:45 PM
Office Hour: T,H 2-3 PM or by appointment

Instructor: Mahfuz Raihan
Email:mahfuz.raihan@gmail.com
Office: 357 OSH

Prerequisites:

Introductory Micro and Macro Economics (ECON 2010 and 2020 or equivalents) & college Algebra (MATH 1090 preferred)

Required Text Book:

Introduction to Business Statistics (6th Ed) by Ronald M. Weiers, ISBN 13: 978-0-324-38143-6

Optional Text Book:

Business Statistics (4th Ed) by Leonard J. Kazmier, ISBN: 978-0-07-163527-1

Webct:

Webct will be used for distributing course materials, references, communications and notifying grades. Students are required to maintain an active E-mail address and following the updates on the course site.

Grading:

Homework	45%
Midterm Exam	20%
Final Exam: Comprehensive	30%
Class attendance and participation	5%
Total	100%

Late submissions of homework lose points. Make up Examinations for The Midterm and Final will be allowed only for valid medical reasons, supported by proper documents.

Assignment of Letter Grades:

$A \geq 90\%$, $90\% > A- \geq 85\%$, $85\% > B+ \geq 80\%$, $80\% > B \geq 75\%$, $75\% > B- \geq 70\%$, $70\% > C+ \geq 65\%$, $65\% > C \geq 60\%$, $60\% > C- \geq 55\%$, $55\% > D \geq 50\%$, $50\% > E$

Incomplete grade will be given only for valid medical reasons, supported by proper documents. According to university regulations, you must be passing the class at the time you get an incomplete.

Syllabus:

A. Description of Data

- (1) Visual Description of Data
- (2) Statistical Description of Data
- (3) Lab session with Excel software

B. Probability and Probability Distributions

- (4) Basic Concepts
- (5) Discrete Probability Distribution
- (6) Continuous Probability Distribution
- (7) Lab session with Excel software

C. Sampling Distribution

8. Sample distribution of mean and central limit theorem
9. Normal distribution and confidence interval for mean
10. t-distribution and confidence interval for mean
11. Lab session with Excel software
12. Normal distribution and confidence interval for the difference between two means
13. t-distribution and confidence interval for the difference between two means
14. Chi-square distribution and confidence interval for variance
15. Lab session with Excel software

D. Hypothesis Testing

16. Hypothesis testing concerning population mean using normal distribution
 - critical value approach, p-value approach, confidence interval approach
17. Hypothesis testing concerning population mean using t- distribution
 - critical value approach, p-value approach, confidence interval approach
18. Hypothesis testing concerning the difference between two populations mean using Normal distribution
 - critical value approach, p-value approach, confidence interval approach
19. Hypothesis testing concerning the difference between two populations mean using t- distribution
 - critical value approach, p-value approach, confidence interval approach
20. Lab session with Excel software

E. Advanced Topics

21. Analysis of Variance
22. Linear Regression and correlation analysis
23. Lab session with Excel software

Policy:

Internet browsing/ working with computer during class is strictly prohibited. Violation will cause 5% point deduction on the ground of indiscipline.

ADA Statement: The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations

Finally, the Instructor reserves the right to make changes in this syllabus as the need arises during the semester.