CS/STAT 6313.001 – Statistical Methods for Data Science

Course Information

Course Number/Section	*CS/STAT 6313.001*
Course Title	*Statistical Methods for Data Science*
Term	*Fall 2016*
Days & Times	*MW 10:00 – 11:15am*
Location	*GR 3.420*

Professor Contact Information

Instructor	*Dr Bill Semper*
E-Mail	*WJS130130@utdallas.edu*
Office hours	*TTHR 4:00 - 5:00 pm, ECSS 4.602*
Phone	*972-883-4139*
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Course Pre-requisites, Co-requisites, and/or Other Restrictions:

Prerequisites: CS/SE/STAT 3341 or equivalent.

Course Description

Introduction to statistics, including simple descriptive statistics and graphical statistics. Statistical inference, including parameter estimation, confidence intervals, and hypothesis testing. Chi-square tests, nonparametric statistics, Bootstrap, and Bayesian Inference. Regression Analysis, including Least squares estimation, analysis of variance, ANOVA, and multivariate regression. Introduction to the R programming language, with hands on application.

Student Learning Objectives/Outcomes

Students will learn the basics of statistical analysis and be able to apply the fundamental methods of sampling, interval estimation, hypothesis testing, and regression analysis. Students will be able to use the R programming language to analyze data sets.

Required Textbooks and Materials

Text: Applied Statistics and Probability for Engineers, Montgomery and Runger, 6th Edition, Wiley. ISBN-13 9781118539712. We will cover chapters 1-5 (briefly), 6 – 12.

Academic Calendar: ***These descriptions and timelines are subject to change at the discretion of the Professor.***

Date	Topic
August 22	Classes Begin
Oct 5	Mid-Term Exam
Dec 7	Classes End
TBD	Final Exam

Grading Policy

HW	10%
Mid-Term Exam	45%
Final Exam	45%

Please note: No extra credit assignments will be given.

Grading will be on a curve, with the median point for the class being used as the B+/A- cutoff point. If the median score is above 90%, the following scale is used:

$$\begin{array}{ll} 92 \leq score \leq 100 & A \\ 90 \leq score < 92 & A- \\ 88 \leq score < 90 & B+ \\ 82 \leq score < 88 & B \\ 80 \leq score < 82 & B- \\ score < 80 & C \end{array}$$

The instructor reserves to the right to assign B- grades to students with final scores less than 2 standard deviations below the median score. The instructor reserves the right to assign C grades to students who score less than 50% on the final.

Computer Science Department Attendance Policy: Three consecutive absences leads to one letter grade drop. Four consecutive absences leads to an F.

For detailed information about University policies and procedures related to this syllabus, please refer to http://go.utdallas.edu/syllabus-policies.