

Fariborz Maseeh Department of Mathematics & Statistics
PORTLAND STATE UNIVERSITY
WINTER TERM 2015

5. January through 15. March
STAT 452/552 (CRN: 43452/43460) T & R 14:00–15:15
Applied Statistics for Engineers and Scientists II NH 375

Instructor: Professor M. Tableman
321 Neuberger Hall email: bymt@pdx.edu
503-725-3636 webpage: web.pdx.edu/~bymt

Office Hours:

T & R 13:00–13:50 and 15:30–16:00 & by appointment.

Textbook: Devore, J.L.(2012), *Probability & Statistics for Engineering and the Sciences, Eighth Edition*, BROOKS/COLE: CENGAGE Learning.

Tools A calculator: either TI-84 Plus or TI-89. TI-89 is preferred.

Course Requirements:

1. Take-Home Assignments which incorporate the statistical software package MINITAB and, perhaps, R (30%).
The R package is open source. It can be downloaded from the Comprehensive R Archive Network cran.r-project.org.
2. Midterm (30%): Thursday, February 12.
3. Final Exam (40%): Monday, March 16, 10:15–12:05

Course Description:

This course is the second of a two term sequence. The focus is on inferential statistics. It offers an overview of point and interval estimation, hypothesis testing, regression models, correlation, experimental design, analysis of variance, multivariable experiments, nonparametrics, quality control, and computer applications.

Prerequisites: Mth 252. 3.000 Credit hours

Course Syllabus:

Goal is to cover Chapters 7, 8, 9, 10, 11.1, 11.2, 14, 12, 13, 15, 16

The “Big Picture” course objectives for participants are

- to learn the basic tools for describing and analyzing data generated from a statistical experiment,
- to learn the basic nuts and bolts of statistical inference - ESTIMATION and TESTS of HYPOTHESES: to correctly interpret the concepts of confidence coefficient, the null and alternative hypotheses, type I and II errors, rejection regions, and p-values,
- to gain a basic understanding of data analysis and statistical methods,
- to identify the model under study so as to apply appropriate methods of inference,

- to apply this understanding to their fields of study,
- to use this understanding to improve inferences drawn from statistical studies, and
- to critically evaluate the designs of statistical studies and how the results from these studies are reported in the literature including research journals, newspapers, and magazines.

COMPUTER LABS

MINITAB installed on PC's in Math & Stat Computing Lab in the NH 96, and in most computing labs on campus; e.g, NH 465, lab in the library, in the Broadway Bldg, the Engineering Bldg, in the basement of Smith Hall.

NOTE:

To get it... <http://www.e-academy.com/minitab>. There is a 30-day free trial and a very good price for students.