

CHANCE ENCOUNTERS. A First Course in Data Analysis and Inference. C.J. Wild and G.A.F. Seber. New York: Wiley, 2000, pp. xviii + 611. Solutions Manual, 207 pages.

Contents:

1. What is statistics?
2. Tools for exploring univariate data
3. Exploratory tools for relationships
4. Probabilities and proportions
5. Discrete random variables
6. Sampling distributions of estimates
7. Confidence intervals
8. Significance testing: Using data to test hypotheses
9. Data on a continuous random variable
10. Tables of counts
11. Relationships between quantitative variables:
Regression and correlation
12. Control charts (see web site)
13. Time series (see web site)

Readership: Beginning students of statistics, teachers of statistics

This excellent introductory text teaches what practising statisticians know but what many fail to convey to the students, namely, statistical thinking. It should be required reading for anyone embarking on a career as a statistician or in any field where critical evaluation of data is required.

The technical content is what is generally accepted as standard for an introductory statistical course: data display and summary statistics, an introduction to probability, tests on means, contingency tables, linear regression and analysis of variance. The mathematical level is pre-calculus. The subject matter is presented in a lively, informal manner without sacrificing accuracy.

The first chapter describes how statistical data can be obtained from polls and surveys, observational studies, or by experimentation and discusses the

strengths and limitations of each method. The second and third chapters show how to make intelligent use of the many graphical displays and data summaries that statistical packages offer. These themes are referred to throughout the text, as the data used in the examples are evaluated. The examples themselves are interesting in their own right, being drawn from actual statistical practice, newspapers, or from learned journals in many fields. Emphasis is less on the mechanics of each procedure, but rather on what it is for; how to interpret the result in the context of the study, and of what to be aware. Guidelines are given on important topics, such as how to proceed if outliers are present in the data: what to do if data are non-normal; the consequences of ignoring dependence between observations or collapsing contingency tables; why confidence intervals should be given together with the test results. Exercises, some of them quite challenging, follow each chapter and an instructor's manual is available.

In writing this book the authors have performed a real service to the profession. The book is highly recommended.

University of Cape Town
Rondebosch, South Africa

J.M. Juritz