Provides an easy-to-understand guide to statistical linear models and its uses in data analysis

This book defines a broad spectrum of statistical linear models that is useful in the analysis of data. Considerable rewriting was done to make the book more reader friendly than the first edition. *Linear Models, Second Edition* is written in such a way as to be self-contained for a person with a background in basic statistics, calculus and linear algebra. The text includes numerous applied illustrations, numerical examples, and exercises, now augmented with computer outputs in SAS and R. Also new to this edition is:

- A greatly improved internal design and format
- A short introductory chapter to ease understanding of the order in which topics are taken up
- Discussion of additional topics including multiple comparisons and shrinkage estimators
- Enhanced discussions of generalized inverses, the MINQUE, Bayes and Maximum Likelihood estimators for estimating variance components

Furthermore, in this edition, the second author adds many pedagogical elements throughout the book. These include numbered examples, end-of-example and end-of-proof symbols, selected hints and solutions to exercises available on the book's website, and references to "big data" in everyday life. Featuring a thorough update, *Linear Models, Second Edition* includes:

- A new internal format, additional instructional pedagogy, selected hints and solutions to exercises, and several more real-life applications
- Many examples using SAS and R with timely data sets
- Over 400 examples and exercises throughout the book to reinforce understanding

Linear Models, Second Edition is a textbook and a reference for upper-level undergraduate and beginning graduate-level courses on linear models, statisticians, engineers, and scientists who use multiple regression or analysis of variance in their work.

The late SHAYLE R. SEARLE, PhD, was Professor Emeritus of Biometry at Cornell University. He was the author of the first edition of *Linear Models, Linear Models for Unbalanced Data,* and *Generalized, Linear, and Mixed Models* (with Charles E. McCulloch), all from Wiley. The first edition of *Linear Models* appears in the Wiley Classics Library.

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