Discovering Statistics 2nd Edition

Data science libraries, frameworks, modules, and toolkits are great for doing data science, but they're also a good way to dive into the discipline without actually understanding data science. In this book, you'll learn how many of the most fundamental data science tools and algorithms work by implementing them from scratch. If you have an aptitude for mathematics and some programming skills, author Joel Grus will help you get comfortable with the math and statistics at the core of data science, and with hacking skills you need to get started as a data scientist. Today's messy glut of data holds answers to questions no one's even thought to ask. This book provides you with the know-how to dig those answers out. Get a crash course in Python Learn the basics of linear algebra, statistics, and probability—and understand how and when they're used in data science Collect, explore, clean, munge, and manipulate data Dive into the fundamentals of machine learning Implement models such as k-nearest Neighbors, Naive Bayes, linear and logistic regression, decision trees, neural networks, and clustering Explore recommender systems, natural language processing, network analysis, MapReduce, and databases

This book was written to provide resource materials for teachers to use in their introductory or intermediate statistics class. The chapter content is ordered along the lines of many popular statistics books so it should be easy to supplement the content and exercises with class lecture materials. The book contains R script programs to demonstrate important topics and concepts covered in a statistics course, including probability, random sampling, population distribution types, role of the Central Limit Theorem, creation of sampling distributions for statistics, and more. The chapters contain T/F quizzes to test basic knowledge of the topics covered. In addition, the book chapters contain numerous exercises with answers or solutions to the exercises provided. The chapter exercises reinforce an understanding of the statistical concepts presented in the chapters. An instructor can select any of the supplemental materials to enhance lectures and/or provide additional coverage of concepts and topics in their statistics book.

With an exciting new look, math diagnostic tool, and a research roadmap to navigate projects, this new edition of Andy Field's award-winning text offers a unique combination of humor and step-by-step instruction to make learning statistics compelling and accessible to even the most anxious of students. The Fifth Edition takes students from initial theory to regression, factor analysis, and multilevel modeling, fully incorporating IBM SPSS Statistics© version 25 and fascinating examples throughout. SAGE edge offers a robust online environment featuring an impressive array of free tools and resources for review, study, and further exploration, keeping both instructors and students on the cutting edge of teaching and learning. Course cartridges available for Blackboard and Moodle. Learn more at edge.sagepub.com/field5e Stay Connected Connect with us on Facebook and share your experiences with Andy's texts, check out news, access free stuff, see photos, watch videos, learn about competitions, and much more. Video Links Go behind the scenes and learn more about the man behind the book at Andy's YouTube channel Andy Field is the award winning author of An Adventure in Statistics: The Reality Enigma and is the recipient of the UK National Teaching Fellowship (2010), British Psychological Society book award (2006), and has been recognized with local and national teaching awards (University of Sussex, 2015, 2016).

Online Statistics: An Interactive Multimedia Course of Study is a resource for learning and teaching introductory statistics. It contains material presented in textbook format and as video presentations. This resource features interactive demonstrations and simulations, case studies, and an analysis lab.This print edition of the public domain textbook gives the student an opportunity to own a physical copy to help enhance their educational experience. This part I features the book Front Matter, Chapters 1-10, and the full Glossary. Chapters Include:: I. Introduction, II. Graphing Distributions, III. Summarizing Distributions, IV. Describing Bivariate Data, V. Probability, VI. Research Design, VII. Normal Distributions, VIII. Advanced Graphs, IX. Sampling Distributions, and X. Estimation. Online Statistics Education: A Multimedia Course of Study (http: //onlinestatbook.com/). Project Leader: David M. Lane, Rice University.

"Practical recipes for visualizing data"--Cover.

Full of real-world case studies and practical advice, Exploratory Multivariate Analysis by Example Using R, Second Edition focuses on four fundamental methods of multivariate exploratory data analysis that are most suitable for applications. It covers principal component analysis (PCA) when variables are quantitative, correspondence analysis (CA) a

Lecturers - request an e-inspection copy of this text or contact your local SAGE representative to discuss your course needs. Watch Andy Field's introductory video to Discovering Statistics Using R Keeping the uniquely humorous and self-deprecating style that has made students across the world fall in love with Andy Field's books, Discovering Statistics Using R takes students on a journey of statistical discovery using R, a free, flexible and dynamically changing software tool for data analysis that is becoming increasingly popular across the social and behavioural sciences throughout the world. The journey begins by explaining basic statistical and research concepts before a guided tour of the R software environment. Next you discover the importance of exploring and graphing data, before moving onto statistical tests that are the foundations of the rest of the book (for example correlation and regression). You will then stride confidently into intermediate level analyses such as ANOVA, before ending your journey with advanced techniques such as MANOVA and multilevel models. Although there is enough theory to help you gain the necessary conceptual understanding of what you're doing, the emphasis is on applying what you learn to playful and real-world examples that should make the experience more fun than you might expect. Like its sister textbooks, Discovering Statistics Using R is written in an irreverent style and follows the same ground-breaking structure and pedagogical approach. The core material is augmented by a cast of characters to help the reader on their way, together with hundreds of examples, self-assessment tests to consolidate knowledge, and additional website material for those wanting to learn more. Given this book's accessibility, fun spirit, and use of bizarre real-world research it should be essential for anyone wanting to learn about statistics using the freely-available R software.

This completely rewritten classic text features many new examples, insights and topics including mediational, categorical, and multilevel models. Substantially reorganized, this edition provides a briefer, more streamlined examination of data analysis. Noted for its model-comparison approach and unified framework based on the general linear model, the book provides readers with a greater understanding of a variety of statistical procedures. This consistent framework, including consistent vocabulary and notation, is used throughout to develop fewer but more powerful model building techniques. The authors show how all analysis of variance and multiple regression can be accomplished within this framework. The model-comparison approach

provides several benefits: It strengthens the intuitive understanding of the material thereby increasing the ability to successfully analyze data in the future It provides more control in the analysis of data so that readers can apply the techniques to a broader spectrum of questions It reduces the number of statistical techniques that must be memorized It teaches readers how to become data analysts instead of statisticians. The book opens with an overview of data analysis. All the necessary concepts for statistical inference used throughout the book are introduced in Chapters 2 through 4. The remainder of the book builds on these models. Chapters 5 - 7 focus on regression analysis, followed by analysis of variance (ANOVA), mediational analyses, non-independent or correlated errors, including multilevel modeling, and outliers and error violations. The book is appreciated by all for its detailed treatment of ANOVA, multiple regression, nonindependent observations, interactive and nonlinear models of data, and its guidance for treating outliers and other problematic aspects of data analysis. Intended for advanced undergraduate or graduate courses on data analysis, statistics, and/or quantitative methods taught in psychology, education, or other behavioral and social science departments, this book also appeals to researchers who analyze data. A protected website featuring additional examples and problems with data sets, lecture notes, PowerPoint presentations, and class-tested exam questions is available to adopters. This material uses SAS but can easily be adapted to other programs. A working knowledge of basic algebra and any multiple regression program is assumed.

The second edition of a bestselling textbook, Using R for Introductory Statistics guides students through the basics of R, helping them overcome the sometimes steep learning curve. The author does this by breaking the material down into small, task-oriented steps. The second edition maintains the features that made the first edition so popular, while updating data, examples, and changes to R in line with the current version. See What's New in the Second Edition: Increased emphasis on more idiomatic R provides a grounding in the functionality of base R. Discussions of the use of RStudio helps new R users avoid as many pitfalls as possible. Use of knitr package makes code easier to read and therefore easier to reason about. Additional information on computer-intensive approaches motivates the traditional approach. Updated examples and data make the information current and topical. The book has an accompanying package, UsingR, available from CRAN, R's repository of user-contributed packages. The package contains the data sets mentioned in the text (data(package="UsingR")), answers to selected problems (answers()), a few demonstrations (demo()), the errata (errata()), and sample code from the text. The topics of this text line up closely with traditional teaching progression; however, the book also highlights computer-intensive approaches to motivate the more traditional approach. The authors emphasize realistic data and examples and rely on visualization techniques to gather insight. They introduce statistics and R seamlessly, giving students the tools they need to use R and the information they need to navigate the sometimes complex world of statistical computing.

Now with a new companion website! Using IBM® SPSS® Statistics: An Interactive Hands-On Approach, Third Edition gives readers an accessible and comprehensive guide to walking through SPSS®, providing them with step-by-step knowledge for effectively analyzing their data. From entering data to working with existing databases, and working with the help menu through performing factor analysis, Using IBM® SPSS® Statistics covers every aspect of SPSS® from introductory through intermediate statistics. The book is divided into parts that focus on mastering SPSS® basics, dealing with univariate statistics and graphing, inferential statistics, relational statistics, and more. Written using IBM® SPSS® version 25 and 24, and compatible with the earlier releases, this book is one of the most comprehensive SPSS® guides available.

Discovering the Fundamentals of Statistics by Dan Larose is the ideal brief introductory statistics text that balances the teaching of computational skills with conceptual understanding. Written in a concise, accessible style, Discovering the Fundamentals of Statistics helps students develop the quantitative and analytical tools needed to understand statistics in today's data-saturated world. Dan Larose presents statistical concepts the way instructors teach and the way students learn.

This second edition covers recent developments around the world with contributors from 33 different countries. It widens the handbook's scope by including ecological design; consideration of cultural dimensions of the use and conservation of urban nature; the roles of government and civil society; and the continuing issues of equity and fairness in access to urban greenspaces. New features include an emphasis on the biophilic design of homes and workplaces, demonstrating the value of nature, in order to counter the still prevalent attitude among many developers that nature is a constraint rather than a value. The volume explores great practical achievements have occurred since the first edition, with many governments increasingly recognising and legislating on urban nature and green infrastructure matters, since cities play a major role in adapting to change, particularly to climate crisis. New topics such as the ecological role of light at night and human microbiota in the urban ecosystem are introduced. Additional attention is given to food production in cities, particularly the multiple roles of urban agriculture and household gardens in different contexts from wealthy communities to the poorest informal settlements in deprived communities. The emphasis is on demonstrating what can be achieved, and what is already being done. The book will help scholars and graduate students by providing an invaluable and up-to-date guide to current urban ecological thinking across the range of disciplines, such as geography, ecology, environmental science/studies, planning, urban studies, that converge in the study of towns and cities and urban design and living. It will also assist practitioners and civil society members in discovering the ways different specialists and thinkers approach urban nature.

The fast and easy way to learn Python programming and statistics Python is a general-purpose programming language created in the late 1980s—and named after Monty Python—that's used by thousands of people to do things from testing microchips at Intel, to powering Instagram, to building video games with the PyGame library. Python For Data Science For Dummies is written for people who are new to data analysis, and discusses the basics of Python data analysis programming and statistics. The book also discusses Google Colab, which makes it possible to write Python code in the cloud. Get started with data science and Python Visualize information Wrangle data Learn from data The book provides the statistical background needed to get started in data science programming, including probability, random distributions, hypothesis testing, confidence intervals, and building regression models for prediction.

Praise for the first edition: "[This book] succeeds singularly at providing a structured introduction to this active field of research. ... it is arguably the most accessible overview yet published of the mathematical ideas and principles that one needs to master to enter the field of high-dimensional statistics. ... recommended to anyone interested in the main results of current research in high-dimensional statistics as well as anyone interested in acquiring the core mathematical skills to enter this area of research." —Journal of the American Statistical Association Introduction to

High-Dimensional Statistics, Second Edition preserves the philosophy of the first edition: to be a concise guide for students and researchers discovering the area and interested in the mathematics involved. The main concepts and ideas are presented in simple settings, avoiding thereby unessential technicalities. High-dimensional statistics is a fast-evolving field, and much progress has been made on a large variety of topics, providing new insights and methods. Offering a succinct presentation of the mathematical foundations of high-dimensional statistics, this new edition: Offers revised chapters from the previous edition, with the inclusion of many additional materials on some important topics, including compress sensing, estimation with convex constraints, the slope estimator, simultaneously low-rank and row-sparse linear regression, or aggregation of a continuous set of estimators. Introduces three new chapters on iterative algorithms, clustering, and minimax lower bounds. Provides enhanced appendices, minimax lower-bounds mainly with the addition of the Davis-Kahan perturbation bound and of two simple versions of the Hanson-Wright concentration inequality. Covers cutting-edge statistical methods including model selection, sparsity and the Lasso, iterative hard thresholding, aggregation, support vector machines, and learning theory. Provides detailed exercises at the end of every chapter with collaborative solutions on a wiki site. Illustrates concepts with simple but clear practical examples.

Proteomic and Metabolomic Approaches to Biomarker Discovery, Second Edition covers techniques from both proteomics and metabolomics and includes all steps involved in biomarker discovery, from study design to study execution. The book describes methods and presents a standard operating procedure for sample selection, preparation and storage, as well as data analysis and modeling. This new standard effectively eliminates the differing methodologies used in studies and creates a unified approach. Readers will learn the advantages and disadvantages of the various techniques discussed, as well as potential difficulties inherent to all steps in the biomarker discovery process. This second edition has been fully updated and revised to address recent advances in MS and NMR instrumentation, high-field NMR, proteomics and metabolomics for biomarker validation, clinical assays of biomarkers and clinical MS and NMR, identifying microRNAs and autoantibodies as biomarkers, MRM-MS assay development, top-down MS, glycosylation-based serum biomarkers, cell surface proteins in biomarker discovery, lipodomics for cancer biomarker discovery, and strategies to design studies to identify predictive biomarkers in cancer research. Addresses the full range of proteomic and metabolomic methods and technologies used for biomarker discovery and validation Covers all steps involved in biomarker discovery, from study design to study execution Serves as a vital resource for biochemists, biologists, analytical chemists, bioanalytical chemists, clinical and medical technicians, researchers in pharmaceuticals and graduate students

During the past decade there has been an explosion in computation and information technology. With it have come vast amounts of data in a variety of fields such as medicine, biology, finance, and marketing. The challenge of understanding these data has led to the development of new tools in the field of statistics, and spawned new areas such as data mining, machine learning, and bioinformatics. Many of these tools have common underpinnings but are often expressed with different terminology. This book describes the important ideas in these areas in a common conceptual framework. While the approach is statistical, the emphasis is on concepts rather than mathematics. Many examples are given, with a liberal use of color graphics. It should be a valuable resource for statisticians and anyone interested in data mining in science or industry. The book's coverage is broad, from supervised learning (prediction) to unsupervised learning. The many topics include neural networks, support vector machines, classification trees and boosting---the first comprehensive treatment of this topic in any book. This major new edition features many topics not covered in the original, including graphical models, random forests, ensemble methods, least angle regression & path algorithms for the lasso, non-negative matrix factorization, and spectral clustering. There is also a chapter on methods for "wide" data (p bigger than n), including multiple testing and false discovery rates. Trevor Hastie, Robert Tibshirani, and Jerome Friedman are professors of statistics at Stanford University. They are prominent researchers in this area: Hastie and Tibshirani developed generalized additive models and wrote a popular book of that title. Hastie co-developed much of the statistical modeling software and environment in R/S-PLUS and invented principal curves and surfaces. Tibshirani proposed the lasso and is co-author of the very successful An Introduction to the Bootstrap. Friedman is the co-inventor of many data-mining tools including CART, MARS, projection pursuit and gradient boosting.

Engaging and accessible to students from a wide variety of mathematical backgrounds, Statistics Using Stata combines the teaching of statistical concepts with the acquisition of the popular Stata software package. It closely aligns Stata commands with numerous examples based on real data, enabling students to develop a deep understanding of statistics in a way that reflects statistical practice. Capitalizing on the fact that Stata has both a menu-driven 'point and click' and program syntax interface, the text guides students effectively from the comfortable 'point and click' environment to the beginnings of statistical programming. Its comprehensive coverage of essential topics gives instructors flexibility in curriculum planning and provides students with more advanced material to prepare them for future work. Online resources - including complete solutions to exercises, PowerPoint slides, and Stata syntax (do-files) for each chapter - allow students to review independently and adapt codes to solve new problems, reinforcing their programming skills.

In this fresh new offering to the Intro Psychology course, authors John Cacioppo and Laura Freberg portray psychology as being an integrative science in two ways. First, they have written a text that reflects psychology's rightful place as a hub science that draws from and is cited by research in many other fields. Second, this text presents psychology as a unified science that seeks a complete understanding of the human mind, rather than as a loosely organized set of autonomous subspecialties. As psychology moves rapidly toward maturity as an integrative, multidisciplinary field, the introductory course offers an opportunity to teach all of psychology in one place and at one time. This text reflects that evolution--and the authors' excitement about it. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook

version.

Based on over 30 years of successful teaching experience in this course, Robert Pagano's introductory text takes an intuitive, concepts-based approach to descriptive and inferential statistics. He uses the sign test to introduce inferential statistics, empirically derived sampling distributions, many visual aids, and lots of interesting examples to promote student understanding. One of the hallmarks of this text is the positive feedback from students -- even students who are not mathematically inclined praise the text for its clarity, detailed presentation, and use of humor to help make concepts accessible and memorable. Thorough explanations precede the introduction of every formula, and the exercises that immediately follow include a step-by-step model that lets students compare their work against fully solved examples. This combination makes the text perfect for students taking their first statistics course in psychology or other social and behavioral sciences. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Statistical Computation for Programmers, Scientists, Quants, Excel Users, and Other Professionals Using the open source R language, you can build powerful statistical models to answer many of your most challenging questions. R has traditionally been difficult for non-statisticians to learn, and most R books assume far too much knowledge to be of help. R for Everyone, Second Edition, is the solution. Drawing on his unsurpassed experience teaching new users, professional data scientist Jared P. Lander has written the perfect tutorial for anyone new to statistical programming and modeling. Organized to make learning easy and intuitive, this guide focuses on the 20 percent of R functionality you'll need to accomplish 80 percent of modern data tasks. Lander's self-contained chapters start with the absolute basics, offering extensive hands-on practice and sample code. You'll download and install R; navigate and use the R environment; master basic program control, data import, manipulation, and visualization; and walk through several essential tests. Then, building on this foundation, you'll construct several complete models, both linear and nonlinear, and use some data mining techniques. After all this you'll make your code reproducible with LaTeX, RMarkdown, and Shiny. By the time you're done, you won't just know how to write R programs, you'll be ready to tackle the statistical problems you care about most. Coverage includes Explore R, RStudio, and R packages Use R for math: variable types, vectors, calling functions, and more Exploit data structures, including data.frames, matrices, and lists Read many different types of data Create attractive, intuitive statistical graphics Write user-defined functions Control program flow with if, ifelse, and complex checks Improve program efficiency with group manipulations Combine and reshape multiple datasets Manipulate strings using R's facilities and regular expressions Create normal, binomial, and Poisson probability distributions Build linear, generalized linear, and nonlinear models Program basic statistics: mean, standard deviation, and t-tests Train machine learning models Assess the quality of models and variable selection Prevent overfitting and perform variable selection, using the Elastic Net and Bayesian methods Analyze univariate and multivariate time series data Group data via K-means and hierarchical clustering Prepare reports, slideshows, and web pages with knitr Display interactive data with RMarkdown and htmlwidgets Implement dashboards with Shiny Build reusable R packages with devtools and Rcpp Register your product at informit.com/register for convenient access to downloads, updates, and corrections as they become available.

Assuming no previous statistics education, this practical reference provides a comprehensive introduction and tutorial on the main statistical analysis topics, demonstrating their solution with the most common software package. Intended for anyone needing to apply statistical analysis to a large variety of science and enigineering problems, the book explains and shows how to use SPSS, MATLAB, STATISTICA and R for analysis such as data description, statistical inference, classification and regression, factor analysis, survival data and directional statistics. It concisely explains key concepts and methods, illustrated by practical examples using real data, and includes a CD-ROM with software tools and data sets used in the examples and exercises. Readers learn which software tools to apply and also gain insights into the comparative capabilities of the primary software packages.

Quantitative Research Methods for Health Professionals: APractical Interactive Course is a superb introductionto epidemiology, biostatistics, and research methodology for thewhole health care community. Drawing examples from a wide range of health research, thispractical handbook covers important contemporary health researchmethods such as survival analysis, Cox regression, andmeta-analysis, the understanding of which go beyond introductoryconcepts. The book includes self-assessment exercises throughout to helpstudents explore and reflect on their understanding and a cleardistinction is made between a) knowledge and concepts that allstudents should ensure they understand and b) those that can bepursued by students who wish to do so. The authors incorporate a program of practical exercises in SPSSusing a prepared data set that helps to consolidate the theory anddevelop skills and confidence in data handling, analysis andinterpretation.

Statistical Power Analysis is a nontechnical guide to power analysis in research planning that provides users of applied statistics with the tools they need for more effective analysis. The Second Edition includes: * a chapter covering power analysis in set correlation and multivariate methods; * a chapter considering effect size, psychometric reliability, and the efficacy of "qualifying" dependent variables and; * expanded power and sample size tables for multiple regression/correlation.

Computer software is an essential tool for many statistical modelling and data analysis techniques, aiding in the implementation of large data sets in order to obtain useful results. R is one of the most powerful and flexible statistical software packages available, and enables the user to apply a wide variety of statistical methods ranging from simple regression to generalized linear modelling. Statistics: An Introduction using R is a clear and concise introductory textbook to statistical analysis using this powerful and free software, and follows on from the success of the author's previous best-selling title Statistical Computing. * Features step-by-step instructions that assume no mathematics, statistics or programming background, helping the non-statistician to fully understand the methodology. * Uses a series of realistic examples, developing step-wise from the simplest cases, with the emphasis on checking the assumptions (e.g. constancy of variance and normality of errors) and the adequacy of the model chosen to fit the data. * The emphasis throughout is on estimation of effect sizes and confidence intervals, rather than on hypothesis testing. * Covers the full range of statistical techniques likely to be need to analyse the data from research projects, including elementary material like t-tests and chi-squared tests, intermediate methods like regression and analysis of variance, and more advanced techniques like generalized linear

modelling. * Includes numerous worked examples and exercises within each chapter. * Accompanied by a website featuring worked examples, data sets, exercises and solutions: http://www.imperial.ac.uk/bio/research/crawley/statistics Statistics: An Introduction using R is the first text to offer such a concise introduction to a broad array of statistical methods, at a level that is elementary enough to appeal to a broad range of disciplines. It is primarily aimed at undergraduate students in medicine, engineering, economics and biology - but will also appeal to postgraduates who have not previously covered this area, or wish to switch to using R.

This open access textbook provides the background needed to correctly use, interpret and understand statistics and statistical data in diverse settings. Part I makes key concepts in statistics readily clear. Parts I and II give an overview of the most common tests (t-test, ANOVA, correlations) and work out their statistical principles. Part III provides insight into meta-statistics (statistics of statistics) and demonstrates why experiments often do not replicate. Finally, the textbook shows how complex statistics can be avoided by using clever experimental design. Both non-scientists and students in Biology, Biomedicine and Engineering will benefit from the book by learning the statistical basis of scientific claims and by discovering ways to evaluate the quality of scientific reports in academic journals and news outlets.

Principal component analysis is probably the oldest and best known of the It was first introduced by Pearson (1901), techniques ofmultivariate analysis. and developed independently by Hotelling (1933). Like many multivariate methods, it was not widely used until the advent of electronic computers, but it is now well entrenched in virtually every statistical computer package. The central idea of principal component analysis is to reduce the dimen sionality of a data set in which there are a large number of interrelated variables, while retaining as much as possible of the variation present in the data set. This reduction is achieved by transforming to a new set of variables, the principal components, which are uncorrelated, and which are ordered so that the first few retain most of the variation present in all of the original variables. Computation of the principal components reduces to the solution of an eigenvalue-eigenvector problem for a positive-semidefinite symmetrie matrix. Thus, the definition and computation of principal components are straightforward but, as will be seen, this apparently simple technique has a wide variety of different applications, as well as a number of different deri vations. Any feelings that principal component analysis is a narrow subject should soon be dispelled by the present book; indeed some quite broad topics which are related to principal component analysis receive no more than a brief mention in the final two chapters.

This primer helps students brush up on the quantitative skills they need to succeed in biology. Presented in brief, accessible units, the book covers topics such as working with powers, logarithms, using and understanding graphs, calculating standard deviation, preparing a dilution series, choosing the right statistical test, analyzing enzyme kinetics, and many more.

Statistical Methods: An Introduction to Basic Statistical Concepts and Analysis, Second Edition is a textbook designed for students with no prior training in statistics. It provides a solid background of the core statistical concepts taught in most introductory statistics textbooks. Mathematical proofs are deemphasized in favor of careful explanations of statistical constructs. The text begins with coverage of descriptive statistics such as measures of central tendency and variability, then moves on to inferential statistics. Transitional chapters on z-scores, probability, and sampling distributions pave the way to understanding the logic of hypothesis testing and the inferential tests that follow. Hypothesis testing is taught through a four-step process. These same four steps are used throughout the text for the other statistical tests presented including t tests, one- and two-way ANOVAs, chi-square, and correlation. A chapter on nonparametric tests is also provided as an alternative when the requirements cannot be met for parametric tests. Because the same logical framework and sequential steps are used throughout the text, a consistency is provided that allows students to gradually master the concepts. Their learning is enhanced further with the inclusion of "thought questions" and practice problems integrated throughout the chapters. New to the second edition: Chapters on factorial analysis of variance and non-parametric techniques for all data Additional and updated chapter exercises for students to test and demonstrate their learning Full instructor resources: test bank questions, Powerpoint slides, and an Instructor Manual

Discovering StatisticsAn Adventure in Problem SolvingQuant Systems IncorporatedDiscovering StatisticsW H Freeman & CompanyDiscovering StatisticsQuant Systems IncorporatedDiscovering Statistics Using IBM SPSS StatisticsNorth American EditionSAGE

Provides both rich theory and powerful applications Figures are accompanied by code required to produce them Full color figures

'In this brilliant new edition Andy Field has introduced important new introductory material on statistics that the student will need and was missing at least in the first edition. This book is the best blend that I know of a textbook in statistics and a manual on SPSS. It is a balanced composite of both topics, using SPSS to illustrate important statistical material and, through graphics, to make visible important approaches to data analysis. There are many places in the book where I had to laugh, and that's saying a lot for a book on statistics. His excellent style engages the reader and makes reading about statistics fun' - David C Howell, Professor Emeritus, University of Vermont USA This award-winning text, now fully updated with SPSS Statistics, is the only book on statistics that you will need! Fully revised and restructured, this new edition is even more accessible as it now takes students through from introductory to advanced level concepts, all the while grounding knowledge through the use of SPSS Statistics. Andy Field's humorous and self-deprecating style and the book's host of characters make the journey entertaining as well as educational. While still providing a very comprehensive collection of statistical methods, tests and procedures, and packed with examples and self-assessment tests to reinforce knowledge, the new edition now also offers: - a more gentle introduction to basic-level concepts and methods for beginners - new textbook features to make the book more user-friendly for those learning about more advanced concepts, encouraging 'critical thinking' - a brand new, full-colour design, making it easy for students to navigate between topics, and to understand how to use the latest version of SPSS Statistics - both 'real world' (the bizarre and the wonderful) and invented examples illustrate the concepts and make the techniques come alive for students - an additional chapter on multilevel modelling for advanced-level students - reinforced binding to make the book easier to handle at a computer workstation. The book also includes access to a brand new and improved companion Website, bursting with features including: - animated 'SPSS walk-through' videos clearly demonstrating how to use the latest SPSS Statistics modules - self-marking multiple choice questions - data sets for psychology, business and management and health sciences - a flash-card glossary for testing knowledge of key concepts - access to support material from SAGE study skills books. Statistics lecturers are also provided with a whole range of resources and teaching aids, including: - the test bank - over 300 multiple-choice questions ready to upload to WebCT, Blackboard or other virtual learning environments - charts and diagrams in electronic format for inclusion in lecture slides - PowerPoint slides written by the author to accompany chapters of the text.

Now in its third edition, this title teaches an often intimidating and difficult subject in a way that is informative, personable, and clear. Lecturers/instructors - request a free digital inspection copy here With a little help from his weird band of characters the Fourth Edition of the award-winning book continues, with its unique blend of humour and collection of bizarre examples, to bring statistics - from first principles to advanced concepts - well and truly to life using IBM SPSS Statistics. Lecturers: with WebAssign® you can manage and monitor your students' progress quickly and easily online or give them more opportunities to practise! Ideal for short courses, choose to use WebAssign® alongside the Fourth Edition of Andy Field's textbook to quickly set up courses and schedule assignments (using the 2159 questions available) and track individual performance so you can spot in an instant where more instruction or practice is needed. If not using for fomal assessment, WebAssign® still lets you set questions for your students to practise over and over again. They get instant feedback and also links to the relevant chapter or section in the integral ebook to help them work out the correct solution. For more information on how to integrate WebAssign® into a forthcoming course or to arrange a class test please contact your local SAGE representative for more details. (Students please note: access to WebAssign® is dependent not only on the purchase of a student access code (ISBN: 9781446273043) but also a username, institution code and password supplied by your course leader/instructor). SAGE MobileStudy - study where and when you like Scan any QR code within the book to access revision material on a smartphone or tablet such as Cramming Sam's Study tips, flashcard glossaries, interactive multiple choice questionnaires and more. Click here to take a look (if you're accessing the site from a desktop you'll be taken to the Companion Website instead; look out for the MobileStudy icon to show you which pages are also available on the MobileStudy site). See how Andy's book is changing the landscape for textbooks through the use of technology! Support materials for a wide range of disciplines Education and Sport Sciences lecturer support materials with enhanced ones for Psychology, Business and Management and the Health Sciences on the enhanced Companion Website make the book even more relevant to a wider range of subjects across the social sciences and where statistics is taught to a cross-disciplinary audience. Other major new updates include: Now fully compatible with recent IBM SPSS Statistics releases. Two new characters! Statistical cult leader Oditi provides students with access to video clips via his Lantern to help further understanding of statistical/SPSS concepts, while Confusius helps students to make better sense of statistical terms. The enhanced Companion Website offers plenty of lecturer and student material to use in conjunction with the textbook. These include PowerPoints and subject-specific testbanks for lecturers as well as answers to the Smart Alex tasks at the end of the each chapter; datafiles for testing problems in SPSS; flashcards of key concepts; self-assessment multiple-choice questions; and online videos of key statistical and SPSS procedures discussed in the textbook for students. Video Links Go behind the scenes of the Fourth Edition, and find out about the man behind the book Watch Andy introduce SAGE MobileStudy Ask Andy Anything: Teaching stats... and Robbie Williams' head Ask Andy Anything: Gibson or Fender Ask Andy Anything: The one part of the book Andy hated writing Available with Perusall—an eBook that makes it easier to prepare for class Perusall is an award-winning eBook platform featuring social annotation tools that allow students and instructors to collaboratively mark up and discuss their SAGE textbook. Backed by research and supported by technological innovations developed at Harvard University, this process of learning through collaborative annotation keeps your students engaged and makes teaching easier and more effective. Learn more.

Shortlisted for the British Psychological Society Book Award 2017 Shortlisted for the British Book Design and Production Awards 2016 Shortlisted for the Association of Learned & Professional Society Publishers Award for Innovation in Publishing 2016 An Adventure in Statistics: The Reality Enigma by best-selling author and award-winning teacher Andy Field offers a better way to learn statistics. It combines rock-solid statistics coverage with compelling visual story-telling to address the conceptual difficulties that students learning statistics for the first time often encounter in introductory courses - guiding students away from rote memorization and toward critical thinking and problem solving. Field masterfully weaves in a unique, action-packed story starring Zach, a character who thinks like a student, processing information, and the challenges of understanding it, in the same way a statistics novice would. Illustrated with stunning graphic novel-style art and featuring Socratic dialogue, the story captivates readers as it introduces them to concepts, eliminating potential statistics anxiety. The book assumes no previous statistics knowledge nor does it require the use of data analysis software. It covers the material you would expect for an introductory level statistics course that Field's other books (Discovering Statistics Using IBM SPSS Statistics and Discovering Statistics Using R) only touch on, but with a contemporary twist, laying down strong foundations for understanding classical and Bayesian approaches to data analysis. In doing so, it provides an unrivalled launch pad to further study, research, and inquisitiveness about the real world, equipping students with the skills to succeed in their chosen degree and which they can go on to apply in the workplace. The Story and Main Characters The Reality Revolution In the City of Elpis, in the year 2100, there has been a reality revolution. Prior to the revolution, Elpis citizens were unable to see their flaws and limitations, believing themselves talented and special. This led to a self-absorbed society in which hard work and the collective good were undervalued and eroded. To combat this, Professor Milton Grey invented the reality prism, a hat that allowed its wearers to see themselves as they really were - flaws and all. Faced with the truth, Elpis citizens revolted and destroyed and banned all reality prisms. The Mysterious Disappearance Zach and Alice are born soon after all the prisms have been destroyed. Zach, a musician who doesn't understand science, and Alice, a geneticist who is also a whiz at statistics, are in love. One night, after making a world-changing discovery, Alice suddenly disappears, leaving behind a song playing on a loop and a file with her research on it. Statistics to the Rescue! Sensing that she might be in danger, Zach follows the clues to find her, as he realizes that the key to discovering why Alice has vanished is in her research. Alas! He must learn statistics and apply what he learns in order to overcome a number of deadly challenges and find the love of his life. As Zach and his pocket watch, The Head, embark on their quest to find

Alice, they meet Professor Milton Grey and Celia, battle zombies, cross a probability bridge, and encounter Jig:Saw, a mysterious corporation that might have something to do with Alice's disappearance… Author News "Eight years ago I had the idea to write a fictional story through which the student learns statistics via a shared adventure with the main character..." Read the complete article from Andy Field on writing his new book Times Higher Education article: "Andy Field takes statistics adventure to a new level" Stay Connected Connect with us on Facebook and share your experiences with Andy's texts, check out news, access free stuff, see photos, watch videos, learn about competitions, and much more. Video Links Go behind the scenes and learn more about the man behind the book: Watch Andy talk about why he created a statistics book using the framework of a novel and illustrations by one of the illustrators for the show, Doctor Who. See more videos on Andy's YouTube channel Available with Perusall—an eBook that makes it easier to prepare for class Perusall is an award-winning eBook platform featuring social annotation tools that allow students and instructors to collaboratively mark up and discuss their SAGE textbook. Backed by research and supported by technological innovations developed at Harvard University, this process of learning through collaborative annotation keeps your students engaged and makes teaching easier and more effective. Learn more.

Discovering the Scientist Within is the only book on the market that teaches students about research methods using a case study approach. All the design-focused chapters present students with a single study described from start to finish. Chapters start by asking students to consider a scenario and then walks them through the steps of the study: formulating a research question, performing a literature review, constructing a data collection method, considering ethics, refining the method, gathering data, understanding and reporting the statistical results. Students come away with a practical understanding of the research process and useful practice in the basic steps that comprise all studies. The book can also be purchased with the breakthrough online resource, LaunchPad, which offers innovative media content, curated and organised for easy assignability. LaunchPad's intuitive interface presents quizzing, flashcards, animations and much more to make learning actively engaging.