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The Princeton Guide to Evolution - David A. Baum 2017-03-21

The essential one-volume reference to evolution
The Princeton Guide to Evolution is a comprehensive, concise, and authoritative reference to the major subjects and key concepts in evolutionary biology, from genes to mass extinctions. Edited by a distinguished team of evolutionary biologists, with contributions from leading researchers, the guide contains some 100 clear, accurate, and up-to-date articles on the most important topics in seven major areas: phylogenetics and the history of life; selection and adaptation; evolutionary processes; genes, genomes, and phenotypes; speciation and macroevolution; evolution of behavior, society, and humans; and evolution and modern society. Complete with more than 100 illustrations (including eight pages in color), glossaries of key terms, suggestions for further reading on each topic, and an index, this is an essential volume for undergraduate and graduate students, scientists in related fields, and anyone else with a serious interest in evolution. Explains key topics in some 100 concise and authoritative articles written by a team of leading evolutionary biologists Contains more than 100 illustrations, including eight pages in color Each article includes an outline, glossary, bibliography, and cross-references Covers

phylogenetics and the history of life; selection and adaptation; evolutionary processes; genes, genomes, and phenotypes; speciation and macroevolution; evolution of behavior, society, and humans; and evolution and modern society
Statistical Thinking from Scratch - M. D. Edge 2019-06-07

Researchers across the natural and social sciences find themselves navigating tremendous amounts of new data. Making sense of this flood of information requires more than the rote application of formulaic statistical methods. The premise of *Statistical Thinking from Scratch* is that students who want to become confident data analysts are better served by a deep introduction to a single statistical method than by a cursory overview of many methods. In particular, this book focuses on simple linear regression—a method with close connections to the most important tools in applied statistics—using it as a detailed case study for teaching resampling-based, likelihood-based, and Bayesian approaches to statistical inference. Considering simple linear regression in depth imparts an idea of how statistical procedures are designed, a flavour for the philosophical positions one assumes when applying statistics, and tools to probe the strengths of one's statistical approach. Key to the book's novel approach is its mathematical level, which is

gentler than most texts for statisticians but more rigorous than most introductory texts for non-statisticians. *Statistical Thinking from Scratch* is suitable for senior undergraduate and beginning graduate students, professional researchers, and practitioners seeking to improve their understanding of statistical methods across the natural and social sciences, medicine, psychology, public health, business, and other fields.

Methods and Techniques in Ethnobiology and Ethnoecology - Ulysses Paulino de Albuquerque 2019

[Categorical Data Analysis](#) - Alan Agresti
2013-04-08

Praise for the Second Edition "A must-have book for anyone expecting to do research and/or applications in categorical data analysis." —*Statistics in Medicine* "It is a total delight reading this book." —*Pharmaceutical Research* "If you do any analysis of categorical data, this is an essential desktop reference." —*Technometrics*

The use of statistical methods for analyzing categorical data has increased dramatically, particularly in the biomedical, social sciences, and financial industries. Responding to new developments, this book offers a comprehensive treatment of the most important methods for categorical data analysis. *Categorical Data Analysis, Third Edition* summarizes the latest methods for univariate and correlated multivariate categorical responses. Readers will find a unified generalized linear models approach that connects logistic regression and Poisson and negative binomial loglinear models for discrete data with normal regression for continuous data. This edition also features: An emphasis on logistic and probit regression methods for binary, ordinal, and nominal responses for independent observations and for clustered data with marginal models and random effects models Two new chapters on alternative methods for binary response data, including smoothing and regularization methods, classification methods such as linear discriminant analysis and classification trees, and cluster analysis New sections introducing the Bayesian approach for methods in that chapter More than 100 analyses of data sets and over 600 exercises Notes at the end of each chapter that provide references

to recent research and topics not covered in the text, linked to a bibliography of more than 1,200 sources A supplementary website showing how to use R and SAS; for all examples in the text, with information also about SPSS and Stata and with exercise solutions *Categorical Data Analysis, Third Edition* is an invaluable tool for statisticians and methodologists, such as biostatisticians and researchers in the social and behavioral sciences, medicine and public health, marketing, education, finance, biological and agricultural sciences, and industrial quality control.

Introductory Biological Statistics - John E. Havel 2019-04-30

A thorough understanding of biology, no matter which subfield, requires a thorough understanding of statistics. As in previous editions, Havel and Hampton (with new co-author Scott Meiners) ground students in all essential methods of descriptive and inferential statistics, using examples from different biological sciences. The authors have retained the readable, accessible writing style popular with both students and instructors. Pedagogical improvements new to this edition include concept checks in all chapters to assist students in active learning and code samples showing how to solve many of the book's examples using R. Each chapter features numerous practice and homework exercises, with larger data sets available for download at waveland.com.

An Introduction to Statistical Methods and Data Analysis - R. Lyman Ott 2008-12-30

Ott and Longnecker's *AN INTRODUCTION TO STATISTICAL METHODS AND DATA ANALYSIS, Sixth Edition*, provides a broad overview of statistical methods for advanced undergraduate and graduate students from a variety of disciplines who have little or no prior course work in statistics. The authors teach students to solve problems encountered in research projects, to make decisions based on data in general settings both within and beyond the university setting, and to become critical readers of statistical analyses in research papers and in news reports. The first eleven chapters present material typically covered in an introductory statistics course, as well as case studies and examples that are often encountered in undergraduate capstone courses. The remaining

chapters cover regression modeling and design of experiments. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Modern Statistics for Modern Biology - SUSAN. HUBER HOLMES (WOLFGANG.) 2018

Biostatistical Design and Analysis Using R - Dr Murray Logan 2010-02-22

R — the statistical and graphical environment is rapidly emerging as an important set of teaching and research tools for biologists. This book draws upon the popularity and free availability of R to couple the theory and practice of biostatistics into a single treatment, so as to provide a textbook for biologists learning statistics, R, or both. An abridged description of biostatistical principles and analysis sequence keys are combined together with worked examples of the practical use of R into a complete practical guide to designing and analyzing real biological research. Topics covered include: simple hypothesis testing, graphing exploratory data analysis and graphical summaries regression (linear, multi and non-linear) simple and complex ANOVA and ANCOVA designs (including nested, factorial, blocking, spit-plot and repeated measures) frequency analysis and generalized linear models. Linear mixed effects modeling is also incorporated extensively throughout as an alternative to traditional modeling techniques. The book is accompanied by a companion website www.wiley.com/go/logan/r with an extensive set of resources comprising all R scripts and data sets used in the book, additional worked examples, the biology package, and other instructional materials and links.

Remote Sensing of Plant Biodiversity - Jeannine Cavender-Bares 2020-01-01

This Open Access volume aims to methodologically improve our understanding of biodiversity by linking disciplines that incorporate remote sensing, and uniting data and perspectives in the fields of biology, landscape ecology, and geography. The book provides a framework for how biodiversity can be detected and evaluated--focusing particularly on plants--using proximal and remotely sensed hyperspectral data and other tools such as

LiDAR. The volume, whose chapters bring together a large cross-section of the biodiversity community engaged in these methods, attempts to establish a common language across disciplines for understanding and implementing remote sensing of biodiversity across scales. The first part of the book offers a potential basis for remote detection of biodiversity. An overview of the nature of biodiversity is described, along with ways for determining traits of plant biodiversity through spectral analyses across spatial scales and linking spectral data to the tree of life. The second part details what can be detected spectrally and remotely. Specific instrumentation and technologies are described, as well as the technical challenges of detection and data synthesis, collection and processing. The third part discusses spatial resolution and integration across scales and ends with a vision for developing a global biodiversity monitoring system. Topics include spectral and functional variation across habitats and biomes, biodiversity variables for global scale assessment, and the prospects and pitfalls in remote sensing of biodiversity at the global scale.

Experiments in Ecology - A. J. Underwood 1997

First published in 1996, this book is a logical and consistent approach to experimental design using statistical principles.

Statistics for Terrified Biologists - Helmut van Emden 2012-09-24

"We highly recommend it—not just for statistically terrified biology students and faculty, but also for those who are occasionally anxious or uncertain. In addition to being a good starting point to learn statistics, it is a useful place to return to refresh your memory." -The Quarterly Review of Biology, March 2009
"During the entire course of my Ph.D. I've been (embarrassingly) looking for a way to teach myself the fundamentals of statistical analysis. At this point in my education, I've come to realize that often times, simply knowing the basics is enough for you to properly apply even the most complex analytical methods. 'Statistics for Terrified Biologists' has been just such a book - it was more than worth the \$40 I spent on it, and while my 'book clubs' aren't meant to be reviews, I highly recommend the book to anyone

who's in a similar predicament to my own."

-Carlo Artieri's Blog Book Club The typical biology student is "hardwired" to be wary of any tasks involving the application of mathematics and statistical analyses, but the plain fact is much of biology requires interpretation of experimental data through the use of statistical methods. This unique textbook aims to demystify statistical formulae for the average biology student. Written in a lively and engaging style, *Statistics for Terrified Biologists* draws on the author's 30 years of lecturing experience. One of the foremost entomologists of his generation, van Emden has an extensive track record for successfully teaching statistical methods to even the most guarded of biology students. For the first time basic methods are presented using straightforward, jargon-free language. Students are taught to use simple formulae accurately to interpret what is being measured with each test and statistic, while at the same time learning to recognize overall patterns and guiding principles. Complemented by simple illustrations and useful case studies, this is an ideal statistics resource tool for undergraduate biology and environmental science students who lack confidence in their mathematical abilities.

Marine Mammal Biology - A. Rus Hoelzel
2009-04-01

This book provides a general introduction to the biology of marine mammals, and an overview of the adaptations that have permitted mammals to succeed in the marine environment. Each chapter, written by experts in their field, will provide an up-to-date review and present the major discoveries and innovations in the field. Important technical advances such as satellite telemetry and time-depth-recorders will be described in boxes.

Environmental Data Analysis - Carsten Dormann 2020-12-20

Environmental Data Analysis is an introductory statistics textbook for environmental science. It covers descriptive, inferential and predictive statistics, centred on the Generalized Linear Model. The key idea behind this book is to approach statistical analyses from the perspective of maximum likelihood, essentially treating most analyses as (multiple) regression problems. The reader will be introduced to statistical distributions early on, and will learn to

deploy models suitable for the data at hand, which in environmental science are often not normally distributed. To make the initially steep learning curve more manageable, each statistical chapter is followed by a walk-through in a corresponding R-based how-to chapter, which reviews the theory and applies it to environmental data. In this way, a coherent and expandable foundation in parametric statistics is laid, which can be expanded in advanced courses. The content has been "field-tested" in several years of courses on statistics for Environmental Science, Geography and Forestry taught at the University of Freiburg.

A First Course in Design and Analysis of Experiments - Gary W. Oehlert 2000-01-19
Oehlert's text is suitable for either a service course for non-statistics graduate students or for statistics majors. Unlike most texts for the one-term grad/upper level course on experimental design, Oehlert's new book offers a superb balance of both analysis and design, presenting three practical themes to students: • when to use various designs • how to analyze the results • how to recognize various design options Also, unlike other older texts, the book is fully oriented toward the use of statistical software in analyzing experiments.

Life - William K. Purves 2001

Authoritative, thorough, and engaging, *Life: The Science of Biology* achieves an optimal balance of scholarship and teachability, never losing sight of either the science or the student. The first introductory text to present biological concepts through the research that revealed them, *Life* covers the full range of topics with an integrated experimental focus that flows naturally from the narrative. This approach helps to bring the drama of classic and cutting-edge research to the classroom - but always in the context of reinforcing core ideas and the innovative scientific thinking behind them. Students will experience biology not just as a litany of facts or a highlight reel of experiments, but as a rich, coherent discipline.

Introduction to Statistics and Data Analysis - Roxy Peck 2015-01-01

Roxy Peck, Chris Olsen, and Jay Devore's new edition uses real data and attention-grabbing examples to introduce students to the study of statistics and data analysis. Traditional in

structure yet modern in approach, this text guides students through an intuition-based learning process that stresses interpretation and communication of statistical information. Simple notation--including frequent substitution of words for symbols--helps students grasp concepts and cement their comprehension. Hands-on activities and interactive applets allow students to practice statistics firsthand.

INTRODUCTION TO STATISTICS AND DATA ANALYSIS includes updated coverage of most major technologies, as well as expanded coverage of probability. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Philosophy of Science - Timothy McGrew
2009-05-04

By combining excerpts from key historical writings with commentary by experts, *Philosophy of Science: An Historical Anthology* provides a comprehensive history of the philosophy of science from ancient to modern times. Provides a comprehensive history of the philosophy of science, from antiquity up to the 20th century Includes extensive commentary by scholars putting the selected writings in historical context and pointing out their interconnections Covers areas rarely seen in philosophy of science texts, including the philosophical dimensions of biology, chemistry, and geology Designed to be accessible to both undergraduates and graduate students

Molecular Biology of the Cell 6E - The Problems Book - John Wilson 2014-11-21

The Problems Book helps students appreciate the ways in which experiments and simple calculations can lead to an understanding of how cells work by introducing the experimental foundation of cell and molecular biology. Each chapter reviews key terms, tests for understanding basic concepts, and poses research-based problems. The Problems Book has been

Biological Invasions in Changing Ecosystems - João Canning-Clode 2015-01-01

When organisms are deliberately or accidentally introduced into a new ecosystem a biological invasion may take place. These so-called 'invasive species' may establish, spread and ecologically alter the invaded community.

Biological invasions by animals, plants, pathogens or vectors are one of the greatest environmental and economic threats and, along with habitat destruction, a leading cause of global biodiversity loss. In this book, more than 50 worldwide invasion scientists cover our current understanding of biological invasions, its impacts, patterns and mechanisms in both aquatic and terrestrial systems.

Ecology - Michael Begon 2020-11-11

A definitive guide to the depth and breadth of the ecological sciences, revised and updated The revised and updated fifth edition of *Ecology: From Individuals to Ecosystems* - now in full colour - offers students and practitioners a review of the ecological sciences. The previous editions of this book earned the authors the prestigious 'Exceptional Life-time Achievement Award' of the British Ecological Society - the aim for the fifth edition is not only to maintain standards but indeed to enhance its coverage of *Ecology*. In the first edition, 34 years ago, it seemed acceptable for ecologists to hold a comfortable, objective, not to say aloof position, from which the ecological communities around us were simply material for which we sought a scientific understanding. Now, we must accept the immediacy of the many environmental problems that threaten us and the responsibility of ecologists to play their full part in addressing these problems. This fifth edition addresses this challenge, with several chapters devoted entirely to applied topics, and examples of how ecological principles have been applied to problems facing us highlighted throughout the remaining nineteen chapters. Nonetheless, the authors remain wedded to the belief that environmental action can only ever be as sound as the ecological principles on which it is based. Hence, while trying harder than ever to help improve preparedness for addressing the environmental problems of the years ahead, the book remains, in its essence, an exposition of the science of ecology. This new edition incorporates the results from more than a thousand recent studies into a fully up-to-date text. Written for students of ecology, researchers and practitioners, the fifth edition of *Ecology: From Individuals to Ecosystems* is an essential reference to all aspects of ecology and addresses environmental problems of the future.

Statistical Analysis of Microbiome Data -
Somnath Datta 2021-10-27

Microbiome research has focused on microorganisms that live within the human body and their effects on health. During the last few years, the quantification of microbiome composition in different environments has been facilitated by the advent of high throughput sequencing technologies. The statistical challenges include computational difficulties due to the high volume of data; normalization and quantification of metabolic abundances, relative taxa and bacterial genes; high-dimensionality; multivariate analysis; the inherently compositional nature of the data; and the proper utilization of complementary phylogenetic information. This has resulted in an explosion of statistical approaches aimed at tackling the unique opportunities and challenges presented by microbiome data. This book provides a comprehensive overview of the state of the art in statistical and informatics technologies for microbiome research. In addition to reviewing demonstrably successful cutting-edge methods, particular emphasis is placed on examples in R that rely on available statistical packages for microbiome data. With its wide-ranging approach, the book benefits not only trained statisticians in academia and industry involved in microbiome research, but also other scientists working in microbiomics and in related fields.

Simple Statistical Tests for Geography - Danny McCarroll 2016-11-03

This book is aimed directly at students of geography, particularly those who lack confidence in manipulating numbers. The aim is not to teach the mathematics behind statistical tests, but to focus on the logic, so that students can choose the most appropriate tests, apply them in the most convenient way and make sense of the results. Introductory chapters explain how to use statistical methods and then the tests are arranged according to the type of data that they require. Diagrams are used to guide students toward the most appropriate tests. The focus is on nonparametric methods that make very few assumptions and are appropriate for the kinds of data that many students will collect. Parametric methods, including Student's t-tests, correlation and regression are also covered. Although aimed

directly at geography students at senior undergraduate and graduate level, this book provides an accessible introduction to a wide range of statistical methods and will be of value to students and researchers in allied disciplines including Earth and environmental science, and the social sciences.

Probability & Statistics for Engineers & Scientists - Ronald E. Walpole 2016-03-09

NOTE: This edition features the same content as the traditional text in a convenient, three-hole-punched, loose-leaf version. Books a la Carte also offer a great value-this format costs significantly less than a new textbook. Before purchasing, check with your instructor or review your course syllabus to ensure that you select the correct ISBN. Several versions of Pearson's MyLab & Mastering products exist for each title, including customized versions for individual schools, and registrations are not transferable. In addition, you may need a CourseID, provided by your instructor, to register for and use Pearson's MyLab & Mastering products. For junior/senior undergraduates taking probability and statistics as applied to engineering, science, or computer science. This classic text provides a rigorous introduction to basic probability theory and statistical inference, with a unique balance between theory and methodology. Interesting, relevant applications use real data from actual studies, showing how the concepts and methods can be used to solve problems in the field. This revision focuses on improved clarity and deeper understanding. This latest edition is also available in as an enhanced Pearson eText. This exciting new version features an embedded version of StatCrunch, allowing students to analyze data sets while reading the book. Also available with MyStatLab MyStatLab(tm) is an online homework, tutorial, and assessment program designed to work with this text to engage students and improve results. Within its structured environment, students practice what they learn, test their understanding, and pursue a personalized study plan that helps them absorb course material and understand difficult concepts. Note: You are purchasing a standalone product; MyLab(tm) & Mastering(tm) does not come packaged with this content. Students, if interested in purchasing this title with MyLab & Mastering, ask your instructor for the correct

package ISBN and Course ID. Instructors, contact your Pearson representative for more information.

Statistical Reasoning for Everyday Life - Jeffrey O. Bennett 2015-12-03

This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. *Statistical Reasoning for Everyday Life, Fourth Edition*, provides students with a clear understanding of statistical concepts and ideas so they can become better critical thinkers and decision makers, whether they decide to start a business, plan for their financial future, or just watch the news. The authors bring statistics to life by applying statistical concepts to the real world situations, taken from news sources, the internet, and individual experiences. Note: This is the standalone book. If you want the Book/Access Card you can order the ISBN below. ALERT: Before you purchase, check with your instructor or review your course syllabus to ensure that you select the correct ISBN. Several versions of Pearson's MyLab & Mastering products exist for each title, including customized versions for individual schools, and registrations are not transferable. In addition, you may need a CourseID, provided by your instructor, to register for and use Pearson's MyLab & Mastering products. NOTE: Make sure to use the dashes shown on the Access Card Code when entering the code. Student can use the URL and phone number below to help answer their questions:

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800-677-6337 0321890132 / 9780321890139
Statistical Reasoning for Everyday Life Plus NEW MyStatLab with Pearson eText -- Access Card Package 4/e Package consists of:
0321817621 / 9780321817624 *Statistical Reasoning for Everyday Life* 0321847997 / 9780321847997 *My StatLab Glue-in Access Card* 032184839X / 9780321848390 *MyStatLab Inside Sticker for Glue-In Packages*

Speciation and Patterns of Diversity - Roger Butlin 2009-01-22

Bringing together the viewpoints of leading ecologists concerned with the processes that generate patterns of diversity, and evolutionary biologists who focus on mechanisms of

speciation, this book opens up discussion in order to broaden understanding of how speciation affects patterns of biological diversity, especially the uneven distribution of diversity across time, space and taxa studied by macroecologists. The contributors discuss questions such as: Are species equivalent units, providing meaningful measures of diversity? To what extent do mechanisms of speciation affect the functional nature and distribution of species diversity? How can speciation rates be measured using molecular phylogenies or data from the fossil record? What are the factors that explain variation in rates? Written for graduate students and academic researchers, the book promotes a more complete understanding of the interaction between mechanisms and rates of speciation and these patterns in biological diversity.

Mathematical Statistics and Data Analysis - John A. Rice 2006-04-28

This is the first text in a generation to re-examine the purpose of the mathematical statistics course. The book's approach interweaves traditional topics with data analysis and reflects the use of the computer with close ties to the practice of statistics. The author stresses analysis of data, examines real problems with real data, and motivates the theory. The book's descriptive statistics, graphical displays, and realistic applications stand in strong contrast to traditional texts that are set in abstract settings. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Ecology - Michael Lee Cain 2011

As well as emphasising the links to evolution, 'Ecology' covers all the levels of the ecological hierarchy at which the subject is studied. It focuses on their integration to ensure that students are able to grasp how events in nature are interconnected.

Naked Statistics: Stripping the Dread from the Data - Charles Wheelan 2013-01-07

"Brilliant, funny . . . the best math teacher you never had."—San Francisco Chronicle Once considered tedious, the field of statistics is rapidly evolving into a discipline Hal Varian, chief economist at Google, has actually called "sexy." From batting averages and political polls to game shows and medical research, the real-

world application of statistics continues to grow by leaps and bounds. How can we catch schools that cheat on standardized tests? How does Netflix know which movies you'll like? What is causing the rising incidence of autism? As best-selling author Charles Wheelan shows us in *Naked Statistics*, the right data and a few well-chosen statistical tools can help us answer these questions and more. For those who slept through Stats 101, this book is a lifesaver. Wheelan strips away the arcane and technical details and focuses on the underlying intuition that drives statistical analysis. He clarifies key concepts such as inference, correlation, and regression analysis, reveals how biased or careless parties can manipulate or misrepresent data, and shows us how brilliant and creative researchers are exploiting the valuable data from natural experiments to tackle thorny questions. And in Wheelan's trademark style, there's not a dull page in sight. You'll encounter clever Schlitz Beer marketers leveraging basic probability, an International Sausage Festival illuminating the tenets of the central limit theorem, and a head-scratching choice from the famous game show *Let's Make a Deal*—and you'll come away with insights each time. With the wit, accessibility, and sheer fun that turned *Naked Economics* into a bestseller, Wheelan defies the odds yet again by bringing another essential, formerly unglamorous discipline to life.

Biochemistry - Mary K. Campbell 2016-12-05
Ideal for those studying biochemistry for the first time, this proven book balances scientific detail with readability and shows you how principles of biochemistry affect your everyday life. Designed throughout to help you succeed (and excel!), the book includes in-text questions that help you master key concepts, end-of-chapter problem sets grouped by problem type that help you prepare for exams, and state-of-the-art visuals that help you understand key processes and concepts. In addition, visually dynamic Hot Topics cover the latest advances in the field, while Biochemical Connections demonstrate how biochemistry affects other fields, such as health and sports medicine. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Getting Started with R - Andrew P. Beckerman 2017

A popular entry-level guide into the use of R as a statistical programming and data management language for students, post-docs, and seasoned researchers now in a new revised edition, incorporating the updates in the R environment, and also adding guidance on the use of more complex statistical analyses and tools.

Data and Probability Connections - Debra A. Perkowski 2007

Part of a project funded by the National Science Foundation to improve the quality of mathematics and science teaching in grades K-12, this new guide models the student-centered approach recommended by the National Council of Teachers of Mathematics to teach introductory statistics. Provides future middle grade mathematics teachers with a strong foundation, connecting the mathematics they are learning with the mathematics they will be teaching. Gives enhanced meaning to formulas via a visual or geometric approach. Uses numerous illustrations to assist readers in making explicit connections between a typical college elementary statistics course and the statistical concepts taught by middle school teachers. For anyone interested in introductory statistics.

Solutions Manual for Probability - Richard Durrett 1996

The Analysis of Biological Data - Michael Whitlock 2009

The Analysis of Biological Data is a new approach to teaching introductory statistics to biology students. To reach this unique audience, Whitlock and Schluter motivate learning with interesting biological and medical examples; they emphasize intuitive understanding; and they focus on real data. The book covers basic topics in introductory statistics, including graphs, confidence intervals, hypothesis testing, comparison of means, regression, and designing experiments. It also introduces the principles behind such modern topics as likelihood, linear models, meta-analysis and computer-intensive methods. Instructors and students consistently praise the book's clear and engaging writing, strong visualization techniques, and its variety of fascinating and relevant biological examples.

Ecological Speciation - Patrik Nosil
2012-03-15

The origin of biological diversity, via the formation of new species, can be inextricably linked to adaptation to the ecological environment. Specifically, ecological processes are central to the formation of new species when barriers to gene flow (reproductive isolation) evolve between populations as a result of ecologically-based divergent natural selection. This process of 'ecological speciation' has seen a large body of particularly focused research in the last 10-15 years, and a review and synthesis of the theoretical and empirical literature is now timely. The book begins by clarifying what ecological speciation is, its alternatives, and the predictions that can be used to test for it. It then reviews the three components of ecological speciation and discusses the geography and genomic basis of the process. A final chapter highlights future research directions, describing the approaches and experiments which might be used to conduct that future work. The ecological and genetic literature is integrated throughout the text with the goal of shedding new insight into the speciation process, particularly when the empirical data is then further integrated with theory.

Marine Mammal Biology: An Evolutionary Approach - Pooja Pandya 2018-12

Marine Mammal Biology: An Evolutionary Approach considers various aspects of Marine Mammal Biology including an extensive historical overview of Marine Mammal Biology and related issues. It includes definitions of understanding the elements of Marine Evolution and introduction to the evolution of Marine Mammals. Provides the reader with insights into the development of its history, so as to understand the Marine Mammal Biology and other marine mammals in detail to understand the concept from a broader perspective.

Statistics for Biologists - Campbell 1967-11-02

Marine Mammal Ecology and Conservation - Ian L. Boyd 2010-08-12

Much of our knowledge about marine mammals is derived from a long-term and dedicated research effort that is evolving rapidly due to the introduction and invention of new methods. This book reflects the inventiveness of marine

researchers as they try to find ways around the problems presented to them by these unusual and challenging animals.

An R Companion to Linear Statistical Models - Christopher Hay-Jahans 2011-10-19
Focusing on user-developed programming, An R Companion to Linear Statistical Models serves two audiences: those who are familiar with the theory and applications of linear statistical models and wish to learn or enhance their skills in R; and those who are enrolled in an R-based course on regression and analysis of variance. For those who have never used R, the book begins with a self-contained introduction to R that lays the foundation for later chapters. This book includes extensive and carefully explained examples of how to write programs using the R programming language. These examples cover methods used for linear regression and designed experiments with up to two fixed-effects factors, including blocking variables and covariates. It also demonstrates applications of several pre-packaged functions for complex computational procedures.

Fundamentals of Ecotoxicology - Michael C. Newman 2019-11-27

This new edition is revised throughout and includes new and expanded information on natural resource damage assessment, the latest emerging contaminants and issues, and adds new international coverage, including case studies and rules and regulations. The text details key environmental contaminants, explores their fates in the biosphere, and discusses bioaccumulation and the effects of contaminants at increasing levels of ecological organization. Vignettes written by experts illustrate key themes or highlight especially pertinent examples. This edition offers an instructors' solution manual, PowerPoint slides, and supplemental images. Features: Adds all new discussions of natural resource damage assessment concepts and approaches Includes new vignettes written by leading guest authors Draws on materials from 2,500 cited sources, including 400+ new to this edition Adds numerous new entries to a useful glossary of 800+ terms Includes a new appendix discussing Brazilian environmental laws and regulations added to existing appendices outlining U.S., E.U., Chinese, Australian, and Indian

environmental laws Fundamentals of Ecotoxicology: The Science of Pollution, Fifth Edition contains a broad overview of ecotoxicology and provides a basic understanding of the field. Designed as a textbook for use in introductory graduate or upper-level undergraduate courses in ecotoxicology, applied ecology, environmental pollution, and environmental science, it can also be used as a general reference for practicing environmental toxicologists.

Experimental Design for the Life Sciences -

Graeme D. Ruxton 2006

Experimental Design for the Life Sciences explains how to organise experiments and collect data to make analysis easier, and conclusions more robust. An approachable and articulate style conveys even the most challenging concepts in clear and practical terms, showing how experimental design is about clear thinking and biological understanding, not mathematical or statistical complexity.