References

[Hogg & Craig 1995] Robert Hogg & Allen Craig (1995)
Introduction to Mathematical Statistics 5th Ed.
ISBN 0023557222

This bread and butter text book is understandable and well suited to classroom use or individual study. It is a common choice for mathematical statistics classes for math majors, and it is quite appropriate for that use.
(Recommended)

[Hogg & Tanis 1993] Robert Hogg & Elliot Tanis (1993)
Probability and Statistical Inference 4th Ed.
ISBN 0023558210

This bread and butter text book is understandable and well suited to classroom use or individual study. It is a common choice for probability and statistics classes for math majors, and it is quite appropriate for that use.
(Recommended)

[Royden 63] H.L. Royden (1963)
Real Analysis
ISBN 0024041513

This classic text is great for self study or class work. It is commonly used as a second analysis class at the MS level or a first analysis class at the PhD level. In both cases, it can serve as a one or two semester class. The writing is clear, and the selection of topics is well thought out. The exercises can be quite difficult. The organization is atypical in that integration is discussed before general measure theory; however, I don't necessarily think this is a bad thing even if it leads to some repetition of material. The prerequisites are quite low and include a basic analysis class covering the theoretical aspects of Riemann integration.
(Recommended)

[Hungerford 90] Hungerford (1990)
Abstract Algebra: Abstract Algebra
ISBN 0030305586

This is a standard text book used for one semester abstract algebra classes at the BS level – it is not appropriate for a MS or PhD class. The presentation is clear, concise, and rigorous. The selection of topics is typical of a basic abstract algebra text. More a bit more comprehensive text, Artin's book is a good choice.
(Recommended)

[Ahlfors 79]   Lars Valerian Ahlfors (1979)
Complex Analysis 3rd Ed.
ISBN 0070006571
This is a fantastic book. The exposition is well organized, rigorous, and lucid. The exercises are thoughtful and appropriate. The selection of topics is typical of a first or second year introduction to complex analysis. The level is best suited for readers with some background in mathematics. This is absolutely a "must read" for anyone interested in a thorough understanding of basic complex analysis. BTW, this book tends to be quite expensive.
(Very Highly Recommended – BIC)

[Churchill 90] Ruel Churchill & James Ward Brown (1990)
Complex Variables and Applications 5th Ed.
ISBN 0070109052
This is a fast paced, easy to read introduction appropriate for the absolute beginner to the subject. The exposition is not rigorous, but rather an introduction appropriate for people not too interested in the real math driving the subject. Numerous examples are sprinkled throughout the text. The exercises are a bit too easy; however, they are quite focused on reinforcing the material in the text. This is a great text for non-math majors.
(Recommended)

[Rudin 87]   Walter Rudin (1987)
Real And Complex Analysis 3rd Ed.
ISBN 0070542341
This classic text is rather unique in its class because of its comprehensive treatment of both real and complex analysis. The coverage is extensive enough for this text to serve well as the traditional, two semester PhD level class covering Lebesgue integration. This book could also serve as the basis for a two semester class at the MS level. The exposition is clear, rigorous, and detailed. The exercises are plentiful and thoughtful. This is one of the best written math books of all time.
(Very Highly Recommended)

[Rudin 91]   Walter Rudin (1991)
Functional Analysis 2nd Ed.
ISBN 0070542368
This classic text is the most readable book I have found covering functional analysis. The author presents the material in a very well organized way that is clear, precise, and rigorous. The exercises are interesting, thoughtful, and sometimes quite difficult. This book could easily serve as the basis for a one or two semester class on functional analysis following a standard PhD level real analysis class covering Lebesgue integration. It is important to realize that the mathematical prerequisites for this book are a good understanding of Lebesgue measure and integration. This text is quite suitable for self study. Like Rudin's analysis book [Rudin 87], this is one of the best written math books of all time.
(Very Highly Recommended – BIC)

[Scherz 2006] Paul Scherz (2006)
Practical Electronics for Inventors
ISBN 0070580782
An excellent introduction to practical electronics and electromechanical devices.
(Very Highly Recommended – BIC)

[Spohn 97] Darren L. Spohn (1997)
Data Network Design 2nd Ed.
ISBN 0070603634
This massive book is a grand, encyclopedic introduction to networking in it's many forms. This book contains enough background and advanced material to take care of most system administrator's needs for basic networking knowledge.
(Recommended)

[Aliprantis & Burkinshaw 90] Charalambos Aliprantis & Owen Burkinshaw (1990)
Principles of Real Analysis 2nd Ed.
ISBN 0120502550
This book is an easy to read introduction to real analysis that is accessible to beginning graduate students and advanced undergraduates. Several more advanced topics are scattered throughout the text. The text is not appropriate for a PhD level class in real analysis. The exercises are well thought out and support the material very well. One of the best features of this book, and why I highly recommend it, is the companion volume by the same authors. This companion volume has every exercise in this text worked out in great detail. The combination of both books makes an excellent, but expensive, choice for independent study.
(Highly Recommended)

[Aliprantis & Burkinshaw 90] Charalambos Aliprantis & Owen Burkinshaw (1990)
Problems in Real Analysis: Problems in Real Analysis 2nd Ed.
ISBN 0120502569
This is a great book! It contains all of the exercises from the author's real analysis text worked out in great detail.
(Highly Recommended)

[Davis 83] Martin D. Davis & Elaine J. Weyuker (1983)
Computability, Complexity, and Languages: Computability, Complexity, and Languages
ISBN 0122063805
This book covers the traditional intro topics regarding computability, complexity and language theory. The writing is clear and concise. The organization is well thought out. The exercise count is a bit low, but the exercises are well thought out. The proofs are sometimes a bit soft, but are rigorous for the most part. Overall this is a nice little book.
(Very Highly Recommended)

[Epstein 77]   Richard A. Epstein (1977)
The Theory of Gambling and Statistical Logic 2nd Ed.
ISBN 012240761X

This little book may best be described as a large collection of examples applying probability theory to gambling and games. The author provides a readable and accurate presentation. The reader is expected to be well versed in practical probability theory. Very few exercises are provided, but the included ones are interesting. This book could serve well as a supplemental text for a course in applied probability theory.
(Recommended)

[Gradshteyn & Ryzhik 94] I.S. Gradshteyn & I.M. Ryzhik (1994)
Table of Integrals, Series, and Products 5th Ed.
ISBN 012294755X

If you need and integral table, then this is the one to own. It is the most exhaustive integral table ever printed, and it is so well organized that it is still easy to use in spite of its size. This book has several integrals that typical mathematical software packages can't compute. I have yet to find an error in this magnificent work. This book is often referred to as the "mother of all integral tables".
(Very Highly Recommended)

[Ross 00]   Sheldon Ross (2000)
Introduction to Probability Models 2nd Ed.
ISBN 0125984758

This very popular book is commonly seen on the shelf even at non-technical book stores. It covers a wide range of topics from probability theory and Markov chains to simulation. It covers none of them very deeply. This book must be owned simply so that one can communicate with the many lay people who only know what can be found in this one volume. Every topic covered in this book can be found in other works.
(Recommended)

[Artin 91]   Michael Artin (1991)
Algebra
ISBN 0130047635

This is a standard text book used for one or two semester abstract algebra classes at the BS and MS levels – it is not appropriate for a PhD class. The selection of topics is sufficient to give a student all the preparation necessary for continued study at the PhD level or before reading a more advanced text. More topics are covered than what is typically found in many BS level algebra texts. The exposition is quite clear and mathematically rigorous. This is an fine choice as a first algebra text. If you only own one basic abstract algebra text, then this one is a good choice.
(Very Highly Recommended – BIC)

[Harrison 2000] Guy Harrison (2000)
Oracle Desk Reference: Oracle Desk Reference
ISBN 0130132942

This is one of the best organized Oracle handbooks available today for Oracle 7.3, 8, and 8i. Things are very easy to find, and clear once found. The typesetting and printing are superior to most computer books found on the shelves today. I eagerly await my purchase of an updated version of this book that covers newer releases of Oracle.
(Highly Recommended)

[Nemeth 2001] Evi Nemeth et al. (2001)
UNIX System Administration Handbook 3rd Ed.
ISBN 0130206016

This is a great, and heavy, book that covers basic system administration for the most common UNIX platforms one is likely to encounter in the enterprise today. It covers basic topics as well as more advanced subjects. Everything is clearly explained and well organized. This is a great reference book.
(Highly Recommended)

[McDougall 2001] Jim Mauro & Richard McDougall (2001)
Solaris Internals
ISBN 0130224960

This is the definitive guide to the guts of the Solaris kernel. One really has no other source for detailed info regarding the Solaris kernel – other than reading the code. This book is well written and relatively clear. The organization leaves a bit to be desired, but is usable. Overall, this is a must have book for Solaris hackers.
(Very Highly Recommended)

[Hager 98]   William W. Hager (1998)
Applied Numerical Linear Algebra
ISBN 0130412945

This little book covers a generally useful portion of the field of numerical linear algebra. The writing is quite clear and the organization is very good. The proofs are clear and easy for an undergraduate or non-specialist to understand. The exercises are well thought out. The coverage is deep enough for all but the specialist.
(Highly Recommended)

[Robbins 2003] Kay Robbins & Steve Robbins (2003)
UNIX Systems Programming: UNIX Systems Programming 2nd Ed.
ISBN 0130424110
This is a good book if you want to know about how to write multi-process/multi-threaded programming in a UNIX environment – this is NOT a book about UNIX programming in general or about UNIX network programming. The focus is quite narrow, but this is still a valuable book to have. It is easy to read for a beginner and has enough stuff to be a reasonable reference for an experienced programmer. It is the ONLY book in it's class, but experienced programmers can get the same info from other sources.
(Highly Recommended)

[Trappe 2002] Wade Trappe & Lawrence C. Washington (2002)
Introduction to Cryptography with Coding Theory
ISBN 0130618144
This has got to be the most approachable cryptography book available today that actually discusses real cryptography. May books exist today that say they are about cryptography, but are completely absent of any mathematics. This is NOT such a book. The writing is very clear and easy to follow. The proofs are easy to read and are rigorous. The exercises and examples are well thought out and numerous. The additional material on coding theory forms a good, but short, introduction to that subject. This book could be used by undergraduates with little preparation but some mathematical maturity. This book won't make you an expert, but it is a great introduction and a fun read.
(Very Highly Recommended – BIC)

[Garg 2002] Rajat P. Garg & Ilya Sharapov (2002)
Techniques For Optimizing Applications: Techniques For Optimizing Applications
ISBN 0130934763
While much of what this book presents is Solaris, even SPARC specific, quite a lot of the material is applicable to most any UNIX platform. Just about everything in this book is something that every serious UNIX programmer should know. The style is quite HOW-TO, but still readable. The organization is good and the writing is clear.
(Highly Recommended)

[Cockcroft 98] Adrian Cockcroft & Richard Pettit (1998)
Sun Performance And Tuning: Sun Performance And Tuning 2nd Ed.
ISBN 0130952494
Yet another aging, but essential, book for Solaris administrators. This is one of the best books available for tuning SPARC Solaris. I have no idea why the word "java" is in the title, but I suspect that it is because when the book was published everything from Sun had to have the JAVA word in it.
(Highly Recommended)

[Weaver 94]   David L. Weaver & Tom Germond (Editors) (1994)
The SPARC Architecture Manual
ISBN 0130992275

This book is the definitive reference and definition of the SPARC architecture – if you want to build a SPARC chip then this is the book for you! If you want to better understand performance and assembly language on SPARC hardware, then this is a great book to read. It is a bit old, but so is the SPARC architecture! This book is available from SPARC International as a free PDF.
(Very Highly Recommended)

[Rochkind 2004] Marc J. Rochkind (2004)
Advanced UNIX Programming 2nd Ed.
ISBN 0131411543

This is it! Finally a successor to Stevens' wonderful book. I have been waiting for someone to write a comprehensive guide to the UNIX APIs for quite a while. The selection of topics is right on the money, the writing is clear and easy to follow, and the examples are well thought out. This is the one UNIX programming book to own, or at least the best one to augment the outdated book of Stevens.
(Very Highly Recommended – BIC)

[Stevens 2003] W. Richard Stevens et al. (2003)
UNIX Network Programming V1: UNIX Network Programming V1 3rd Ed.
ISBN 0131411551

This book is the most comprehensive introduction and reference to the sockets API used for network programming in UNIX environments to be found today. The writing is very clear and concise; this is a credit to the two new authors that have picked up a wonderful book and updated it masterfully. The examples are clear and helpful. The organization of the book is good enough to serve as a valuable reference for the experienced programmer. This is the one book to own if you are a UNIX network programmer!
(Very Highly Recommended – BIC)

[Drake 95]   Chris Drake & Kimberley Brown (1995)
PANIC!: PANIC!
ISBN 0131493868

This book is getting old, but it belongs on EVERY Solaris administrator's desk. It is loaded with tons of information to help admins and developers understand crash dumps on Solaris. Much of this material is no longer valid or has been superseded by newer tools (MDB vs ADB for example), but this is still the est source of information to be found on this topic today.
(Very Highly Recommended)

[Paul 94]   Richard P. Paul (1994)
Sparc Architecture, Assembly Language Programming, and C
ISBN 0138768897

This aging book is still the best intro and reference to SPARC assembly and architecture you can own. It is quite understandable and well organized. It will function as a reference, but the Sun documentation may be a better reference source. In this age If you still need to know SPARC assembly in this age of x86, then this is the book to own.
(Highly Recommended)

[Munkres 75]   James Munkres (1975)
Topology: Topology
ISBN 0139254951

While Dugundji may be a better book, this one is still in print! Like Dugundji, this book covers enough general topology to take care of the needs of most people. The treatment is rigorous, relatively complete, and very clear.
(Very Highly Recommended – BIC)

[Lehmann 98] Erich Lehmann (1998)
Nonparametrics: Nonparametrics
ISBN 013997735X

This book is one of the best introductions to nonparametric statistical methods available today. It is well written and mathematically sound. The organization is somewhat how-to based as many statistical test texts are. If you can only own one book on this topic, this is the one.
(Recommended)

[Gleick 88]   James Gleick (1988)
Chaos: Chaos
ISBN 0140092501

This book is an entertaining walk through the history of chaos and how chaos theory became such a phenomenon in the early 1990s. This book has almost no mathematics.
(Highly Recommended)

[Damiano & Little 88] David Damiano & John Little (1888)
A Course In Linear Algebra
ISBN 0155151347

This is a standard text book used for one semester linear algebra courses at the BS level; however, it appears to be quite difficult to find in stores. The selection of topics is appropriate, and the style is very clear and rigorous. This is the book I took my first linear algebra class from, so I am probably a bit biased. This is a great book that is very easy to understand.
(Very Highly Recommended – BIC)

[Ibadur Rahman & Schmeisser 2007] Qazi Ibadur Rahman & Gerhard Schmeisser (2002-11-07)
Analytic Theory of Polynomials: Analytic Theory of Polynomials
ISBN 0198534930

Unlike most works on polynomials, this one focuses entirely on the analytic aspects of the theory. The exposition absolutely top notch in that it is simultaneously readable and rigorous – suitable for self study or classroom use. The work is well enough organized that it may be used as a reference. Notation and terminology intelligently and consistently used throughout the work.
(Very Highly Recommended – BIC)

[Jordan & Smith 2007] D. W. Jordan & P. Smith (2007)
Nonlinear ordinary differential equations: Nonlinear ordinary differential equations
ISBN 0199208255

Through a great many richly illustrated and well motivated examples, this text demonstrates the essential techniques of qualitative analysis that are so important in understanding the solutions of real world ODEs. This work can provide an answer to the dearth of coverage of qualitative techniques normally found in most ODE texts. While the exposition is clear, the text contains numerous typos, and can be a bit terse – less prepared readers will stumble a bit when trying to fill in the blanks. An enormous number of exercises are included, and provide a range of difficulty for the reader.
(Very Highly Recommended – BIC)

[Apostol 74] Tom Apostol (1974)
Mathematical Analysis 2nd Ed.
ISBN 0201002884

This book could easily form the basis of a one or two semester advanced calculus or real analysis class for beginning graduate students or advanced undergraduates ready for an introduction to the mathematics that really makes calculus work. It is not appropriate for a PhD level class. In fact, the level of mathematical maturity required to read and understand this book is very low making it a tedious read for advanced students, but a great read for less sophisticated students. The coverage of topics ranges from the traditional undergraduate material intended to add the rigor missing from traditional calculus classes (Riemann integration, series, products, sequences, etc..), to some of the topics traditionally covered in a first graduate analysis class (Lebesgue integration). The presentation is quite precise and rigorous while maintaining a helpful tone for less advanced students. The exercises are plentiful and appropriate. Overall, this is one of the best introductory analysis texts available.
(Very Highly Recommended – BIC)

[Munkres 84]   James Munkres (1984)
                Elements of Algebraic Topology
                ISBN 0201045869

                This is not a general text on algebraic topology, but a book about homology
                and cohomology theory. For this reason, I can not recommend this book for
                someone starting out fresh with the subject (Read one of Massey's books for
                that). The treatment of homology is relatively complete with a few notable
                examples, and the proofs are mostly complete and clear. I would say that
                a few topics are covered with a bit too much precision, and this tends to
                detract from the flow of the book and get in the way of understanding what
                algebraic topology is really about.
                (Recommended)

[Tukey 77]   John W. Tukey (1977-01)
                Exploratory Data Analysis
                ISBN 0201076160

                This ground breaking, seminal work is the source for much of the mod-
                ern, computer based, approach we take to exploratory data analysis today.
                While published before the computational revolution, this book not only
                manages to lay the ground work we still use but it also harbors some very
                relevant gems that no statistician should overlook. This should be on the
                desk of every data analyst.
                (Very Highly Recommended – RR)

[Musser & Davis 01] David R. Musser et al. (2001)
                STL Tutorial and Reference Guide: STL Tutorial and Reference Guide 2nd Ed.
                ISBN 0201379236

                If I only had one book on the STL, this would be the one. It is well organized,
                complete, and has lots of examples (with code on the web).
                (Very Highly Recommended – BIC)

[Josuttis 2002] Nicolai M. Josuttis (2002)
                The C++ Standard Library: The C++ Standard Library
                ISBN 0201379260

                This is one of the best available books on the C++ STL, but some material
                is missing. It is relatively well organized, and has usable reference material.
                Well worth the price for any C++ programmer making use of the STL.
                (Very Highly Recommended)

[Stevens and Rago 2005] Richard Stevens & Stephen A. Rago (June 17, 2005)
Advanced Programming in the UNIX Environment 2nd Ed.
ISBN 0201433079
This is an update of an absolute classic, and the definitive guide for UNIX programmers. Rago has done an excellent job updating this second edition to include topics important to modern UNIX programmers like POSIX threads. He has also done a masterful job updating the standards related material including updating all the examples and discussions for newer APIs. He has maintained the incredibly readable style of the original work. This is an absolute must have for any programmer that touches a UNIX system. I even recommend this book to UNIX admins and users. Go out and buy this book!
(Very Highly Recommended – BIC)

[Munkres 91] James Munkres (1991)
Analysis on Manifolds
ISBN 0201510359
Munkres has managed to write one of the best introductions to analysis on manifolds and differential forms available. The exposition is clear, rigorous and very detailed. In fact, the level of detail in parts of the book borders on the excessive side as many readers will find essential aspects of the theory are hidden by the mass of minutia. The algebraic topology book by the same author suffers from the same problem. The exercises are plentiful and well motivated, and range from very easy to very difficult. The treatment of differential forms is motivated more naturally than in any other text I have found. The organization of the book is masterful, and the selection of topics is also a work of art. Watch out for shoddy bindings on this text as I have yet to find a used copy with an intact spine.
(Very Highly Recommended – BIC)

[Lamport 94] Leslie Lamport (1994)
A Document Preparation System LaTeX: A Document Preparation System LaTeX
ISBN 0201529831
This book is the de-facto standard user guide and reference manual for the LaTeX system written by the guy who wrote the system. This is a very readable work. This is just an introduction.
(Highly Recommended)

[Lang 93] Serge Lang (1993)
Algebra 3rd Ed.
ISBN 0201555409
This standard, graduate text forms the core of many required, PhD algebra classes. It is relatively clearly written, the presentation is rigorous, and the selection of topics is appropriate to give the reader a useful breadth of knowledge. This one text is probably enough material to serve the needs of most non-experts. Several other options exist including more readable works by Jacobson and Hungerford. Not recommended as a first abstract algebra text.
(Highly Recommended)

[Stevens 92]   Richard Stevens (1992)
Advanced Programming in the UNIX Environment 1st Ed.
ISBN 0201563177

This is the original, 1st edition, of the UNIX programming classic. This book is only surpassed by its own second edition [Stevens and Rago 2005]. It is still a good book to have on your shelf if you find it on a bargain shelf. The material is a bit dated and so is the selection of topics.
(Recommended)

[Stevens 93]   Richard Stevens (1993)
TCP/IP Illustrated Vol 1
ISBN 0201633469

This is an absolutely essential book for any network or system administrator. It clearly explains TCP/IP from a networking perspective, and is the one book to have on your shelf when trying to decipher network dumps. Stevens' other books cover programming.
(Very Highly Recommended – BIC)

[Stroustrup 00] Bjarne Stroustrup (2000)
The C++ Programming Language Special Ed.
ISBN 0201700735

This book is not concise or particularly well organized, but it is clear, complete, and authoritative. It is a very difficult read for a beginning C++ programmer; however, it proves to be a useful reference after one becomes accustom to it's organization. This is the book I most often reach for to answer questions regarding the C++ language itself.
(Very Highly Recommended – BIC)

[Vandevoorde & Josuttis 2003] David Vandevoorde & Nicolai M. Josuttis (2003)
C++ Templates: C++ Templates
ISBN 0201734842

This book is hands down the absolute best C++ template book available today. The selection of topics is comprehensive, and each topic is exhaustively discussed. If you only own one template book, then this is the book. If you are just getting serious about C++ template meta-programming, then this is the book to get.
(Very Highly Recommended – BIC)

[Meyers 2001] Scott Meyers (2001)
Effective STL: Effective STL
ISBN 0201749629

Like the other C++ books by the same author, this one delivers several tidbits of wisdom every C++ programmer should know.
(Very Highly Recommended)

[Teer 2004]   Rich Teer (2004)
               Solaris Systems Programming
               ISBN 0201750392
               This book is the very best systems programming book available for Solaris
               today. In fact, it is one of the best UNIX systems programming books you
               can own. The coverage is more comprehensive than anything else obtain-
               able. The organization is great and the book functions as a reference quite
               well. The writing is clear, but a bit verbose. If you are a Solaris program-
               mer, then you MUST OWN THIS BOOK. If you are a Solaris administrator,
               then you should buy this book too!
               (Very Highly Recommended – BIC)

[Coplien 98]   James O. Coplien (1998)
               Multi-Paradigm DESIGN for C++
               ISBN 0201824671
               Many C++ programmers I know don't truly appreciate the true multi-
               paradigm nature of C++, and therefore don't fully exploit the power avail-
               able to them with C++. This book is an absolute must read for all C++
               programmers. This is particularly true for young C++ programmers that
               often have stunted experience with non-Java OOP concepts, functional pro-
               gramming, and template programming. This is truly a wonderful book.
               (Very Highly Recommended – BIC)

[Foley 1997]   James D. Foley et al. (1997)
               Computer Graphics: Computer Graphics 2nd Ed.
               ISBN 0201848406
               This is, without question, the best general computer graphics book I have
               ever found. The writing is very clear. The selection of topics is compre-
               hensive, and quite deep in parts. For example, the coverage of scan line
               conversion is by far the best to be found The code examples are in C, and
               very readable. A large number of well thought out exercises are provided.
               This work can be used as a text book or for self study. If you own only one
               computer graphics book, then this is the one to own.
               (Very Highly Recommended – BIC)

[Peterson 72] W. Wesley Peterson & E. J. Weldon, Jr. (1972)
               Error-Correcting Codes 2nd Ed.
               ISBN 0262160390
               This book, even while a bit old, is the best introduction to error correct-
               ing codes that has ever been written. The coverage of important topics is
               relatively complete and the organization is masterful. The proofs are easy
               to understand and are rigorous. The exercise sets are well thought out and
               reinforce the material quite well. What makes this book special is the ex-
               ceptionally clear exposition. Few books are this easy to read. This is THE
               book to own if you want to really understand error correcting codes.
               (Very Highly Recommended – BIC)

[Williams 97]   Garnett Williams (1997)
Chaos Theory Tamed
ISBN 0309063515

This has to be one of the most accessible works ever produced about chaos theory. It is by no means a rigorous, mathematical treatment of the subject, but the selection of topics is exceptional and the material is masterfully presented. I would recommend this book both for laypeople and experts alike.
(Very Highly Recommended)

[Karlsson 2005] Bjorn Karlsson (2005)
Beyond the C++ Standard Library: Beyond the C++ Standard Library
ISBN 0321133544

This is a must own book for programmers starting to use the boost library, or for seasoned boost users who simply want a better understanding of boost. This book is well organized, and provides ample material to understand the topics covered.
(Very Highly Recommended – BIC)

[Diebold 2003] Francis X. Diebold (2003)
Elements of Forecasting with Economic Applications 3rd Ed.
ISBN 0324163827

Diebold has managed to capture the basics of forecasting without the usual mathematical prerequisites. While the coverage is, out of necessity, not as robust as a specialist might prefer, the breadth of topics is quite good: MA, AR, ARMA, ARIMA, Stochastic trending, seasonality, and cyclical techniques. The exposition is very clear, and the exercises reinforce the material. I can't recommend the book for the mathematically inclined; however, it is a great text for nonspecialists looking for a solid introduction to the field.
(Recommended)

[Gentle 05]   James E. Gentle (2005)
Random Number Generation and Monte Carlo Methods 2nd Ed.
ISBN 0387001786

Gentle's book is a comprehensive and modern overview of random number generation techniques. Most of the important generators are covered in detail – algorithms, quality measures, and use patterns. The writing is clear, and the exercises are well motivated. The bibliography is extensive, and worth the price of the book by itself.
(Very Highly Recommended – BIC)

[Logan 2004]   J. David Logan (2004)
Applied partial differential equations
ISBN 0387209352
This slim little book is a fantastic introduction to PDEs that manages to cover all of the essentials in about 200 pages. The writing is clear and easy to understand even for the less mathematically prepared reader. The exercises and examples are interesting, and reinforce the material well. The exercises could be more challenging. Overall, this is probably the best "short" introduction to PDEs I have found – similar to the same author's ODE book [Logan 2005].
(Very Highly Recommended – BIC)

[Crandall 2005] Richard Crandall & Carl Pomerance (2005)
Prime numbers 2nd Ed.
ISBN 0387252827
This text is not a theoretical mathematics book, but an advanced exposition algorithms for prime number computations – some relatively modern (circa 2000). The text is clearly written and organized. It may be successfully used by a range of readers from those wishing to to understand the way algorithms work at an intuitive level to readers simply wishing to use it in a cookbook fashion to quickly implement various algorithms. While this is not a theoretical text, the authors have still taken pains to be very careful mathematically in the presentation of the material. At the same time they present significant quantities of "meta-mathematical" material designed to impart an intuitive grasp of the subject as well. The examples are topical and reinforce an understanding of the material. The exercises are numerous and range from simple problems to research level material suitable for a PhD thesis. This is a must own for any computational number theorist or anyone interested in prime number computations.
(Very Highly Recommended – BIC)

[Logan 2005]   J. David Logan
A first course in differential equations
ISBN 0387259643
Most ODE books are simply too long, and many first, undergraduate texts resemble garishly illustrated catalogs of computational techniques. This little book is less than 300 pages, and still manages to cover all the most important topics well. The exercises and examples are interesting, and reinforce the material well. Overall, this is probably the best "short" introduction to ODEs I have found – similar to the same author's PDE book [Logan 2004].
(Very Highly Recommended – BIC)

[Halmos 50]   Halmos (1950)
Measure Theory
ISBN 0387900888
This classic text is a bit dated, but remains to this day a great read for anyone interested in measure theory or what people generally call real analysis today. Because of the differences with modern treatments of the subject, mostly notational, I would not recommend this text to a newcomer to the field; however, I strongly recommend this text for anyone with a basic understanding of measure theory. Halmos has created a very readable work with this very careful and complete treatment of one of my favorite subjects. *(Very Highly Recommended – RR)*

[Hungerford 74] Thomas W. Hungerford (1974)
Algebra
ISBN 0387905189
This book, like Serge Lang's algebra book, is a standard graduate text forming the core of many one or two semester PhD algebra classes. Like Lang's book, this one covers enough material to fill all the requirements most non-specialists will ever have. This text is clearly written, has good exercises, and provides a rigorous treatment of the included material. It forms a fine second text as a continuation of Hungerford's less advanced algebra book. In my personal opinion, this book is less difficult to read than Lang's, and it also forms a better reference book to keep on your shelf. On the down side, this book doesn't deliver the enthusiasm the subject deserves (read Jacobson's book for that!). *(Very Highly Recommended – BIC)*

[Jennings and Lysek 1999] D. H. Jennings & G. Lysek (1999)
Fungal biology: Fungal biology 3rd Ed.
ISBN 0387915931
This fantastic little book requires a bit of biological knowledge to be fully appreciated, but it is reasonably readable for even the layperson. While a bit slim to serve as the primary textbook for an introductory mycology course, this work should surely be on the supplemental reading list for any such course. The bibliography is not extensive; however, it is densely stocked with some of the highest quality sources available today. This is absolutely my favorite mycology book. *(Very Highly Recommended – RR)*

[Koblitz 1994] Neal Koblitz (1994)
A course in number theory and cryptography 2nd Ed.
ISBN 0387942939
This is a truly wonderful introduction to computational number theory and mathematical cryptography. It is showing a bit of age, but the presentation is absolutely fantastic. While the work is is intended for the graduate student, this text well written enough that it is approachable by any well prepared and motivated student. The material is well organized, and the mathematical treatment is rigorous. The text has numerous well motivated examples, and a large number of excellent exercises. A true modern classic.

(Very Highly Recommended – RR)

[Kaplan & Glass 95] Daniel Kaplan & Leon Glass (1995)
Understanding Nonlinear Dynamics
ISBN 0387944400

This great little book is very well written and accessible to the layperson
with little mathematical background. The book is loaded very nice illus-
trations and well planned examples. This is not the book read for a deep,
rigorous mathematical treatment of the subject.
(Highly Recommended)

[Robertazzi 00] Thomas Robertazzi
Computer Networks and Systems: Computer Networks and Systems 3rd Ed.
ISBN 0387950370

This book is completely unreadable for a non-expert. For the expert, this
work is quite valuable in it's coverage of topics not found in most books.
(Recommended)

[McPherson 01] Glen McPherson (2001)
Applying and Interpreting Statistics: Applying and Interpreting Statistics 2nd Ed.
ISBN 0387951105

This book has enough math for the mathematically inclined, but is written
in such a way so as to to make it approachable by non-mathematicians. It's
written in a very clear style and is full of examples. This work has enough
detail and breadth to provide a non-expert with a good survey of statistical
methods and techniques.
(Recommended)

[Wilcox 01] Rand R. Wilcox (2001)
*Fundamentals of Modern Statistical Methods: Fundamentals of Modern Statistical
Methods*
ISBN 0387951571

This book provides a whirlwind tour of the fundamental problems inher-
ent in traditional statistical methods and some modern alternatives to get
around them. This work is not mathematically deep or very precise, but it
is a wonderful introduction to the subject. This is the book that I recom-
mend to most people who need a basic understanding of why the statistics
they had to learn in school simply don't work.
(Very Highly Recommended)

[V&R 02]   W.N. Venables & B.D. Ripley (2002)
             Modern Applied Statistics with S 4th Ed.
             ISBN 0387954570

             This book is the de-facto standard introduction to using the S language
             for statistical analysis. The 2002 edition, the 4th, is greatly expanded in
             it's coverage of the R system. This book is notable for it's clear exposition
             and alignment with modern statistical techniques. It's not a deep book,
             but rather an introduction to using S in a broad set of situations in modern
             statistics.
             (Very Highly Recommended)

[Lidl & Pilz 84] Rudolf Lidl & Gunter Pilz (1984)
             Applied Abstract Algebra
             ISBN 0387961666

             This book is a fun little romp through abstract algebra. The writing is clear
             and the selection of topics is interesting. This book is by no means core to
             a math student's education; however, it is a more than worthwhile read.
             (Recommended)

[Bremaud 94] Pierre Bremaud (1994)
             An Introduction to Probabilistic Modeling
             ISBN 0387964606

             This wonderful little book is a great introduction to the topic of probabilis-
             tic modeling that may be approached by even undergraduates with a very
             poor background in statistics. This work is a very easy introduction that
             is quite readable and can be highly recommended to anyone who needs to
             understand the ideas and power of modeling. I often recommend this work
             to clients.
             (Highly Recommended)

[Peitgen & Saupe & et al. 88] M.F. Barnsley et al. (1988)
             The Science of Fractal Images
             ISBN 0387966080

             A very useful book for anyone who actually wants to use a computer to
             generate pictures. The presentation is clear, concise, and highly pragmatic.
             Enough detail is given so that real computer implementations may be cre-
             ated with no additional reference material. This book has an all star group
             of contributing authors.
             (Very Highly Recommended)

[Bressoud 1989] David M. Bressoud (1989)
Factorization and primality testing
ISBN 0387970401

This well written and readable book covers the basics of primality testing algorithms ranging from trial division and the sieve of Eratosthenes to elliptic curve techniques. The presentation is elementary and aimed at the novice with little or no background in number theory. While somewhat out of date, the material is still relevant for the target audience. The focus is on describing and explaining the operation of algorithms, and not on the theory behind them. There are many relevant and useful examples as well as explicitly presented algorithms in pseudo-code. The exercises don't provide much depth and are not particularly plentiful. This is great book for the non-mathematician looking for an accessible introduction to number theory and primality testing.
(Recommended)

[Ireland & Rosen 1990] Kenneth Ireland & Michael Rosen (1990)
A classical introduction to modern number theory 2nd Ed.
ISBN 038797329X

Perhaps the best introduction to number theory available today. The treatment is rigorous, concise, well organized, and readable – but a bit symbol heavy. The presentation is quite formal in typical theorem-proof format with few examples, but the proofs very readable and favor simplicity and elementary techniques whenever possible. The level of mathematical maturity required is that of a first year graduate student or well prepared undergraduate. The exercise sets are interesting, well structured and provide good reinforcement of the material.
(Very Highly Recommended – BIC)

[Brockwell 91] Peter Brockwell & Richard Davis (1991)
Time Series: Time Series 2nd Ed.
ISBN 0387974296

This is one of the best introductions to time series that can be found today. The writing is clear, the coverage of the topic is comprehensive, and the mathematical treatment is precise. The level of sophistication required from the reader is that of a graduate student in statistics or mathematics. This is the one book to own on this topic.
(Very Highly Recommended – RR)

[Massey 91] William Massey (1991)
A Basic Course in Algebraic Topology
ISBN 038797430X

This book is one of the best introductions to algebraic topology available. The selection of topics is broad enough to provide a good foundation for further study. The presentation is clear and precise making for a more than understandable book. I think this book gives the reader a better feeling for what geometric topology is all about at a very basic level than most similar texts. This book combines two of Massey's earlier books (GTM 56 and GTM 70) into one, revised and corrected, volume.

(Very Highly Recommended – BIC)

[Bressound 91] David Bressound (1991)
Second Year Calculus
ISBN 038797606X
This is an interesting text in that it discusses the mathematics of physics using the language of mathematicians – a language that is generally never used by physicists. Physicists tend to phrase the mathematics they use in the terms of tensor analysis and vector analysis, while mathematicians tend to use the more modern and elegant language of differential forms for the same core mathematical techniques. In this book the author discusses, in non-rigorous terms, the subject of differential forms as applied to various physics problems. The text reads more like a physics book than a math book, and appears to be aimed at physicists and engineers. I find the early motivation for differential forms, while quite straight forward, to be uninspired and shallow. Overall the work is a fun, fast paced, read with lots of history and applications to sink your teeth into.
(Highly Recommended)

[Jobson 91]   J.D. Jobson (1979)
Applied Multivariate Data Analysis Vol I: Applied Multivariate Data Analysis Vol I
ISBN 0387976604
This is a great book. It's very well written and organized. It contains an exceptional overview of univariate statistical methods that is well worth the price of the book. In addition, it contains a clear and complete treatment of multivariate analysis, experimental design, and regression. It is intended for the expert.
(Very Highly Recommended)

[Cox & Little & O'Shea 1991] David Cox et al. (1991)
Ideals, Varieties, and Algorithms: Ideals, Varieties, and Algorithms
ISBN 038797847X
This book is completely understandable by an undergraduate math major with little or no background in abstract algebra. Without a doubt this is one of the best written and easy to understand books about commutative algebra available today. It is not the most complete work because of the intended audience. In keeping with that audience the work has a large number of elementary examples reinforcing the material. The exercise sets are large and appropriate for the intended audience, but also contain a few exercises for more advanced readers. This is the perfect book for the non-mathematician or looking for a good introduction to the subject. The more mathematically sophisticated reader should consider [Becker & Weispfenning 93] for a more comprehensive introduction or [Adams & Loustaunau 94] for a more advanced introduction.
(Very Highly Recommended – BIC)

[Peitgen & Jurgens & et al. 88] Peitgen et al. (1992)
Chaos and Fractals: Chaos and Fractals
ISBN 0387979034

This book is a very good, encyclopedic, introduction to the field in general that is notable because of it's clear presentation. It's a great book to have around for the casual reader because it is broken up into semi self-contained sections that one can just pick up and read.
(Very Highly Recommended)

[Becker & Weispfenning 93] Thomas Becker & Volker Weispfenning (1993)
Grobner Bases: Grobner Bases
ISBN 0387979719

This is a very comprehensive introduction to Grobner bases suitable for the reader with a solid preparation in graduate level abstract algebra. Little knowledge of commutative algebra a prerequisite for this text; however, this is the perfect source for those who have read [Cox & Little & O'Shea 1991] or [Adams & Loustaunau 94] and are looking for more. The selection of topics is quite comprehensive, and the presentation is clear and rigorous. Well thought out examples are sprinkled throughout the text as required. The exercise sets are well designed, interesting and thought provoking. This is an excellent book for use as a text for for independent study.
(Very Highly Recommended – BIC)

[Abarbanel 96] Henry D.I. Abarbanel (1996)
Analysis of Observed Chaotic Data
ISBN 0387983724

This book is not the best written work on this particular subject; however, it is a worthy addition to the library of anyone interested in chaotic data analysis. What sets this book apart is it's decidedly non-mathematical approach to the problem through several real world examples. This is not a source of rigorous mathematical information, but more of an advanced tour through the world of chaotic analysis.
(Highly Recommended)

[Loader 99] Clive Loader (1999)
Local Regression and Likelihood
ISBN 0387987754

This book is a wonderful introduction to the field of local regression. It is very clearly written and quite an easy read. This book is worth it's price just for the historical introduction in the first chapter. Extensive coverage is provided of the author's R package for local regression LOCFIT).
(Very Highly Recommended)

[Rao 99] C. Radhakrishna Rao & Helge Toutenburg (1999)
Linear Models: Linear Models 2nd Ed.
ISBN 0387988483

This book is a very well written and complete introduction to linear models for the expert. It is quite focused, and well organized. One of the best introductions and references available.

(Highly Recommended)

[Good 00]   Phillip Good (2000)
Permutation Tests 2nd Ed.
ISBN 038798898X

This work is a genital introduction to the theory of resampling methods as they apply to hypotheses testing. The organization is rather how-to like as are many works on testing. The writing is very clear and easy to understand. The level of sophistication required from the reader is quite low. This is a great book for practitioners.
(Highly Recommended)

[Quarteroni 2000] Alfio Quarteroni et al. (2000)
Numerical Mathematics
ISBN 0387989595

This book is a comprehensive introduction to numerical analysis. The selection of topics is complete, the exposition is clear, the proofs well constructed, and the exercises well thought out. The selection of topics ranges from simple root finding to numerical linear algebra. After reading this book, the reader is capable of implementing real software and understanding how it works. Unlike most numerical analysis books, this one uses MATLAB for example implementations and experiments – I think this is actually a disadvantage. The code is highly reliable. See the newer edition: [Quarteroni 2007]
(Very Highly Recommended)

[Huff 93]   Darrell Huff (1993)
How to Lie With Statistics
ISBN 0393310728

This is probably the most famous book ever written to help laypeople and non-experts sort out the true meaning, value, and quality of the statistics we are bombarded with every day. This book should be required reading for a high school diploma!
(Very Highly Recommended – RR)

[McCullagh 89] P. McCullagh & John A. Nelder (1989-08)
Generalized Linear Models 2nd Ed.
ISBN 0412317605

This is a classic, and authoritative, text on the subject of GLM – a must have for the shelf of any practicing statistician. The work is well organized, and clearly written. The coverage is comprehensive, deep, and carefully rigorous.
(Very Highly Recommended)

[Good & Hardin 2009] Phillip Good & James Hardin (2009)
  Common Errors in Statistics: Common Errors in Statistics 3rd Ed.
  ISBN 0470457988
  This book should be required reading for anyone who needs to analyze data; this is particularly true for people who are just starting out. This book covers many of the errors I see, in ever increasing numbers, in scientific journal articles. It provides very solid advice regarding when to use various techniques, and how they can go wrong. This is simply a must read.
  (Very Highly Recommended – BIC)

[Box & Hunter & Hunter 1979] Box et al. (1979)
  Statistics for Experimenters
  ISBN 0471093157
  This well known work is commonly found on the shelves of non-experts with a need for advanced statistical techniques and advanced experimental design. It doesn't have enough mathematics to make a mathematician happy, but it has more than most lay people are able to accept. It is clearly written and well organized. It has numerous examples.
  (Recommended)

[Schneier 96] Bruce Schneier (1996)
  Applied Cryptography 2nd Ed.
  ISBN 0471117099
  This well written work is an applied introduction to basic cryptography protocols and algorithms. The book's focus is on appropriate use of cryptographic systems as well as on the commonly used algorithms encountered today. The book is littered with source code (in C) and examples. It is probably the most readable book on basic cryptography use available today. This book doesn't provide a rigorous mathematical treatment, it is for the semi-technical user of cryptography not for the cryptographer.
  (Very Highly Recommended – BIC)

[Bolch 98] Gunter Bolch et al. (1998)
  Queueing Networks and Markov Chains
  ISBN 0471193666
  This book is a comprehensive introduction to the field from the most basic mathematics required for queueing theory to relatively advanced topics. It's well organized and written in a clear style. This is one of the only truly comprehensive introductions to queueing theory available today.
  (Highly Recommended)

[Watkins 2002] David S. Watkins (2002-05)
Fundamentals of Matrix Computations 2nd Ed.
ISBN 0471213942
This is one of the best books on numerical linear algebra available today. The second edition is an updated and slightly expanded version of the first. Like the first edition, this one is well organized, easy to read, and full of good exercises. Like the first edition, this book makes for a fine text for an undergraduate class in numerical linear algebra – in fact, it is far less difficult for undergraduates than many of the alternative texts. While the first edition could have been successfully used as a graduate text, this second edition is far more suitable for graduate use. In particular, several more advanced topics have been scattered throughout the book, the organization has been changed, and a new chapter on iterative methods has been added. Many of the exercises are embedded in the text, and core material is often only presented in such exercises. This leaves some details to the reader who must be willing to stop and work through them for maximal value. The book has no source code, but is full of pseudo code. This new edition has the original Fortran exercises, which I think is essential even in this modern era; however, it is also full of new Matlab exercises and examples.
(Very Highly Recommended – BIC)

[Savage 2009] Sam L. Savage & Jeff Danziger (Illustrator) (2009-06-09)
The Flaw of Averages
ISBN 0471381977
As shocking as it sounds, the simple average is the most misunderstood and misused statistic in the business world today. Every year, billions are squandered because of avoidable mistakes surrounding the use of averages. This book does a good job speaking to both laypersons and experts about the problems, and how to avoid them. If you make decisions based upon data, or provide data to decision makers, then you should read the first few chapters of this little book.
(Very Highly Recommended – RR)

[Belle 2002] Gerald van Belle (2002-03)
Statistical Rules of Thumb
ISBN 0471402273
This is a fantastic book full of the hard won rules of thumb working statisticians regularly use in a handbook format. While this book covers many items taught in classes, much of the gold in this book is the sort of stuff most statisticians never really learn, or at least appreciate, until they begin to practice the craft. It not only serves as a great reference for experts, but as a guidebook for non-experts as well.
(Very Highly Recommended – BIC)

[Good & Hardin 2003] Phillip Good & James Hardin (2003)
Common Errors in Statistics: Common Errors in Statistics
ISBN 0471460680
This book should be required reading for anyone who needs to analyze data; this is particularly true for people who are just starting out. This book covers many of the errors I see, in ever increasing numbers, in scientific journal articles. It provides very solid advice regarding when to use various techniques, and how they can go wrong. This is simply a must read. See the new edition: [Good & Hardin 2009]
(Highly Recommended)

[Gerald Folland 84] Gerald Folland (1984)
Real Analysis: Real Analysis
ISBN 0471809586
This is the most readable treatment of real analysis that I have yet to discover – no small feat considering the number of excellent texts in this area including [Rudin 87] and [Royden 63]. The exercises are thoughtful and plentiful. The exposition is exceptionally clear, complete, concise, and rigorous. The proofs in this text are exceptionally clear. Common complaints regarding this book are that it is dense and has some typeos – both valid. Overall, I can't recommend this book highly enough!
(Very Highly Recommended – BIC)

[Agresti 90] Alan Agresti (1990)
Categorical Data Analysis
ISBN 0471853011
This book is a solid introduction to the basics of categorical data analysis that is approachable by an advanced statistics student. The writing is clear and the mathematics is solid.
(Highly Recommended)

[Schwarz 89] H.R. Schwarz (1989)
Numerical Analysis: Numerical Analysis
ISBN 0471920649
This is a good introduction to numerical analysis that is very approachable by less prepared undergraduate math students and by students with non-math majors. The exposition is exceptionally clear and easy to read. The level of detail is high enough to enable even an inexperienced computer science major to implement working numerical software. The range of topics is typical for an introduction of this type. The exercises are well thought out and plentiful.
(Very Highly Recommended)

[Ziliak 2007]   Stephen T. Ziliak & Deirdre N. McCloskey (2007)
The Cult of Statistical Significance: The Cult of Statistical Significance
ISBN 0472050079

This wonderful book exposes the disturbing truth and consequences surrounding the institutionalized acceptance and promotion of inappropriately applied statistical significance techniques. This work is not about the simple statistical errors made by individuals, but errors in statistical thinking infecting entire fields of scientific endeavor. This work should be required reading for everyone attempting to make use of statistics in the real world.
(Very Highly Recommended)

[Campbell 2004] Stephen K. Campbell (1974 (2004 Dover))
Flaws and Fallacies in Statistical Thinking
ISBN 0486435989

A great overview for non-experts and laypersons about how to determine the quality of numerical evidence very much in the same spirit as the famous book about lies and statistics by Darrell Huff. This classic book should be required reading not just for statisticians, but everyone who must sort out the blizzard of numbers we find ourselves assaulted with in the daily news.
(Highly Recommended)

[Magnus & Karrass & Solitar 1976] Wilhelm Magnus et al. (1976)
Combinatorial Group Theory: Combinatorial Group Theory Snd Ed.
ISBN 0486632814

This hard to find book is a must own for any working algebraic topologist or researcher in combinatorial group theory. The exposition is quite clear and the treatment of proofs is relatively carefull. The selection of topics is very comprehensive.
(Very Highly Recommended)

[Scott 64]   W. R. Scott (1964)
Group Theory
ISBN 0486653773

This book contains several results not typically found in group theory texts, and it also has some very interesting exercises. The exposition is a bit rough, and the author doesn't give the reader the kind motivation that really helps beginners. So, this is not the first book to buy about group theory, but it is a must have for the shelf.
(Highly Recommended)

[Knopp 1947] Konrad Knopp (1991)
Theory and Application of Infinite Series
ISBN 0486661652
This book discusses in great detail the more formal aspects of infinite series manipulations that are left out of many curricula, and touches upon many special series most students may never have a chance to see. Much of this material is simply not to be found in analysis texts. The presentation is not rigorous, and the proofs are often missing important components – this is the way Euler did mathematics! The presentation is understandable and full of examples, and the English translation is very well done. The exercises are topical.
(Highly Recommended)

[Leonard 01] Thomas Leonard & John S.J. Hsu
Bayesian Methods: Bayesian Methods
ISBN 0521004144
This book is a light introduction to Bayesian methods for people with a background in traditional statistics. It is written in an understandable and clear style.
(Recommended)

[Horn 1990] Roger A. Horn & Charles R. Johnson (Feb 23, 1990)
Matrix Analysis
ISBN 0521386322
This is a great book for anyone who needs to bridge the gap between traditional linear algebra and numerical linear algebra – the no man's land of matrix analysis. While it is noted in most linear algebra texts that the set of all linear transformations on the reals, the matrices, form a linear space, not much time is spent exploring this avenue. This is unfortunate because in applications of linear algebra the objects of direct interest are matrices. One of the most important parts of matrix analysis for the applied researcher is the application of norms, and thus the construction of metric spaces, on matrix spaces. This gives one the power of calculus and the structure of linear spaces. This forms the foundation required for a good, rigorous, introduction to numerical linear algebra. This book is both deeper and broader in it's coverage than the introductions typically found in numerical linear algebra texts. While not completely rigorous, enough detail is given to allow the reader to fill in the gaps. The style is easy to follow and the organization of the work is stellar. The exercises reinforce the material. This text is appropriate for self study or as a text.
(Very Highly Recommended – BIC)

[Press 92]   William H. Press et al. (1992)
                Numerical Recipes in FORTRAN: Numerical Recipes in FORTRAN 2nd Ed.
                ISBN 052143064X

                This is perhaps the most famous numerical analysis book in existence. This
                book is very clearly written, comprehensive in topic selection, well orga-
                nized, and full of example code. The primary difficulty with this book is
                that the topics are incompletely covered leaving out details that can get
                you into real trouble. While most of the code and techniques will work on
                well behaved problems, one shouldn't expect success on difficult problems
                or edge cases.
                (Recommended)

[Casselman 2005] Bill Casselman (2005)
                Mathematical illustrations: Mathematical illustrations
                ISBN 0521547881

                This great little book explores the world of creating mathematical illustra-
                tions via direct use of the Postscript language. Postscript allows for some
                simple and elegant solutions to some of the difficult illustration problems
                mathematical authors face. This text is a very good introduction to some
                of the most useful techniques, and to the postscript language in general.
                An electronic copy of the book is available at the author's web site.
                (Highly Recommended – BIC)

[Lilja 2000]   David J. Lilja (2000)
                Measuring Computer Performance: Measuring Computer Performance
                ISBN 0521641055

                This book is a great read for non-expert statistical practitioners and IT
                personnel interested in IT performance analysis. It is a very focused intro-
                duction to the theory of measurement, experimental design, performance
                analysis, queuing theory, data analysis, and statistics as related to computer
                performance measurement. While not targeted for statisticians, mathemati-
                cians, or mathematical computer scientists, such readers may well find a
                few gems in this work.
                (Highly Recommended)

[Vassiliou & Lisle 2000] Peter Vassiliou & Ian Lisle (Editors) (2000)
                Geometric Approaches to Differential Equations
                ISBN 0521775981

                This little book provides a brief introduction to several different geometric
                topics related to differential equations. Several recent topics are presented
                clearly by different authors. This book is a difficult read for laypeople, and
                is only recommended for people with a strong mathematical background.
                (Recommended)

[Gibson 2001]   C. G. Gibson (2001)
Elementary Geometry of Differential Curves: Elementary Geometry of Differential Curves
ISBN 0521804531

This is one of he few truly undergraduate introductions to differentiable geometry available. The selection of topics is appropriate to the audience and interesting. The gently paced exposition is both clear and elementary. The exercises are well designed, and do a good job reinforcing the material. For a first exposure to differentiable geometry, this book is hard to beat.
(Highly Recommended)

[Baldick 2006]   Ross Baldick (2006)
Applied Optimization: Applied Optimization
ISBN 0521855640

This is a delightful book aimed at the non-specialist user of optimization software. The selection of topics is appropriate, and wide enough to provide the novice reader with a broad understanding of the field. It is just deep enough so that the reader is able to understand how to effectively select and use existing software, but not so deep that a reader could implement good optimization software. While I can not recommend this work for specialists or even perhaps for mathematicians, I can whole heartily suggest this text for the novice to optimization or to the non-specialist practitioner. In fact, for the non-specialist practitioner, this may be one of the best books available today.
(Very Highly Recommended)

[Kirkwood 89]   James Kirkwood (1989)
An Introduction to Analysis
ISBN 0534915000

This book is a very basic introduction to analysis intended for undergraduate students with little or no experience with proofs and no experience with the rigorous side of calculus. The exposition is very clear and easy to read, while maintaining a relatively high level of rigor. The reader is carefully and gently guided through proofs. In some respects, the goal of this book is as much to teach the reader how to do proofs as it is to teach them about real analysis. The exercises tend to be quite easy, but they do reinforce the material. The selection of topics is quite limited, but enough for a leisurely one semester class (simple topology of the real line, function continuity/differentiation, Riemann integration, series, sequences, and a touch of Fourier series).
(Very Highly Recommended – BIC)

[Burden 88]   Richard L. Burden & J. Douglas Faires (1988)
                Numerical Analysis 4th Ed.
                ISBN 053491585X

                This is an excellent introduction to numerical analysis. The topics range
                from basic polynomial manipulation to basic numerical linear algebra. The
                coverage is not very deep, but it is rigorous. The exposition is easy to read
                and well organized. The exercises are well thought out. The book is full of
                pseudo-code. A reader will be quite able to implement working numerical
                software after reading this book. Some mathematical maturity is required
                to read this book.
                (Very Highly Recommended)

[Sipser 97]   Michael Sipser (1997)
                Introduction to the Theory of Computation
                ISBN 053494728X

                This is one of the most approachable information theory books available
                today. The writing is clear, concise, and easy to understand. The examples
                are a bit simplistic, but reinforce the material quite nicely. This book has
                many exercises that are all well thought out – they range from easy to quite
                challenging. The selection of topics is typical of such an introductory text.
                (Very Highly Recommended – BIC)

[Wall 2000]   Larry Wall et al. (2000)
                Programming Perl 3rd Ed.
                ISBN 0596000278

                This is the definitive work on one of the most popular scripting languages
                of all time. It is easy to read, comprehensive, and well organized. It serves
                well as a tutorial and as a reference; however, if you are completely new to
                Perl or new to programming, the more genital learning perl book may be
                a better choice. If you only own one perl book, then make it this one.
                (Very Highly Recommended – BIC)

[Albitz 2001]   Paul Albitz & Cricket Liu (2001)
                DNS and BIND 4th Ed.
                ISBN 0596001584

                This is the most readable introduction and reference to DNS and BIND I
                have ever found. The coverage is comprehensive enough to make the reader
                an expert, and the writing is clear enough to lead anyone through the more
                complex details. This book is the one every DNS administrator should have
                on the shelf!
                (Very Highly Recommended – BIC)

[Laurie 2003]   Ben Laurie & Peter Laurie (2003)
                Apache: Apache 3rd Ed.
                ISBN 0596002033

                If Apache shipped with a bound manual, then it would be this book. This
                book is very well organized and clearly written. It makes a great desk
                reference and tutorial alike. It is comprehensive in its coverage. This is the
                one Apache book to own.

(Very Highly Recommended – BIC)

[Friedl 2002]   Jeffrey E. F. Friedl (2002)
Mastering Regular Expressions 2nd Ed.
ISBN 0596002890
This is the best book available for learning about regular expressions and understanding the subtle differences between various dialects of regular expression languages. The book is well organized, comprehensive, and detailed. Many examples help guide the reader through more difficult regular expression topics. This is the one book to have on your desk or your shelf when strange regular expression problems crop up..
(Very Highly Recommended – BIC)

[Greenwald 2003] Rick Greenwald & David C. Kreines (2003)
Oracle in a Nutshell: Oracle in a Nutshell
ISBN 0596003366
This compact little nutshell handbook is one of the best Oracle references you can buy today that covers version 9i. It is comprehensive and well organized. It is not a tutorial. This book lives on my desk when I'm doing heavy Oracle lifting.
(Very Highly Recommended – BIC)

[Frisch 2002]   AEleen Frisch (2002)
Essential System Administration 3rd Ed.
ISBN 0596003439
This massive volume is a great introduction and reference to UNIX system administration. It covers all of the basic things every administrators should know about the most popular UNIX variants. The coverage is deep enough to forge a mid to senior level knowledge of UNIX administration. The organization is quite good – good enough to make the book a handy reference. The writing is clear and easy to understand.
(Very Highly Recommended – BIC)

[Viega 2003]   John Viega & Matt Messier (2003)
Secure Programming Cookbook
ISBN 0596003943
Some books are so fundamental that every programmer should be required to read them. This is one such book. Every programmer needs to know how to write secure code, and this book is a great introduction to how to accomplish this in both UNIX and Windows environments. The writing is clear and the book contains numerous examples. The book's web page provides even more information on the subject.
(Very Highly Recommended – BIC)

[Vesperman 2003] Jennifer Vesperman (2003)
Essential CVS
ISBN 0596004591

Several books exist today about CVS, and all of them I have read so far, except this one, are confusing or incomplete. This book is a welcome addition! It is clear, well written, comprehensive, and well organized. Everything is covered from basic CVS usage to advanced CVS configuration. This is the one CVS book to own!
(Very Highly Recommended – BIC)

[Robbins 2005] Arnold Robbins & Nelson H.F. Beebe (February 1, 2005)
Classic Shell Scripting
ISBN 0596005954

Finally, I have found the shell scripting book to rule them all. People constantly ask me, "what is the best shell scripting book?". Well, now I have an answer. This is a great little book. It is easy to read, well organized, and comprehensive. The subject is near to my heart – POSIXly compatible Bourne shell scripting using POSIXly compatible utilities. The authors do a great job describing what is POSIX, what is not, and what UNIX flavors have implemented various features. If you want to write solid shell scripts that will run on any platform, then this is the book for you!
(Very Highly Recommended – BIC)

[Datz 2003] Stephen R. Datz (2003)
Official Stamp Collector's Bible
ISBN 0609808842

This book contains a wealth of information for both novice and advanced collectors. For example, it contains a glossary of philatelic terms as well as good introductions to many collecting topics. This is probably the best basic philatelic reference book I have found.
(Very Highly Recommended – BIC)

[Gay 2000] Warren Gay (2000)
Advanced UNIX Programming
ISBN 067231990X

This book is interesting in that it covers UNIX programming APIs as used in perl, C++, and C. The style is easy to follow and the examples are quite clear. The selection of topics leaves something to be desired, but it is still a good book for the novice UNIX programmer. The author has been careful with regard to documenting the standards pedigree of most of the APIs illustrated.
(Highly Recommended)

[Rotman 88]   Joseph Rotman (1988)
An Introduction to the Theory of Groups 3rd Ed.
ISBN 069706882X

This is THE book to have on group theory. The selection of topics is comprehensive, the organization is absolutely excellent, and the exposition is beyond equal. The presentation is rigorous, but a few gaps and errors exist in both proofs and exercises. The exercises are well thought out, but not as difficult as one would expect for a book like this. This book contains enough material to satisfy most non-specialists. The book is completely self contained and could be used as the text for an undergraduate class, but has enough material and depth for a graduate class as well.
(Very Highly Recommended – BIC)

[Dugundji 66]   James Dugundji (1991)
Topology
ISBN 0697068897

This is one of the best introductions to general topology ever written. The exposition is as clear as it gets and the exercises are as well thought out as can be found in any text. Currently this book is out of print, and quite expensive – it is worth the price.
(Very Highly Recommended – BIC)

[Jacobson v1 85] Nathan Jacobson (1985)
Basic Algebra I 2nd Ed.
ISBN 0716714809

This graduate text could form core of a one or two semester algebra class at the MS or PhD level. It is wonderfully well written; however, the exposition is decidedly different from the typical graduate math text. Instead of the typical theorem/proof format, a more narrative approach is taken. Some readers may find this approach difficult or unsettling, but I personally find it quite appealing and easy to read. The treatment is still quite rigorous with formal statements of theorems and proofs given. Reading this book feels like having a conversation with an expert. Everyone will find some new tidbit or insight from a careful read of this book.
(Very Highly Recommended)

[Jacobson v2 1989] Nathan Jacobson (1989)
Basic Algebra II 2nd Ed.
ISBN 0716719339

This graduate text could form core of a second or third algebra class at the MS or PhD level. Like the first volume, it is wonderfully well written in the same style.
(Very Highly Recommended)

[More 2001]   David S. Moore (2001)
Statistics: Statistics 5th Ed.
ISBN 0716740087
This wonderful little book provides an entertaining and clear presentation of basic statistics without sacrificing any of the topics that would normally be found in an 'intermediate statistics' or 'business statistics' text. The text is littered with well thought out examples, figures, and exercises – as well as cartoons. This is the first book I recommend to a layperson who needs to know some basic statistics and is approaching the subject for the very first time.
(Very Highly Recommended)

[Strogatz 94]   Steven Strogats (1994)
Nonlinear Dynamics and Chaos: Nonlinear Dynamics and Chaos
ISBN 0738204536
This book is a good, well written, basic introduction to dynamical systems. The math is very basic, and the focus of the text is applications to various scientific and engineering fields. This is not a book for a mathematician.
(Recommended)

[Geddes & Czapor & Labahn 1992] K. O. Geddes et al. (1992)
Algorithms for computer algebra
ISBN 0792392590
This primary focus of this work is on basic symbolic computer algebra algorithms (arithmetic, object representation, and data structures) as well as some more sophisticated coverage of polynomial algorithms. The approach is quite generic in that many problems are framed in a general algebraic context (abstract rings).
(Very Highly Recommended – BIC)

[Golub 1996]   Gene H. Golub & Charles F. Van Loan (1996)
Matrix computations
ISBN 0801854148
One of the best collections of facts about numerical linear algebra algorithms to be found today. The presentation is more practical than rigorous, and the coverage is encyclopedic but somewhat terse. This is not a book from which to learn the material for the first time unless one has a very high level of mathematical maturity. A few mistakes are peppered throughout, but they are all well known and documented in the errata sheet. This work is valuable for both people developing code and people trying to make intelligent use of existing software. In short, this is a must own reference book for the desk of a practicing numerical analyst or scientist.
(Very Highly Recommended)

[Gelbaum & Olmstead 64] Bernard Gelbaum & John Olmstead (1964)
Counterexamples in Analysis
ISBN 0816232148
One of the best ways to really wrap your mind around several topics in real analysis is to consider counterintuitive examples. The best way to understand why all the hypothesis in some of the most important theorems of real analysis are really necessary, is consider what happens when they are violated. This is precisely what this book is about. Exploring the most common counterexamples disproving all of the psudo-theorems students like to invent through blind, incorrect intuition. The selection of examples is exelent and the presentation is clear and precice. This is a great book. *(Very Highly Recommended – BIC)*

[Ko 91]   Ker-I Ko (1991)
Complexity Theory of Real Functions
ISBN 0817635866
This little book is a fun read about a subject that is traditionally overlooked by numerical analysts. By using discrete complexity like approaches the author is able to compute lower bounds for various numerical operations like integration and maximization. This is a refreshing approach to an old problem using traditional techniques from information theory. The exposition is quite clear and readable. The organization is well thought out. *(Very Highly Recommended)*

[Tyrtyshnikov 97] Eugene E. Tyrtyshnikov (1997)
A Brief Introduction to Numerical Analysis
ISBN 0817639160
This is a wonderful book! This book won't give you what you need to become a numerical analyst; however, it is one of the best ways to get quickly acquainted with modern numerical analysis or if you need a refresher. This book is full of stuff that I wish I had known when I took my first numerical class. The writing is terse but clear. The organization is well thought out. *(Very Highly Recommended – BIC)*

[Khoussainov 2001] Bakhadyr Khoussainov & Anil Nerode (2001)
Automata Theory and its Applications
ISBN 0817642072
This book is a systematic and uniform treatment of automata theory that is well written. The selection of topics is well thought out as are the exercises. The exposition is clear and readable. This book requires more maturity to read than many undergraduates have and can be a difficult text. *(Highly Recommended)*

[Muller 2006]   Jean-Michel Muller (2006)
                   Elementary functions: Elementary functions 2nd Ed.
                   ISBN 0817643729
                   This is the de-facto standard work when it comes to implementing and un-
                   derstanding software for the computation of elementary functions like sin,
                   cos, and log. All of the most important techniques used in the computation
                   of such functions are covered at great depth and with extreme care. The
                   successful reader should be well prepared to implement real software not
                   only for the elementary functions directly discussed in the text but a great
                   many other functions as well as the techniques are broadly applicable. The
                   analysis of error bounds and edge conditions is extraordinary. The exercises
                   are sparse, but well thought out and interesting. The book is loaded with
                   fantastic and well constructed examples. If you need to accurately approx-
                   imate a function, then this is the one book to have on your shelf. If you
                   are interested in the error analysis of numerical algorithms, then this book
                   should be on your shelf. While the topic may be considered esoteric in this
                   day and age, this work is one of my favorite numerical analysis texts.
                   (Very Highly Recommended – BIC)

[Sato 99]   Hajime Sato (1999)
                   Algebraic Topology: Algebraic Topology
                   ISBN 0821810464
                   I wish I had this book when I was learning about algebraic topology for
                   the first time! Each field of mathematics has a canonical set of examples
                   that are used by researchers as guiding lights through the abstract world of
                   mathematics they navigate each day. Algebraic topologists are no different,
                   and this book contains there holy list of examples. Generally speaking it
                   takes most people years of study and interaction with other researchers
                   to internalize a list of guiding examples. This book gives the reader an
                   incredible jump start on that journey. If you are interested in, use as a tool,
                   or are learning algebraic topology or low dimensional topology, then you
                   MUST read this book. If you took an algebraic topology class a decade ago
                   and never really understood it, then read this book! If you think math is
                   cool and just want something fun to look at, then read this book! READ
                   THIS BOOK!
                   (Very Highly Recommended – BIC)

[Adams & Loustaunau 94] William Adams & Philippe Loustaunau (1994)
                   An Introduction to Grobner Bases
                   ISBN 0821838040
                   This book is an excellent introduction to the subject of Grobner bases. The
                   intended audience has a mathematical maturity level typical of a beginning
                   graduate student. The selection of topics is quite limited, but the exposition
                   is very clear, concise and rigorous. The text has a generous peppering of
                   useful examples as well as a substantial number of exercises. The exercise
                   sets range in difficulty from trivial to quite challenging. For a more an
                   introduction with a bit more depth see [Becker & Weispfenning 93], and
                   for a more elementary introduction see [Cox & Little & O'Shea 1991].
                   (Highly Recommended)

[Schiesser 94]   William E. Schiesser (1994)
Computational Mathematics in Engineering and Applied Science: Computational Mathematics in Engineering and Applied Science
ISBN 0849373735
This book is one of the best available specializing in the numerical solution of ODEs, DAEs, and PDEs you can buy today. It is not very rigorous, but it's coverage is relatively complete when it comes to the types of equations an engineer is likely to encounter. It has a ton of FORTRAN examples that are quite readable and mostly reliable. The organization is good.
(Recommended)

[Stinson 95]   Douglas R. Stinson (1995)
Cryptography: Cryptography
ISBN 0849385210
This book forms a good introduction to cryptography and protocols for the beginner. This book has a little bit of math, a little bit of practice, and some very good examples. For example, this book actually has a worked example with real data for DES – a real boon for someone trying to implement and understand the algorithm for the first time. The writing is quite clear and the math is well thought out with an eye to making sure that beginners will understand. This book is more practical than Trappe's book but less practical than Schneier's book for the modern software developer or user of cryptography.
(Very Highly Recommended)

[Polyanin & Zaitsev 95] Andrei Polyanin & Valentin Zaitsev (1995)
Handbook of Exact Solutions for Ordinary Differential Equations
ISBN 0849394384
This sizable volume is a handbook that lists in tabular form the sum total of all of the silly manipulations and tricks you forgot from 9 credit hours of ODE classes as an undergraduate – more than 5,000 ODE forms with solutions. Rather like a table of integrals, this book takes all the fun out of fiddling with an equation looking for the trick; however, that is the point.
(Recommended)

[Johl 1976]   Max G. Johl (1976)
United States Postage Stamps 1902-1935
ISBN 0880000694
This work is a reproduction of chapters 2-5 of "The United States Postage Stamps of the Twentieth Century" (Vol I Revised Edition), and Chapters 1-5 of "The United States Postage Stamps of the Twentieth Century" (Vol3). It is one of the best general references for the regular issues of 1902-1935.
(Highly Recommended)

[Chase 1975]   Carroll Chase (1975)
The 3cent Stamp of the United States 1851-1857 Issue Revised Quarterman Reprint Ed.
ISBN 0880000708
This work is a reproduction of the 1942 revised edition, with the half tone images from the 1929 edition. Overall, it is the most comprehensive work on the 1851-1857 issue.
(Highly Recommended)

[Micarelli 2001] Charles N. Micarelli (2001)
The Micarelli Identification Guide to U.S. Stamps: The Micarelli Identification Guide to U.S. Stamps
ISBN 0894872826
One of the best general references to the detailed identification of the major, US Scott varieties. This is probably the only book the casual to intermediate collector needs for classic US stamp identification.
(Very Highly Recommended – BIC)

[Trefethen 97] Lloyd N. Trefethen & David Bau (1997)
Numerical Linear Algebra
ISBN 0898713617
The unorthodox organization of this numerical linear algebra text makes it one of the most valuable introductory books in the field. The reader is likely to obtain a better intuitive understanding of topics like the SVD and the intimate relationship it has with linear transformations, eigen structure, and stability. The book is for the beginner, but a good background in basic linear algebra and calculus is required. The writing is clear and direct, but can be a terse in places. While the presentation is mostly rigorous, it may leave more experienced readers wanting more. The examples and exercises are interesting and reinforce the material; however, I would have preferred more, and meatier, exercises. While it can't stand alone as the only numerical linear algebra book the well rounded practitioner needs, it definitely should be in every applied mathematician's library.
(Very Highly Recommended)

[D.J.E 1996]   Dennis J. E. & Robert B. Schnabe (Feb 1, 1996)
Numerical Methods for Unconstrained Optimization and Nonlinear Equations
ISBN 0898713641
This is a fabulous book is a pleasure to read. It is a bit long in the tooth; however, the methods and techniques are still valuable and widely used today. The organization and writing are both first rate. Good advice as well as clear mathematics are found throughout. This book would make welcome supplemental reading for a first graduate class in optimization.
(Very Highly Recommended)

[Dongarra 1999] Jack J. Dongarra et al. (January 1, 1999)
Numerical Linear Algebra for High Performance Computers
ISBN 0898714281

This is a great little book that is a fun read; however, it is not something that will find a place on your reference shelf. This is not a numerical linear algebra text or a software guide. Rather, it is full of little bits of advice and best practice relating the theoretical numerical analysis we all learned about in college to the very real world of high performance computers. Most every professional numerical analyst, or serious programmer, will find some useful tidbit in this text. The writing style is clear, concise, and well motivated.
(Highly Recommended)

[Brillinger 2001] David R. Brillinger (September 1, 2001)
Time Series: Data Analysis and Theory
ISBN 0898715016

This book is a bit old; however, it's focus on the use of spectral analysis (a.k.a. Fourier analysis) is still quite relevant. The writing is clear and relatively rigorous. The selection of topics is still quite good. In the end, if you want a good introduction to this approach to time series analysis, I can think of no better book.
(Highly Recommended)

[Higham 2002] Nicholas J. Higham (2002)
Accuracy and stability of numerical algorithms 2th Ed.
ISBN 0898715210

This is not a general numerical analysis text, but a deep and detailed treatment of the accuracy and stability for numerical algorithms. While some of the material concerns these topics in general, most of the text centers around the techniques and algorithms of numerical linear algebra. The text is more than readable, but it requires quite a lot of mathematical sophistication on the part of the reader. The presentation is very careful and rigorous. This is a scholarly work that is well annotated, and is worth the price for the bibliographic material and reference notes alone. The exercise sets and examples are unusually well thought out. One of my favorite books.
(Very Highly Recommended – BIC)

[Saad 2003] Yousef Saad (April 30, 2003)
Iterative Methods for Sparse Linear Systems 2nd Ed.
ISBN 0898715342

This is the definitive work on iterative systems from one of the pioneers in the field. It is uncommon to find experts that are able to communicate so clearly. This book is easy to read, and is appropriate for reference, self study, or as a text. The organization is well done. The exercises are well thought out. If you need to know about iterative methods for linear systems, then this is the book to own.
(Very Highly Recommended – BIC)

[Davis 2006]   Timothy A. Davis (2006)
Direct methods for sparse linear systems
ISBN 0898716136
This text discusses the CSparse package in detail, and in this way provides good insight into modern direct methods for sparse linear systems - circa the mid-1990s. Mathematical readers may find there is too much code, and software developers may find there is too much math. The coding style is very condensed, probably to shorten the total page count of the work, and the prose is quite terse at times. Still, this is a book work having on the shelf of the expert numerical analyst.
(Recommended)

[Skinner 1980] Hubert C. Skinner & Amos Eno (1980)
United States Cancellations 1845-1869
ISBN 0933580045
This is one of the most comprehensive and useful reviews of postal markings from 1845-1869. It is a absolute must for the library of the fancy cancel collector.
(Very Highly Recommended – BIC)

[Dougherty 1992] Dale Dougherty (1992)
sed and awk
ISBN 0937175595
This book is comprehensive, easy to read, clear, and well organized. It is not the grand daddy of sed books, but it is a very good introduction and reference – and the funny little animal on the cover is sorta kool. This book has just about everything you would ever need to know about sed and awk in this modern, perl world.
(Highly Recommended)

[Oram 93]   Andrew Oram & Steve Talbott (1993)
Managing Projects with make
ISBN 0937175900
This is a small book describing a small, but powerful, tool: make. Make is my favorite build automation tool even with tools available like ant. This little book describes everything most people will ever need to know about the various versions of make developers are likely to encounter. The GNU make manual describes GNU make in more detail, but this little book does a wonderful job describing he essential features of ALL major make varieties.
(Very Highly Recommended – BIC)

[Landau 1999] Eliot A. Landau et al. (Editors) (1999)
Linn's U.S. Stamp Facts 19t Century
ISBN 0940403811
This compact, and essential, reference book contains key, critical data regarding each 19th century issue. It is clear, well written, and authoritative. A must have for any serious collector.
(Very Highly Recommended – BIC)

[Linn 2000]   Linn's Staff (Editor) (2000)
                 World Stamp Almanac
                 ISBN 0940403862

                 This is a fat little book full of all sorts of useful information. It is a worthy
                 reference book to have on any collector's book shelf. It has quite a bit of
                 overlap with various other sources, but this makes it a handy single volume
                 reference.
                 (Recommended)

[Kachigan 91]   Sam Kash Kachigan (1991-06)
                 Multivariate Statistical Analysis: Multivariate Statistical Analysis 2nd Ed.
                 ISBN 0942154916

                 While lacking in deep mathematical detail and precession, Kachigan's book
                 is one of the best to be found when it comes to motivating core statistical
                 topics and clearly explaining multivariate statistical analysis at a conceptual
                 level.
                 (Highly Recommended)

[Sayood 2000]   Khalid Sayood (2000)
                 Introduction to Data Compression 2nd Ed.
                 ISBN 1558605584

                 This is the best book I have found about data compression. It is well writ-
                 ten, easy to understand, comprehensive, and well organized. The book is
                 full of examples, and has a few exercises – it could be used as a text book.
                 The selection of topics covers classical compression as well as more modern
                 compression algorithms After reading this book one should be able to im-
                 plement workable compression code, or at least work on compression code.
                 (Very Highly Recommended – BIC)

[Levine 95]   John R. Levine et al. (95)
                 lex and yacc
                 ISBN 1565920007

                 This little book is a very good introduction and reference for both lex and
                 yacc (and the GNU tools flex and bison). It is very well organized making
                 for a very useful desk reference. This is the best introduction to lex and
                 yacc that I have found. A must own for any programmer with language
                 processing needs.
                 (Very Highly Recommended – BIC)

[Bolinger 1995] Don Bolinger & Tan Bronson (1995)
                 Applying RCS and SCCS
                 ISBN 1565921178

                 This book is an introduction to the practice of VC as well as to the two tools
                 listed in the title (RCS and SCCS). The book is very clearly written and
                 quite well organized. Both RCS and SCCS are covered comprehensively.
                 Reference material is provided as well making this book an excellent desk
                 reference. This book is, hands down, the best RCS/SCCS book I have ever
                 found.

(Very Highly Recommended – BIC)

[Walsh 99] Nancy Walsh (1999)
Learning Perl/Tk
ISBN 1565923146

This is a very easy introduction to perl/Tk that will quickly provide an experienced perl programmer with the basics. It is an easy read that is clearly laid out. It is not comprehensive and more advanced readers will be left with many questions; however, it will get you up and writing simple perl/Tk programs quickly.
(Recommended)

[Newham 98] Cameron Newham & Bill Rosenblatt (1998)
Learning the bash Shell 2nd Ed.
ISBN 1565923472

This is the best bash reference I have found. It is comprehensive and well written. The material is well organized and easy to scan through, and so it makes a wonderful desk reference to the best shell known to man.
(Very Highly Recommended)

[Gourley 2002] David Gourley & Brian Totty (2002)
HTTP: HTTP
ISBN 1565925092

This is a well written, comprehensive guide to HTTP. The organization is good enough to make the book serve as a good reference work, and the text is good enough to let the book serve as a good tutorial. If you need to know about the innards of HTTP, then this is the book to have.
(Very Highly Recommended – BIC)

[Gennick 1999] Jonathan Gennick (1999)
*Oracle SQL*Plus: Oracle SQL*Plus*
ISBN 1565925785

A book has to be quite good to be better than the stock Oracle documentation and official Oracle publications. This book is that good. It covers everything you would ever want to know about SQL*Plus. This book is not about Oracle SQL, but the tool used to access Oracle (SQL*Plus). The style is clear and concise and the organization is quite good. This book is as good a tutorial as it is a reference. This is a must have book for SQL*Plus hackers.
(Very Highly Recommended – BIC)

[Kreines 2000] David C. Kreines (2000)
Oracle SQL: Oracle SQL
ISBN 1565926978
This book is a wonderful guide to the wacky, nonstandard, world of Oracle v8 SQL. While Oracle 9i started a new breed of standards based SQL use in Oracle, people still stuck with v8 Oracle still must contend with all the strange Oracle-isms that we have come to love and hate. This book is well organized and actually forms a good tutorial as well as reference. The writing is clear and understandable.
(Very Highly Recommended – BIC)

[Lidie 2002] Steve Lidie & Nancy Walsh (2002)
Mastering Perl/Tk
ISBN 1565927168
This is, hands down, the best book you can own on the subject of Perl/Tk. This book has all of the detail missing from the learning Perl/Tk book and from the sparse perl/Tk documentation. It is well organized and clearly written. It can serve as an introduction or as a reference. This is the one book to own if you are a perl/Tk programmer!
(Very Highly Recommended – BIC)

[Kline 2001] Kevin Kline & Daniel Kline (2001)
SQL in a Nutshell
ISBN 1565927443
This great little book is like a Rosetta stone for SQL. It covers the basics of SQL Server, MySQL, PostgreSQL, and oracle all in one tiny little reference book. This is not a tutorial, but a pure reference work weighing in at 214 pages. The coverage is not deep, but the common stuff is all to be found. The organization is fine and the presentation is relatively clear.
(Highly Recommended)

[Costales 2003] Bryan Costales (2003)
sendmail 3rd Ed.
ISBN 1565928393
This is the most comprehensive guide to sendmail ever assembled. Unlike the 2nd edition, this book has dramatically less tutorial information and much more technical detail. The style is clear and to the point and makes a good reference. This is a must have book for the sendmail administrator.
(Very Highly Recommended – BIC)

[Cohen 2002] Joel S. Cohen (2002)
Computer Algebra and Symbolic Computation: Computer Algebra and Symbolic Computation Hardcover Ed.
ISBN 1568811586
This work is a solid, elementary, and gentle (perhaps too gentle) introduction to the topic of computer symbolic algebra. The focus is quite tight on the traditional computer algebra system or CAS. This volume covers the more mechanical aspects of the topic while Cohen's second volume [**?**] covers the more mathematical side of the subject.

(Highly Recommended – RR)

[Cohen 2003]   Joel S. Cohen (2003)
Computer Algebra and Symbolic Computation: Computer Algebra and Symbolic Computation Hardcover Ed.
ISBN 1568811594
The sequel to Cohen's previous work [Cohen 2002] on the same subject. This volume provides a good introduction to the more mathematical side of computer symbolic algebra that was ignored in the first volume. The fundamental, but deceptively tricky, subject of automatic simplification is covered in detail. Also covered is a relatively modern approach to polynomial factorization. Overall the presentation is clear, the exercises are good, and the material is well organized.
(Highly Recommended – RR)

[Carlin 00]   Bradley Carlin & Thomas Louis (2000)
Bayes and Empirical Bayes Methods for Data Analysis 2nd Ed.
ISBN 1584881704
This book provides a fresh and practical introduction to using Bayes methods for data analysis. Mathematically the work is sound but not very deep. This is a great book for someone wishing to apply the methods to real world problems. This is also a good introduction to the subject for someone new to the topic.
(Recommended)

[Pham 2000]   D.T. Pham & D. Karaboga (2000)
Intelligent Optimization Techniques: Intelligent Optimization Techniques
ISBN 1852330287
This little book provides the reader with a concise introduction to several modern optimization techniques. The treatment is not very deep or rigorous; however, it is more than complete enough to give the reader the basic tools required to implement trivial optimizers or to understand the operation of sophisticated ones. The example code is a bit flaky. Not the book for an expert, but highly recommended for the novice or manager wanting a basic understanding.
(Highly Recommended)

[Delbeek and Sprung 1994] J. Charles Delbeek & Julian Sprung (1994)
The Reef Aquarium: The Reef Aquarium
ISBN 1883693128
This is the first volume in The Reef Aquarium series
[Delbeek and Sprung 1994], [Delbeek and Sprung 1997], and
[Sprung 2005]. This collection is the bible for reef aquarium keepers
world wide. While very practical and full of how-to information, this book
also cover the theoretical aspects necessary to understand how things
work. This allows the reader to take the next steps by themselves and
develop new techniques when the need arises. An example of this deeper
understanding is in the significant amount of reef biology is presented. I
can not recommend this book, the entire set in fact, too highly - both for
aquarium keepers and anyone interested in reef biology.
(Very Highly Recommended – BIC)

[Delbeek and Sprung 1997] Julian Sprung & J. Charles Delbeek (1997)
The Reef Aquarium: The Reef Aquarium
ISBN 1883693136
This is the second volume in The Reef Aquarium series
[Delbeek and Sprung 1994], [Delbeek and Sprung 1997], and
[Sprung 2005]. This collection is the bible for reef aquarium keepers
world wide. This second volume focuses on anemones and soft corals. Like
the first book, a significant focus is placed on biology and science, but an
abundance of practical advice is is alos to be found within this work. I
can not recommend this book, the entire set in fact, too highly - both for
aquarium keepers and anyone interested in reef biology.
(Very Highly Recommended – BIC)

[Sprung 2005] Julian Sprung (2005-11-25)
The Reef Aquarium: The Reef Aquarium
ISBN 1883693144
This is the third volume in The Reef Aquarium series
[Delbeek and Sprung 1994], [Delbeek and Sprung 1997], and
[Sprung 2005]. This collection is the bible for reef aquarium keepers
world wide. This volume dives deeply into the science of reef aquarium, but
it also provides substantial practical information about things like support
equipment operation and selection. Finally this volume also provides
extensive coverage of the more delicate aspects of system design including
theaesthetic aspects, ease of upkeep, fitting an aquarium into your home
(aesthetic and the plumbing too), and much more. I can not recommend
this book, the entire set in fact, too highly - both for aquarium keepers
and anyone interested in reef biology.
(Very Highly Recommended – BIC)

[Quarteroni 2007] Alfio M. Quarteroni et al. (2007)
 Numerical Mathematics 2nd Ed.
 ISBN 3540346589
 This book is a comprehensive introduction to numerical analysis that in-
 cludes many topics frequently missing from introductory texts. The se-
 lection of topics is complete, the exposition is clear, the proofs well con-
 structed, and the exercises well thought out. That said, the prose is a bit
 terse in places, and can sometimes be a bit less precise than I would prefer.
 This can be a very difficult book for beginners or readers with insufficient
 mathematical preparation. After reading this book, the reader is capable of
 implementing real software and understanding how it works. Unlike most
 numerical analysis books, this one uses MATLAB for example implemen-
 tations and experiments – I think this is actually a disadvantage. The code
 is highly reliable.
 (Very Highly Recommended)

[Prasolov 2004] Victor V. Prasolov (2004)
 Polynomials
 ISBN 3540407146
 Prasolov's book is one of the best books on general polynomial theory
 available today. The topics are carefully selected from the vast theory of
 polynomials, and are masterfully woven together into a cohesive tapestry
 providing a good view of the overall landscape of the subject. Unfortunately
 the amount of material covered necessitates rather shallow coverage of many
 topics, but the shallow areas are accompanied by high quality suggestions
 for additional reading. The presentation is always clear and rigorous. The
 exercises are interesting. This one is a real page turner, and is hard to put
 down.
 (Very Highly Recommended – BIC)

[Collins & Grigorchuk & Kurchanov & Zieschang 98] D.J. Collins et al. (1998)
 Combinatorial Group Theory and Applications to Geometry
 ISBN 3540637044
 This is another great book about combinatorial group theory. This text
 could form the basis of a solid graduate class on the subject. The prose is
 easy to understand, the proofs are clear and mostly complete, the exercises
 are thoughtful, and the organization is quite good.
 (Very Highly Recommended)

[Rade & Westergren 99] Lennart Rade & Bertil Westergren (1999)
 Mathematics Handbook: Mathematics Handbook 4th Ed.
 ISBN 3540655697
 This is one of the best mathematical handbooks available. The organization
 is superior, the selection of topics is exceptional, and the depth is better
 than average for such a work. I keep a copy at work and at home.
 (Very Highly Recommended)

[Varga 62]   Richard Varga (1962)
                  Matrix Iterative Analysis
                  ISBN 3540663215

                  This little book is truly a classic. It is easy to understand and well orga-
                  nized. This is not the book to read for a modern perspective; however, it
                  provides a wonderful glimpse into the historical development of matrix it-
                  erative methods. For a more modern and complete treatment, consider the
                  book by Yousef Saad.
                  (Highly Recommended)

[Weihrauch 00] Klaus Weihrauch (2000)
                  Computable Analysis: Computable Analysis
                  ISBN 3540668179

                  This book is well written and a fun read. It is best read by someone with
                  a fair amount of background in information theory or the theory of com-
                  putation; however, such a background is not required. Several examples of
                  problems not typically associated with information theory are considered
                  and analyzed.
                  (Very Highly Recommended)

[Kreuzer & Robbiano 00] Martin Kreuzer & Lorenzo Robbiano (2000)
                  Computational Commutative Algebra 1
                  ISBN 354067733X

                  This text is a very readable work that every practitioner in the field should
                  read at least once! This is not the ONLY book one should have on the shelf
                  as it is not a self contained introduction to the subject, but rather a wonder-
                  ful companion to more traditional texts like [Cox & Little & O'Shea 1991],
                  [Adams & Loustaunau 94] or [Becker & Weispfenning 93]. This text spends
                  considerable time on the more practical aspects of the subject and has many
                  examples of using the CoCoA tool – just what is missing in most standard
                  texts. One of the things I really like about this text is that everything is
                  stated in terms of modules – not rings as is typical.
                  (Very Highly Recommended)

[Baumslag 93] Gilbert Baumslag (1993)
                  Topics in Combinatorial Group Theory
                  ISBN 3764329211

                  This is an absolutely marvelous text covering a well selected group of topics
                  in combinatorial group theory. This book could easily form the basis of a
                  good graduate class on combinatorial group theory, but would be more
                  suitable as a supplementary text for such a class. The work is easy to read
                  and understand. Not much of a bibliography is provided and a few named
                  theorems are missing references; however, the presentation is quite careful.
                  (Very Highly Recommended)

[Milovanovic & Mitrinovic & Rassias 1994] G. V. Milovanovic et al. (1994)
Topics in Polynomials: Topics in Polynomials Hardcover Ed.
ISBN 981020499X

This is a truly wonderful book about polynomials that contains many results that are quite difficult to find elsewhere. The exposition is a bit terse, but always clear and rigorous. The organization is well thought out, and the use of notation and terminology is consistent throughout the work. The exercises range from easy to very challenging, and a few real gems.
(Very Highly Recommended – BIC)

[Hille 62]   Einar Hille (1962)
Analytic Function Theory Vol II
Web Link

This is the second volume of classic text covering a classical topic. If you are lucky enough to find this old text, then buy it for your library! The coverage is excellent, the exposition is clear and precise, the exercises are great, and the attention to detail is refreshing. The level of mathematical maturity required to read this book is a bit higher than a typical introduction to complex analysis.
(Very Highly Recommended)

[Hille 59]   Einar Hille (1959)
Analytic Function Theory Vol I
Web Link

This is the first volume of classic text covering a classical topic. If you are lucky enough to find this old text, then buy it for your library! The coverage is excellent, the exposition is clear and precise, the exercises are great, and the attention to detail is refreshing. The level of mathematical maturity required to read this book is a bit higher than a typical introduction to complex analysis.
(Very Highly Recommended)

[Neinken 1964] Mortimer L. Neinken (1964)
The 1851-57 Twelve Cent Stamp
Web Link

This small book is a concise introduction to the twelve cent stamp of 1851-57. It contains a wealth of general information as well as very useful plating information.
(Highly Recommended)

[Cleveland 79] W.S. Cleveland (1979)
Robust locally weighted regression and smoothing scatterplots
Web Link

This journal article describes for the first time the procedure known today as LOWESS. This procedure is covered in several books including Loader's wonderful work. Most modern statical software packages support this procedure today.
(Recommended)

[Herst 1963]   Herman Herst, Jr (1963)
                19th Century United States Fancy Cancellations: 19th Century United States Fancy Cancellations 3rd Revised Ed.
                Web Link
                This work is really the first truly useful general catalog of post marks. It is still very usable today, but more recent books contain more information.
                (Highly Recommended)

[Morris 2001]   Richard M. Morris
                Specialized Color Guides for United States Stamps
                Web Link
                This indispensable work is the best way to evaluate the fine color variations on US stamps without an extensive reference collection of known genuine stamps with which to compare. The pages have actual Munsell color chips glued to them to insure that the colors represented are accurate and will stand the test of time. A more modern version of this book is currently available from Scott Publishing.
                (Very Highly Recommended – BIC)

[Schmid 1990]   Paul W. Schmid (1990)
                The Expert's Book: The Expert's Book
                Web Link
                This is hands down absolutely the best book covering the Washington/Franklin series of 1908-1923. No better reference can be found today. The text is well written, and easy to understand. The images are large and detailed. The only problem this book presents to the reader is the use of 1990 vintage Scott Catalogue numbers – which Scott likes to change every year.
                (Very Highly Recommended – BIC)

[Ashbrook 1926] Stanley B. Ashbrook (1926)
                The Types and Plates of the U.S. One Cent 1851-1857
                Web Link
                This work is not as complete as Chase's book; however, it is very clear and concise. It is full of good information, and worth owning for anyone interested in this particular postage stamp.
                (Very Highly Recommended)

[Simpson 1959] Tracy W. Simpson (1959)
                United States Postal markings and Related mail Services 1851 to 1861
                Web Link
                This book is harder to use than more recent works on the same subject because of it's organization and poor index; however, it is quite valuable because it contains much information not found in more recent works.
                (Highly Recommended – RR)