Math2111 Higher Several Variable Calculus

Elementary Topology: A Combinatorial and Algebraic Approach focuses on the application of algebraic methods to topological concepts and theorems. The publication first elaborates on some examples of surfaces and their classifications. Discussions focus on combinatorial invariants of a surface, combinatorial equivalence, surfaces and their equations, topological surfaces, coordinates on a sphere and torus, and properties of the sphere and torus. The text then examines complex conics and covering surfaces and mappings into the sphere, including applications of the winding number in complex analysis, mappings into the plane, winding number of a plane curve, covering surfaces, and complex conies. The book examines vector fields, network topology, and three-dimensional topology. Topics include topological products and fiber bundles, manifolds of configurations, paths, circuits, and trees, vector fields and hydrodynamics, vector fields on a sphere, and vector fields and differential equations. The publication is highly recommended for sophomores, juniors, and seniors who have completed a year of calculus.

Fortran remains one of the principal languages used in scientific, numerical, and engineering programming, and a series of revisions to the standard versions of the language have progressively enhanced its power. The latest standard - Fortran 2003 - greatly extends the power of the language, by introducing object-oriented concepts, interoperability with C, better integration with operating systems and many other enhancements. This text details all these new features. Fortran 95/2003 Explained, significantly expands on the second edition of Fortran 90/95 Explained (also published by Oxford University Press): the opening chapters contain a complete description of the Fortran 95 language and are followed by descriptions of three formally approved extensions; six completely new chapters describe in detail the features that are new in Fortran 2003, but the distinction between the various language levels is kept clear throughout. Authored by three leading experts in the development of the language, this is a complete and authoritative description of the two languages (Fortran 95 and Fortran 2003). It is intended for new and existing users of Fortran, and for all those involved in scientific and numerical computing. It is suitable as textbook for teaching and, with its extensive index, as a handy reference for practitioners.

For over half a century Davidson's Principles and Practice of Medicine has informed and educated students, doctors and other health professionals all over the world, providing a comprehensive account of the practice of medicine. Davidson's Essentials of Medicine provides the core content of the main textbook in a condensed format which will be invaluable whenever you are on the move – whether commuting, travelling between training sites, or on electives. This book provides a distillation of the core information required for clinical studies in medicine. While retaining the acclaimed readability of the main textbook it presents the key information in a format more appropriate for practical clinical work. The contents have been carefully selected by a team of junior doctors, emphasising only the topics that will be essential for clinical studies. The book includes additional chapters of content to aid clinical practice including a practically-focussed chapter on therapeutics and a useful guide to interpreting major clinical investigations. The text draws directly on the depth and breadth of experience of the Davidson's authors and its International Advisory Board. Updated to include key changes and new illustrations included in Davidson's Principles and Practice of Medicine.

Collecting results scattered throughout the literature into one source, An Introduction to Quasigroups and Their Representations shows how representation theories for groups are capable of extending to general quasigroups and illustrates the added depth and richness that result from this extension. To fully understand representation theory,

Writing Scientific Software

Law and Justice in Australia

Microbial Biodegradation of Xenobiotic Compounds

Calculus: One and Several Variables, 10th Edition

Differential Forms

Modern Auditing & Assurance Services, 6th edition, is written for courses in auditing and assurance at undergraduate, postgraduate and professional levels. The practice of auditing is explained in the context of auditing theory, concepts and current practice, with appropriate reference to the Australian auditing standards and the respective international standards on auditing. Auditors play a vital role in the current economic environment, with increasing responsibility for ensuring market integrity. The development of auditing practice reflects how the accounting profession responds to the complex demands of information, competition, corporate failures and technology. Auditing continues to evolve in response to the changing business and regulatory landscape to maintain its relevance and importance. This book is a comprehensive guide to the development and practice of audits of a financial report, with an authoritative insight into the fundamental role of auditors, the influences on audits, and related issues.

Knopp's engaging book presents an introduction to modular functions in number theory by concentrating on two modular functions, $\eta(\tau)$ and $\vartheta(\tau)$, and their applications to two number-theoretic functions, $p(n)$ and $r_s(n)$. They are well chosen, as at the heart of these particular applications to the treatment of these specific number-theoretic functions lies the general theory of automorphic functions, a theory of far-reaching significance with important connections to a great many fields of mathematics. The book is essentially self-contained, assuming only a good first-year course in analysis. The excellent exposition presents the beautiful interplay between modular forms and number theory, making the book an excellent introduction to analytic number theory for a beginning graduate student. Table of Contents: The Modular Group and Certain Subgroups: 1. The modular group; 2. A fundamental region for $\Gamma(1)$; 3. Some subgroups of $\Gamma(1)$; 4. Fundamental regions of subgroups. Modular Functions and Forms: 1. Multiplier systems; 2. Parabolic points; 3 Fourier expansions; 4. Definitions of modular function and modular form; 5. Several important theorems. The Modular Forms $\eta(\tau)$ and $\vartheta(\tau)$: 1. The function $\eta(\tau)$; 2. Several famous identities; 3. Transformation formulas for $\eta(\tau)$; 4. The function $\vartheta(\tau)$. The Multiplier Systems υ_{η} and υ_{ϑ}: 1. Preliminaries; 2. Proof of theorem 2; 3. Proof of theorem 3. Sums of Squares: 1. Statement of results; 2. Lipschitz summation formula; 3. The function $\psi_s(\tau)$; 4. The expansion of $\psi_s(\tau)$ at -1; 5. Proofs of theorems 2 and 3; 6. Related results. The Order of Magnitude of $p(n)$: 1. A simple inequality for $p(n)$; 2. The asymptotic formula for $p(n)$; 3. Proof of theorem 2. The Ramanujan Congruences for $p(n)$: 1. Statement of the congruences; 2. The functions $\Phi_{p, r}(\tau)$ and $h_p(\tau)$; 3. The function $s_{p, r}(\tau)$; 4. The congruence for $p(n)$ Modulo 11; 5. Newton's formula; 6. The modular equation for the prime 5; 7. The modular equation for the prime 7.

Proof of the Ramanujan Congruences for Powers of 5 and 7: 1. Preliminaries; 2. Application of the modular equation; 3. A digression: The Ramanujan identities for powers of the prime 5; 4. Completion of the proof for powers of 5; 5.Start of the proof for powers of 7; 6. A second digression: The Ramanujan identities for powers of the prime 7; 7. Completion of the proof for powers of 7. Index. (CHEL/337.H

Get the essential tools for your courses in engineering, math, and science. MATLAB(r) is a high-level language and interactive environment that lets you focus on your course work and applications, rather than on programming details. It enables you to solve many numerical problems in a fraction of the time it takes to write a program in a lower-level language such as Java, C, C++, or Fortran. You can also use MATLAB to analyze and visualize data using automation capabilities, thereby avoiding the manual repetition common with other products. The MATLAB in Student Version provides all the features and capabilities of the professional version of MATLAB software, with no limitations. There are a few small differences between the Student Version interface and the professional version of MATLAB: * The MATLAB prompt in Student Version is EDU * Printouts contain this footer: Student Version of MATLAB For more information on this product please visit the MathWorks website: http: //www.mathworks.com/academia/student_version/index.html IMPORTANT NOTE: Proof of student status is required for activation of license

On October 23, 2001, Apple Computer, a company known for its chic, cutting-edge technology -- if not necessarily for its dominant market share -- launched a product with an enticing promise: You can carry an entire music collection in your pocket. It was called the iPod. What happened next exceeded the company's wildest dreams. Over 50 million people have inserted the device's distinctive white buds into their ears, and the iPod has become a global obsession. The Perfect Thing is the definitive account, from design and marketing to startling impact, of Apple's iPod, the signature device of our young century. Besides being one of the most successful consumer products in decades, the iPod has changed our behavior and even our society. It has transformed Apple from a computer company into a consumer electronics giant. It has remolded the music business, altering not only the means of distribution but even the ways in which people enjoy and think about music. Its ubiquity and its universally acknowledged coolness have made it a symbol for the digital age itself, with commentators remarking on "the iPod generation." Now the iPod is beginning to transform the broadcast industry, too, as podcasting becomes a way to access radio and television programming. Meanwhile millions of Podheads obsess about their gizmo, reveling in the personal soundtrack it offers them, basking in the social cachet it lends them, even wondering whether the device itself has its own musical preferences. Steven Levy, the chief technology correspondent for Newsweek magazine and a longtime Apple watcher, is the ideal writer to tell the iPod's tale. He has had access to all the key players in the iPod story, including Steve Jobs, Apple's charismatic cofounder and CEO, whom Levy has known for over twenty years. Detailing for the first time the complete story of the creation of the iPod, Levy explains why Apple succeeded brilliantly with its version of the MP3 player when other companies didn't get it right, and how Jobs was able to convince the bosses at the big record labels to license their music for Apple's groundbreaking iTunes Store. (We even learn why the iPod is white.) Besides his inside view of Apple, Levy draws on his experiences covering Napster and attending Supreme Court arguments on copyright (as well as his own travels on the iPod's click wheel) to address all of the fascinating issues -- technical, legal, social, and musical -- that the iPod raises. Borrowing one of the definitive qualities of the iPod itself, The Perfect Thing shuffles the book format. Each chapter of this book was written to stand on its own, a deeply researched, wittily observed take on a different aspect of the iPod. The sequence of the chapters in the book has been shuffled in different copies, with only the opening and concluding sections excepted. "Shuffle" is a hallmark of the digital age -- and The Perfect Thing, via sharp, insightful reporting, is the perfect guide to the deceptively diminutive gadget embodying our era.

Constructive and Resulting Trusts

New Testament Greek I

Financial Accounting

Love and Honour and Pity and Pride and Compassion and Sacrifice:Penguin Specials

Tort Law in Hong Kong

A young Vietnamese-Australian named Nam, in his final year at the famed Iowa Writers' Workshop, is trying to find his voice on the page. When his father, a man with a painful past, comes to visit, Nam's writing and sense of self are both deeply changed. Love and Honour and Pity and Pride and Compassion and Sacrifice is a deeply moving story of identity, family and the wellsprings of creativity, from Nam Le's multi-award-winning collection The Boat. 'A tight and densely emotional journey that sucked me in and contained as much power as the lengthy title.' Killings, the Kill Your Darlings blog

Wiley is proud to publish a new revision of this successful classic text known for its elegant writing style, precision and perfect balance of theory and applications. The Tenth Edition is refined to offer students an even clearer understanding of calculus and insight into mathematics. It includes a wealth of rich problem sets which makes calculus relevant for students. Salas/Hille/Etgen is recognized for its mathematical integrity, accuracy, and clarity.

This book contains expository papers that give an up-to-date account of recent developments and open problems in the geometry and topology of manifolds, along with several research articles that present new results appearing in published form for the first time. The unifying theme is the problem of understanding manifolds in low dimensions, notably in dimensions three and four, and the techniques include algebraic topology, surgery theory, Donaldson and Seiberg-Witten gauge theory, Heegaard Floer homology, contact and symplectic geometry, and Gromov-Witten invariants. The articles collected for this volume were contributed by participants of the Conference "Geometry and Topology of Manifolds" held at McMaster University on May 14-18, 2004 and are representative of the many excellent talks delivered at the conference.

This up-to-date survey of the whole field of topology is the flagship of the topology subseries of the Encyclopaedia. The book gives an overview of various subfields, beginning with the elements and

proceeding right up to the present frontiers of research.
The Perfect Thing
Accounting Business and Society
Foundations of the Legal System
Chemistry
An Integrated Approach
Chemistry, science, stoichiometry, thermodynamics, organic chemistry.

Foreword by Dr. Asad Madni, C. Eng., Fellow IEEE, Fellow IEE Learn the fundamentals of RF and microwave electronics visually, using many thoroughly tested, practical examples RF and microwave technology are essential throughout industry and to a world of new applications-in wireless communications, in Direct Broadcast TV, in Global Positioning System (GPS), in healthcare, medical and many other sciences. Whether you're seeking to strengthen your skills or enter the field for the first time, Radio Frequency and Microwave Electronics Illustrated is the fastest way to master every key measurement, electronic, and design principle you need to be effective. Dr. Matthew Radmanesh uses easy mathematics and a highly graphical approach with scores of examples to bring about a total comprehension of the subject. Along the way, he clearly introduces everything from wave propagation to impedance matching in transmission line circuits, microwave linear amplifiers to hard-core nonlinear active circuit design in Microwave Integrated Circuits (MICs). Coverage includes: A scientific framework for learning RF and microwaves easily and effectively Fundamental RF and microwave concepts and their applications The characterization of two-port networks at RF and microwaves using S-parameters Use of the Smith Chart to simplify analysis of complex design problems Key design considerations for microwave amplifiers: stability, gain, and noise Workable considerations in the design of practical active circuits: amplifiers, oscillators, frequency converters, control circuits RF and Microwave Integrated Circuits (MICs) Novel use of "live math" in circuit analysis and design Dr. Radmanesh has drawn upon his many years of practical experience in the microwave industry and educational arena to introduce an exceptionally wide range of practical concepts and design methodology and techniques in the most comprehensible fashion. Applications include small-signal, narrow-band, low noise, broadband and multistage transistor amplifiers; large signal/high power amplifiers; microwave transistor oscillators, negative-resistance circuits, microwave mixers, rectifiers and detectors, switches, phase shifters and attenuators. The book is intended to provide a workable knowledge and intuitive understanding of RF and microwave electronic circuit design. Radio Frequency and Microwave Electronics Illustrated includes a comprehensive glossary, plus appendices covering key symbols, physical constants, mathematical identities/formulas, classical laws of electricity and magnetism, Computer-Aided-Design (CAD) examples and more. About the Web Site The accompanying web site has an "E-Book" containing actual design examples and methodology from the text, in Microsoft Excel environment, where files can easily be manipulated with fresh data for a new design.

Microbial Biodegradation of Xenobiotic Compounds examines and collects the recent information on the bioremediation technologies around the world. This book focuses on methods to decrease pollutants created by anthropogenic activities, industrial activities, and agricultural activities. This book answers some of the questions about – how to reduce contaminants? And whether there is a possibility of converting these pollutants in to useful energy by advanced biotechnological methods? The book combines present obtainable data with the expert knowledge of researchers from all over the world covering different aspects of environmental biotechnology and microbiology. It covers basic concepts of bioremediation and various methods involved in the bioremediation process, and provides specific chapters on the role of different genes and enzymes involved in microbial bioremediation process. It also gives special attention to heavy metal bioremediation by microalgae and the mechanisms involved during the degradation process. Recent innovative technologies about converting toxic pollutants in to useful energy like bioplastics and electricity are also discussed by specialist authors. Various chapters address the bioremediation of pesticides in soil using microbial metabolites, and molecular aspects of biodegradation which cover topics including identification of novel genes through the metagenomic approach and bioremediation using fungal laccase enzymes.

The core of scientific computing is designing, writing, testing, debugging and modifying numerical software for application to a vast range of areas: from graphics, meteorology and chemistry to engineering, biology and finance. Scientists, engineers and computer scientists need to write good code, for speed, clarity, flexibility and ease of re-use. Oliveira and Stewart's style guide for numerical software points out good practices to follow, and pitfalls to avoid. By following their advice, readers will learn how to write efficient software, and how to test it for bugs, accuracy and performance. Techniques are explained with a variety of programming languages, and illustrated with two extensive design examples, one in Fortran 90 and one in C++: other examples in C, C++, Fortran 90 and Java are scattered throughout the book. This manual of scientific computing style will be an essential addition to the bookshelf and lab of everyone who writes numerical software.

Elementary Topology
Mathematical Writing
Mathematical Discovery on Understanding, Learning and Teaching Problem Solving, Volumes I and II
An Introduction to Quasigroups and Their Representations
Radio Frequency and Microwave Electronics Illustrated
The fundamental mathematical tools needed to understand machine learning include linear algebra,

analytic geometry, matrix decompositions, vector calculus, optimization, probability and statistics. These topics are traditionally taught in disparate courses, making it hard for data science or computer science students, or professionals, to efficiently learn the mathematics. This self-contained textbook bridges the gap between mathematical and machine learning texts, introducing the mathematical concepts with a minimum of prerequisites. It uses these concepts to derive four central machine learning methods: linear regression, principal component analysis, Gaussian mixture models and support vector machines. For students and others with a mathematical background, these derivations provide a starting point to machine learning texts. For those learning the mathematics for the first time, the methods help build intuition and practical experience with applying mathematical concepts. Every chapter includes worked examples and exercises to test understanding. Programming tutorials are offered on the book's web site.
This book represents the refereed proceedings of the Eighth International Conference on Monte Carlo (MC)and Quasi-Monte Carlo (QMC) Methods in Scientific Computing, held in Montreal (Canada) in July 2008. It covers the latest theoretical developments as well as important applications of these methods in different areas. It contains two tutorials, eight invited articles, and 32 carefully selected articles based on the 135 contributed presentations made at the conference. This conference is a major event in Monte Carlo methods and is the premiere event for quasi-Monte Carlo and its combination with Monte Carlo. This series of proceedings volumes is the primary outlet for quasi-Monte Carlo research.
Mathematical WritingSpringer
"Free access to instantly scored online practice!"--Cover.
Digital Nets and Sequences
Discrepancy Theory and Quasi-Monte Carlo Integration
Christianity and Culture in Dialogue
Programmer's Guide to Fortran 90
Modern Auditing & Assurance Services
Written by members of the Fortran 90ISO and ANSI committees, this book is the source of the most important information about the powerful new Fortran 90 programming language. All of the important new features of Fortran 90 are covered with examples, and case studies are used to illustrate the practical use of features.
The book is an introductory textbook mainly for students of computer science and mathematics. Our guiding phrase is "what every theoretical computer scientist should know about linear programming". A major focus is on applications of linear programming, both in practice and in theory. The book is concise, but at the same time, the main results are covered with complete proofs and in sufficient detail, ready for presentation in class. The book does not require more prerequisites than basic linear algebra, which is summarized in an appendix. One of its main goals is to help the reader to see linear programming "behind the scenes".
There already exist a number of excellent graduate textbooks on the theory of differential forms as well as a handful of very good undergraduate textbooks on multivariable calculus in which this subject is briefly touched upon but not elaborated on enough.The goal of this textbook is to be readable and usable for undergraduates. It is entirely devoted to the subject of differential forms and explores a lot of its important ramifications.In particular, our book provides a detailed and lucid account of a fundamental result in the theory of differential forms which is, as a rule, not touched upon in undergraduate texts: the isomorphism between the ?ech cohomology groups of a differential manifold and its de Rham cohomology groups.
Indispensable for students, invaluable for researchers, this comprehensive treatment of contemporary quasi-Monte Carlo methods, digital nets and sequences, and discrepancy theory starts from scratch with detailed explanations of the basic concepts and then advances to current methods used in research. As deterministic versions of the Monte Carlo method, quasi-Monte Carlo rules have increased in popularity, with many fruitful applications in mathematical practice. These rules require nodes with good uniform distribution properties, and digital nets and sequences in the sense of Niederreiter are known to be excellent candidates. Besides the classical theory, the book contains chapters on reproducing kernel Hilbert spaces and weighted integration, duality theory for digital nets, polynomial lattice rules, the newest constructions by Niederreiter and Xing and many more. The authors present an accessible introduction to the subject based mainly on material taught in undergraduate courses with numerous examples, exercises and illustrations.
Fortran 95/2003 Explained
Complex Analysis for Mathematics and Engineering
Penguin Specials
Davidson's Essentials of Medicine E-Book
Understanding and Using Linear Programming
The F programming language is a dramatic new development in scientific programming. Building on the well-established strengths of the Fortran family of languages, it is carefully crafted to be both safe and regular, whilst retaining the enormously powerful numerical capabilities of its parentlanguage, Fortran 90, as well as its data abstraction capability. Thus, an array language becomes available as part of a medium-size, widely-available language for the first time. In this respect, the language is clearly superior to older ones such as Pascal, C, and Basic. The book begins with anintroductory chapter, then

describes, in turn, the features of the language: language elements, expressions and assignments, control constructs, program units and procedures, array features, intrinsic procedures, and the input/output facilities. It is completed by six appendices, including thedifference between F and Fortran 90, and solutions to most of the exercises. In the absence of a formal standard for F, this book is the defining document for the language, setting out the complete syntax and semantics of the language in a readable but thorough way. It is essential reading forusers of F.

This text provides a balance between pure (theoretical) and applied aspects of complex analysis. The many applications of complex analysis to science and engineering are described, and this third edition contains a historical introduction depicting the origins of complex numbers.

This fifth edition of Trotmana s Financial Accounting: An Integrated Approach incorporates comprehensive coverage of new issues in sustainability with a new chapter dedicated to current and emerging issues, while building upon the approachable, user-friendly, Australian-focussed style of previous editions. This new edition continues to provide students with a detailed understanding of the accounting framework in a balanced and engaging approach that provides non-accounting majors with enough details to understand and analyse company financial statements and provides accounting majors with a sound basis for future studies in accounting. Drawing on topical source documents and newspaper articles, Financial Accounting: An Integrated Approach makes accounting interesting and relevant.

Law and Justice in Australia is an 'introduction to law' textbook with a difference. It takes an historical, critical and contextual approach to law and justice and offers students a mix of stories, cases, article extracts and explanatory commentary with which to engage. This, with the author's natural narrative writing style, encourages students to develop an in-depth understanding of the legal system and creates a sound basis for further law study.

Modular Functions in Analytic Number Theory

MATLAB and Simulink Student Version R2012a

How the iPod Shuffles Commerce, Culture, and Coolness

Calculus of Vector Functions

Why Numeracy Matters for Schools and Colleges

Constructive and resulting trusts have a long history in English law, and the law which governs them continues to develop as they are pressed into service to perform a wide variety of different functions, for example, to support the working of express trusts and other fiduciary relationships, to allocate family property rights, and to undo the consequences of commercial fraud. However, while their conceptual flexibility makes them enormously useful, it also makes them hard to understand. In the twelve essays collected in this volume, the authors shed new light on various aspects of the law governing constructive and resulting trusts, revisiting current controversies, bringing new historical material to the fore, and offering new theoretical perspectives.

This book teaches the art of writing mathematics, an essential -and difficult- skill for any mathematics student. The book begins with an informal introduction on basic writing principles and a review of the essential dictionary for mathematics. Writing techniques are developed gradually, from the small to the large: words, phrases, sentences, paragraphs, to end with short compositions. These may represent the introduction of a concept, the abstract of a presentation or the proof of a theorem. Along the way the student will learn how to establish a coherent notation, mix words and symbols effectively, write neat formulae, and structure a definition. Some elements of logic and all common methods of proofs are featured, including various versions of induction and existence proofs. The book concludes with advice on specific aspects of thesis writing (choosing of a title, composing an abstract, compiling a bibliography) illustrated by large number of real-life examples. Many exercises are included; over 150 of them have complete solutions, to facilitate self-study. Mathematical Writing will be of interest to all mathematics students who want to raise the quality of their coursework, reports, exams, and dissertations.

A unique, heuristic approach to mathematical discovery and problem solving This combined edition of Mathematical Discovery: On Understanding, Learning and Teaching Problem Solving is unique among mathematics texts. Espousing a heuristic approach to mathematical problem solving, the text may be followed sequentially or according to instructors' individualized curricula. Beginning with a discussion of patterns and practical approaches to problem solving, the book then presents examples from various branches of math and science to help students discover how to solve problems on their own – an invaluable skill for the classroom and beyond.

Introduction to High Performance Scientific Computing

Strategic Marketing

A Combinatorial and Algebraic Approach

Programming in Fortran 90

A Guide to Good Style