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Introductory Linear Algebra with Applications   Elementary Linear Algebra   Elementary Linear Algebra with Applications   Outlines and Highlights for Elementary Linear Algebra with Applications by Bernard Kolman, Isbn   Studyguide for Family Therapy   Introductory Linear Algebra   Elementary Linear Algebra with Applications (Classic Version)   Elementary Linear Algebra with Applications   A Course in Linear Algebra with Applications   MATRIX AND LINEAR ALGEBRA AIDED WITH MATLAB   Linear Algebra: Volume 2   A course in Linear Algebra with Applications   Linear Algebra   Answers to Selected Problems in Multi-Variable Calculus with Linear Algebra and Series   Functional Linear Algebra   Challenges and Strategies in Teaching Linear Algebra   Invitation to Linear Algebra   A First Course in Linear Algebra   Numerical Linear Algebra   Mathematics for Engineers II   Linearity and the Mathematics of Several Variables   Algebraic and Differential Methods for Nonlinear Control Theory   Handbook of Linear Algebra   Introduction To Linear Algebra   Introduction to Numerical Linear Algebra and Optimisation   Multivariable and Vector Calculus   College Algebra' 2006 Ed.   Mathematical Foundations for Linear Circuits and Systems in Engineering   Experiments in Computational Matrix Algebra   Catalog of Copyright Entries. Third Series   Linear Geometry with Computer Graphics   Elementary Differential Equations and Boundary Value Problems   Elementary Differential Equations   Linear Algebra with Applications   Elementary Linear Programming with Applications   Modern Global Seismology   Numerical Linear Algebra   Introduction To Computer Simulations For Integrated Stem College Education   Matrices and Linear Systems (UUM Press)   Hello World

Linear Algebra   Oct 17 2021 This textbook is directed towards students who are familiar with matrices and their use in solving systems of linear equations. The emphasis is on the algebra supporting the ideas that make linear algebra so important, both in theoretical and practical applications. The narrative is written to bring along students who may be new to the level of abstraction essential to a working understanding of linear algebra. The determinant is used throughout, placed in some historical perspective, and defined several different ways, including in the context of exterior algebras. The text details proof of the existence of a basis for an arbitrary vector space and addresses vector spaces over arbitrary fields. It develops LU-factorization, Jordan canonical form, and real and complex inner product spaces. It includes examples of inner product spaces of continuous complex functions on a real interval, as well as the background material that students may need in order to follow those discussions. Special classes of matrices make an entrance early in the text and subsequently appear throughout. The last chapter of the book introduces the classical groups.

Introductory Linear Algebra   May 24 2022 This book presents an introduction to linear algebra and to some of its significant applications. It covers the essentials of linear algebra (including Eigenvalues and Eigenvectors) and shows how the computer is used for applications.Emphasizing the computational and geometrical aspects of the subject, this popular book covers the following topics comprehensively but not exhaustively: linear equations and matrices and their applications; determinants; vectors and linear transformations; real vector spaces; eigenvalues, eigenvectors, and diagonalization; linear programming; and MATLAB for linear algebra.Its useful and comprehensive appendices make this an excellent desk reference for anyone involved in mathematics and computer applications.

Outlines and Highlights for Elementary Linear Algebra with Applications by Bernard

Kolman, Isbn   Jul 26 2022 Never HIGHLIGHT a Book Again! Virtually all of the testable terms, concepts, persons, places, and events from the textbook are included. Cram101 Just the FACTS101 studyguides give all of the outlines, highlights, notes, and quizzes for your textbook with optional online comprehensive practice tests. Only Cram101 is Textbook Specific. Accompanys: 9780132296540 .

   Linear Algebra: Volume 2   Dec 19 2021 Emphasis is placed on applications in preference to more theoretical aspects throughout this readable introduction to linear algebra for specialists as well as non-specialists. An expanded version of A First Course in Linear Algebra.

   Experiments in Computational Matrix Algebra   Jun 01 2020

   Answers to Selected Problems in Multi-Variable Calculus with Linear Algebra and Series   Sep 16 2021

   MATRIX AND LINEAR ALGEBRA AIDED WITH MATLAB   Jan 20 2022 With the inclusion of applications of singular value decomposition (SVD) and principal component analysis (PCA) to image compression and data analysis, this edition provides a strong foundation of linear algebra needed for a higher study in signal processing. The use of MATLAB in the study of linear algebra for a variety of computational purposes and the programmes provided in this text are the most attractive features of this book which strikingly distinguishes it from the existing linear algebra books needed as pre-requisites for the study of engineering subjects. This book is highly suitable for undergraduate as well as postgraduate students of mathematics, statistics, and all engineering disciplines. The book will also be useful to Ph.D. students for relevant mathematical resources.NEW TO THIS EDITION The Third Edition of this book includes: • Simultaneous diagonalization of two diagonalizable matrices • Comprehensive exposition of SVD with applications in shear analysis in engineering • Polar Decomposition of a matrix • Numerical experimentation with a colour and a black-and-white image compression using MATLAB • PCA methods of data analysis and image compression with a list of MATLAB codes

   Elementary Linear Algebra   Sep 28 2022 This introduction to linear algebra offers a balance between abstraction/theory and computational skills. KEY TOPICS: Linear Equations and Matrices. Real Vector Spaces. Inner Product Spaces. Linear Transformations and Matrices. Determinants. Eigenvalues and Eigenvectors. Differential Equations. MATLAB for Linear Algebra. MATLAB Exercises. For anyone needing a basic understanding of matrix theory or computational skills involving linear algebra.

   Hello World   Jun 20 2019 Weitere Informationen zum Buch und zur Autorin finden Sie beim Special Sie sind eines Verbrechens angeklagt. Wer soll über Ihr Schicksal entscheiden? Ein menschlicher Richter oder ein Computer-Algorithmus? Sie sind sich absolut sicher? Sie zögern womöglich? In beiden Fällen sollten Sie das Buch der jungen Mathematikerin und Moderatorin Hannah Fry lesen, das mit erfrischender Direktheit über Algorithmen aufklärt, indem es von Menschen handelt. Algorithmen prägen in wachsendem Ausmaß den Alltag von Konsum, Finanzen, Medizin, Polizei, Justiz, Demokratie und sogar Kunst. Sie sortieren die Welt für uns, eröffnen neue Optionen und nehmen uns Entscheidungen ab - schnell, effektiv, gründlich. Aber sie tun das, ohne zu fragen, und stellen uns vor neue Dilemmata. Vor allem jedoch: Wir neigen dazu, Algorithmen als eine Art Autorität zu betrachten. statt ihre Macht infrage zu stellen. Keine Dimension unserer Welt, in der sie nicht längst Einzug gehalten haben: Algorithmen, diese unscheinbaren Folgen von Anweisungen, die im Internet sowieso, aber auch in jedem Computerprogramm tätig sind, prägen in wachsendem, beängstigendem Ausmaß den Alltag von Konsum, Finanzen, Medizin, Polizei, Justiz, Demokratie und sogar Kunst. Sie sortieren die Welt für uns, eröffnen neue Optionen und nehmen uns Entscheidungen ab - schnell, effektiv, gründlich. Aber sie tun das häufig, ohne uns zu fragen, und sie stellen uns vor neue, keineswegs einfach zu lösende Dilemmata. Vor allem aber: Wir neigen dazu, Algorithmen als eine Art Autorität zu betrachten, statt ihre Macht in Frage zu stellen. Das öffnet Menschen,

die uns ausbeuten wollen, Tür und Tor. Es verhindert aber auch, dass wir bessere Algorithmen bekommen. Solche, die uns bei Entscheidungen unterstützen, anstatt über uns zu verfügen. Die offenlegen, wie sie zu einer bestimmten Entscheidung gelangen. Demokratische, menschliche Algorithmen. Dafür plädiert dieses Buch - zugänglich, unterhaltsam, hochinformativ.

methods Includes extensive references for further reading

Elementary Linear Algebra with Applications Aug 27 2022 This book presents the basic ideas of linear algebra in a manner that users will find understandable. It offers a fine balance between abstraction/theory and computational skills, and gives readers an excellent opportunity to learn how to handle abstract concepts. Included in this comprehensive and easy-to-follow manual are these topics: linear equations and matrices; solving linear systems; real vector spaces; inner product spaces; linear transformations and matrices; determinants; eigenvalues and eigenvectors; differential equations; and MATLAB for linear algebra. Because this book gives real applications for linear algebraic basic ideas and computational techniques, it is useful as a reference work for mathematicians and those in field of computer science.

Introduction To Computer Simulations For Integrated Stem College Education Aug 23 2019 This book is written to introduce computer simulations to undergraduate college students, freshmen to seniors, in STEM fields. The book starts with concepts from Basic Mathematics: Geometry, Algebra and Calculus, Properties of Elementary Functions (Polynomials, Exponential, Hyperbolic and Trigonometric Functions) are studied and simple differential equations representing these functions are derived. Numerical approximations of first and second order differential equations are studied in terms of finite differences on uniform grids. Computer solutions are obtained via recursive relations or solutions of simultaneous algebraic equations. Comparisons with the exact solutions (known a priori) allow the calculations of the error due to discretization. After the students build confidence in this approach, more problems where the solutions are not known a priori are tackled with applications in many fields. Next, the book gradually addresses linear differential equations with variable coefficients and nonlinear differential equations, including problems of bifurcation and chaos.Applications in Dynamics, Solid Mechanics, Fluid Mechanics, Heat Transfer, Chemical Reactions, and Combustion are included. Biographies of 50 pioneering mathematicians and scientists who contributed to the materials of the book are briefly sketched, to shed light on the history of these STEM fields.Finally, the main concepts discussed in the book, are summarized to make sure that the students do not miss any of them. Also, references for further readings are given for interested readers.

Catalog of Copyright Entries. Third Series Apr 30 2020

A First Course in Linear Algebra May 12 2021 This is a short, readable introduction to basic linear algebra, as usually encountered in a first course. The development of the subject is integrated with a large number of worked examples that illustrate the ideas and methods. The format of the book, with text and relevant examples on facing pages means that the reader can follow the text uninterrupted. The student should be able to work through the book and learn from it sequentially. Stress is placed on applications of the methods rather than on developing a logical system of theorems. Numerous exercises are provided.

Matrices and Linear Systems (UUM Press) Jul 22 2019 This book is suitable as a first course for undergraduate students. Matrices and Linear Systems presents the fundamentals of linear algebra. It focuses on the computational part of the linear algebra course. It helps students to have sufficient proficiency to overcome their initial anxiety in reading and writing simple mathematical proofs in a more theoretical part of the course later. Basic concepts are presented along with sufficient computational examples which allow students to follow through the step-by-step solutions at their own pace. Supplementary exercises are included at the end of most chapters, so that students can assess their understanding for the entire corresponding chapter. There is also a guidance in the use of the Microsoft EXCEL software in solving the computational exercises in the last chapter. As a whole, this book serves as an additional self-study aid and will extend students' learning process beyond the limitations of a classroom.

Jun 13 2021 Unlike most books of this type, the book has been organized into "lessons" rather than chapters. This has been done to limit the size of the mathematical morsels that students must digest during each class, and to make it easier for instructors to budget class time. The book contains considerably more material than normally appears in a first course. For example, several advanced topics such as the Jordan canonical form and matrix power series have been included. This was done to make the book more flexible than most books presently available, and to allow instructors to choose enrichment material which may reflect their interests, and those of their students.

Feb 09 2021 Neither a list of theorems and proofs nor a recipe for elementary matrix calculations, this textbook acquaints the student of applied mathematics with the concepts of linear algebra ? why they are useful and how they are used. As each concept is introduced, it is applied to multivariable calculus or differential equations, extending and consolidating the student's understanding of those subjects in the process.

Apr 11 2021 This well-organized text provides a clear analysis of the fundamental concepts of numerical linear algebra. It presents various numerical methods for the basic topics of linear algebra with a detailed discussion on theory, algorithms, and MATLAB implementation. The book provides a review of matrix algebra and its important results in the opening chapter and examines these results in the subsequent chapters. With clear explanations, the book analyzes different kinds of numerical algorithms for solving linear algebra such as the elimination and iterative methods for linear systems, the condition number of a matrix, singular value decomposition (SVD) of a matrix, and linear least-squares problem. In addition, it describes the Householder and Givens matrices and their applications, and the basic numerical methods for solving the matrix eigenvalue problem. Finally, the text reviews the numerical methods for systems and control. Key Features Includes numerous worked-out examples to help students grasp the concepts easily. ? Provides chapter-end exercises to enable students to check their comprehension of the topics discussed. ? Gives answers to exercises with hints at the end of the book. ? Uses MATLAB software for problem-solving. Primarily designed as a textbook for postgraduate students of Mathematics, this book would also serve as a handbook on matrix computations for scientists and engineers.

Dec 07 2020 With a substantial amount of new material, the Handbook of Linear Algebra, Second Edition provides comprehensive coverage of linear algebra concepts, applications, and computational software packages in an easy-to-use format. It guides you from the very elementary aspects of the subject to the frontiers of current research. Along with revisions and

Jul 02 2020 Extensive coverage of mathematical techniques used in engineering with an emphasis on applications in linear circuits and systems Mathematical Foundations for Linear Circuits and Systems in Engineering provides an integrated approach to learning the necessary mathematics specifically used to describe and analyze linear circuits and systems. The chapters develop and examine several mathematical models consisting of one or more equations used in engineering to represent various physical systems. The techniques are discussed in-depth so that the reader has a better understanding of how and why these methods work. Specific topics covered include complex variables, linear equations and matrices, various types of signals, solutions of differential equations, convolution, filter designs, and the widely used Laplace and Fourier transforms. The book also presents a discussion of some mechanical systems that mathematically exhibit the same dynamic properties as electrical circuits. Extensive summaries of important functions and their transforms, set theory, series expansions, various identities, and the Lambert W-function are provided in the appendices. The book has the following features: Compares linear circuits and mechanical systems that are modeled by similar ordinary differential equations, in

order to provide an intuitive understanding of different types of linear time-invariant systems. Introduces the theory of generalized functions, which are defined by their behavior under an integral, and describes several properties including derivatives and their Laplace and Fourier transforms. Contains numerous tables and figures that summarize useful mathematical expressions and example results for specific circuits and systems, which reinforce the material and illustrate subtle points. Provides access to a companion website that includes a solutions manual with MATLAB code for the end-of-chapter problems. Mathematical Foundations for Linear Circuits and Systems in Engineering is written for upper undergraduate and first-year graduate students in the fields of electrical and mechanical engineering. This book is also a reference for electrical, mechanical, and computer engineers as well as applied mathematicians. John J. Shynk, PhD, is Professor of Electrical and Computer Engineering at the University of California, Santa Barbara. He was a Member of Technical Staff at Bell Laboratories, and received degrees in systems engineering, electrical engineering, and statistics from Boston University and Stanford University.

Introductory Linear Algebra with Applications   Oct 29 2022 This book provides an introduction to the basic ideas, computational techniques, and applications of linear algebra. KEY TOPICS: Introductory Linear Algebra with Applications Sixth Edition emphasizes the computational and geometrical aspects of linear algebra, while keeping abstraction to a minimum and illustrating every idea with examples. It provides three different types of exercises. Exercises contains routine exercises. Theoretical Exercises includes exercises that fill in gaps in some of the proofs and can be used to challenge the more capable and interested reader. The third class consists of MATLAB exercises connected to the available MATLAB disk. In addition, the end of every chapter contains a summary of Key Ideas for Review, a set of Supplementary Exercises, and a Chapter Test. The sixth edition of Introductory Linear Algebra with Applications has been revised to incorporate recommendations from The Linear Algebra Curriculum Study Group on developing ways to improve instruction in linear algebra. A valuable reference book on the basic of linear algebra and its applications for any reader seeking information on the subject.

A Course in Linear Algebra with Applications   Feb 21 2022 This is the second edition of the best-selling introduction to linear algebra. Presupposing no knowledge beyond calculus, it provides a thorough treatment of all the basic concepts, such as vector space, linear transformation and inner product. The concept of a quotient space is introduced and related to solutions of linear system of equations, and a simplified treatment of Jordan normal form is given.Numerous applications of linear algebra are described, including systems of linear recurrence relations, systems of linear differential equations, Markov processes, and the Method of Least Squares. An entirely new chapter on linear programing introduces the reader to the simplex algorithm with emphasis on understanding the theory behind it.The book is addressed to students who wish to learn linear algebra, as well as to professionals who need to use the methods of the subject in their own fields.

Elementary Linear Algebra with Applications (Classic Version)   Apr 23 2022 Originally published in 2008, reissued as part of Pearson's modern classic series.

Mathematics for Engineers II   Mar 10 2021 "Mathematics for Engineers II" gehört zu einer vierbändigen Reihe und gibt eine Einführung in die Mathematik für Undergraduates, die ein Bachelor-Studium im Bereich Ingenieurwissenschaften aufgenommen haben. In Band II wird der klassische Calculus fort- und in die Grundlagen der Linearen Algebra eingeführt. Die Reihe unterscheidet sich von traditionellen Texten dadurch, dass sie interaktiv ist und mit Hilfe des Computer-Algebra-Systems Mathematica die Berechnungen darstellt. Jedem Buch liegt eine CD bei, die die Rechenprogramme und den vollständigen Text in Mathemetica enthält. Den Studierenden eröffnet sich so die Möglichkeit, interaktiv die Vorlesungsmaterialien nachzuvollziehen und die Fragestellungen des Texts sowie der Beispiele mit

Unterstützung von Mathematica zu lösen.

Multivariable and Vector Calculus   Sep 04 2020 This book is designed primarily for undergraduates in mathematics, engineering, and the physical sciences. Rather than concentrating on technical skills, it focuses on a deeper understanding of the subject by providing many unusual and challenging examples. The basic topics of vector geometry, differentiation and integration in several variables are explored. It also provides numerous computer illustrations and tutorials using MATLAB® and Maple®, that bridge the gap between analysis and computation. Features: •Includes numerous computer illustrations and tutorials using MATLAB® and Maple® •Covers the major topics of vector geometry, differentiation, and integration in several variables •Instructors' ancillaries available upon adoption

Functional Linear Algebra   Aug 15 2021 Linear algebra is an extremely versatile and useful subject. It rewards those who study it with powerful computational tools, lessons about how mathematical theory is built, examples for later study in other classes, and much more. Functional Linear Algebra is a unique text written to address the need for a one-term linear algebra course where students have taken only calculus. It does not assume students have had a proofs course. The text offers the following approaches: More emphasis is placed on the idea of a linear function, which is used to motivate the study of matrices and their operations. This should seem natural to students after the central role of functions in calculus. Row reduction is moved further back in the semester and vector spaces are moved earlier to avoid an artificial feeling of separation between the computational and theoretical aspects of the course. Chapter 0 offers applications from engineering and the sciences to motivate students by revealing how linear algebra is used. Vector spaces are developed over R, but complex vector spaces are discussed in Appendix A.1. Computational techniques are discussed both by hand and using technology. A brief introduction to Mathematica is provided in Appendix A.2. As readers work through this book, it is important to understand the basic ideas, definitions, and computational skills. Plenty of examples and problems are provided to make sure readers can practice until the material is thoroughly grasped. Author Dr. Hannah Robbins is an associate professor of mathematics at Roanoke College, Salem, VA. Formerly a commutative algebraist, she now studies applications of linear algebra and assesses teaching practices in calculus. Outside the office, she enjoys hiking and playing bluegrass bass.

Linear Algebra with Applications   Dec 27 2019

Elementary Differential Equations   Jan 28 2020 With Wiley's Enhanced E-Text, you get all the benefits of a downloadable, reflowable eBook with added resources to make your study time more effective, including: • Embedded & searchable equations, figures & tables • Math XML • Index with linked pages numbers for easy reference • Redrawn full color figures to allow for easier identification Elementary Differential Equations, 11th Edition is written from the viewpoint of the applied mathematician, whose interest in differential equations may sometimes be quite theoretical, sometimes intensely practical, and often somewhere in between. The authors have sought to combine a sound and accurate (but not abstract) exposition of the elementary theory of differential equations with considerable material on methods of solution, analysis, and approximation that have proved useful in a wide variety of applications. While the general structure of the book remains unchanged, some notable changes have been made to improve the clarity and readability of basic material about differential equations and their applications. In addition to expanded explanations, the 11th edition includes new problems, updated figures and examples to help motivate students. The program is primarily intended for undergraduate students of mathematics, science, or engineering, who typically take a course on differential equations during their first or second year of study. The main prerequisite for engaging with the program is a working knowledge of calculus, gained from a normal two] or three] semester course sequence or its equivalent.

Some familiarity with matrices will also be helpful in the chapters on systems of differential equations.

Jul 14 2021 This book originated from a Discussion Group (Teaching Linear Algebra) that was held at the 13th International Conference on Mathematics Education (ICME-13). The aim was to consider and highlight current efforts regarding research and instruction on teaching and learning linear algebra from around the world, and to spark new collaborations. As the outcome of the two-day discussion at ICME-13, this book focuses on the pedagogy of linear algebra with a particular emphasis on tasks that are productive for learning. The main themes addressed include: theoretical perspectives on the teaching and learning of linear algebra; empirical analyses related to learning particular content in linear algebra; the use of technology and dynamic geometry software; and pedagogical discussions of challenging linear algebra tasks. Drawing on the expertise of mathematics education researchers and research mathematicians with experience in teaching linear algebra, this book gathers work from nine countries: Austria, Germany, Israel, Ireland, Mexico, Slovenia, Turkey, the USA and Zimbabwe.

Oct 05 2020 The purpose of this book is to give a thorough introduction to the most commonly used methods of numerical linear algebra and optimisation. The prerequisites are some familiarity with the basic properties of matrices, finite-dimensional vector spaces, advanced calculus, and some elementary notations from functional analysis. The book is in two parts. The first deals with numerical linear algebra (review of matrix theory, direct and iterative methods for solving linear systems, calculation of eigenvalues and eigenvectors) and the second, optimisation (general algorithms, linear and nonlinear programming). The author has based the book on courses taught for advanced undergraduate and beginning graduate students and the result is a well-organised and lucid exposition. Summaries of basic mathematics are provided, proofs of theorems are complete yet kept as simple as possible, and applications from physics and mechanics are discussed. Professor Ciarlet has also helpfully provided over 40 line diagrams, a great many applications, and a useful guide to further reading. This excellent textbook, which is translated and revised from the very successful French edition, will be of great value to students of numerical analysis, applied mathematics and engineering.

Mar 30 2020 Stressing the interplay between theory and its practice, this text presents the construction of linear models that satisfy geometric postulate systems and develops geometric topics in computer graphics. It includes a computer graphics utility library of specialized subroutines on a 3.5 disk, designed for use with Turbo PASCAL 4.0 (or later version) - an effective means of computer-aided instruction for writing graphics problems.;Providing instructors with maximum flexibility that allows for the mathematics or computer graphics sections to be taught independently, this book: reviews linear algebra and notation, focusing on ideas of geometric significance that are often omitted in general purpose linear algebra courses; develops symmetric bilinear forms through classical results, including the inertia theorem, Witt's cancellation theorem and the unitary diagonalization of symmetric matrices; examines the Klein Erlanger programm, constructing models of geometries, and studying associated transformation groups; clarifies how to construct geometries from groups, encompassing topological notions; and introduces topics in computer graphics, including geometric modeling, surface rendering and transformation groups.

Mar 22 2022 For introductory sophomore-level courses in Linear Algebra or Matrix Theory. This text presents the basic ideas of linear algebra in a manner that offers students a fine balance between abstraction/theory and computational skills. The emphasis is on not just teaching how to read a proof but also on how to write a proof.

Algebraic and Differential Methods for Nonlinear Control Theory   Jan 08 2021 This book is a short primer in engineering mathematics with a view on applications in nonlinear control theory. In particular, it introduces some elementary concepts of commutative algebra and algebraic geometry which offer a set of tools quite different from the traditional approaches to the subject matter. This text begins with the study of elementary set and map theory. Chapters 2 and 3 on group theory and rings, respectively, are included because of their important relation to linear algebra, the group of invertible linear maps (or matrices) and the ring of linear maps of a vector space. Homomorphisms and Ideals are dealt with as well at this stage. Chapter 4 is devoted to the theory of matrices and systems of linear equations. Chapter 5 gives some information on permutations, determinants and the inverse of a matrix. Chapter 6 tackles vector spaces over a field, Chapter 7 treats linear maps resp. linear transformations, and in addition the application in linear control theory of some abstract theorems such as the concept of a kernel, the image and dimension of vector spaces are illustrated. Chapter 8 considers the diagonalization of a matrix and their canonical forms. Chapter 9 provides a brief introduction to elementary methods for solving differential equations and, finally, in Chapter 10, nonlinear control theory is introduced from the point of view of differential algebra.

Introduction To Linear Algebra   Nov 06 2020 Introduction to Linear Algebra: Computation, Application, and Theory is designed for students who have never been exposed to the topics in a linear algebra course. The text is filled with interesting and diverse application sections but is also a theoretical text which aims to train students to do succinct computation in a knowledgeable way. After completing the course with this text, the student will not only know the best and shortest way to do linear algebraic computations but will also know why such computations are both effective and successful. Features: Includes cutting edge applications in machine learning and data analytics Suitable as a primary text for undergraduates studying linear algebra Requires very little in the way of pre-requisites