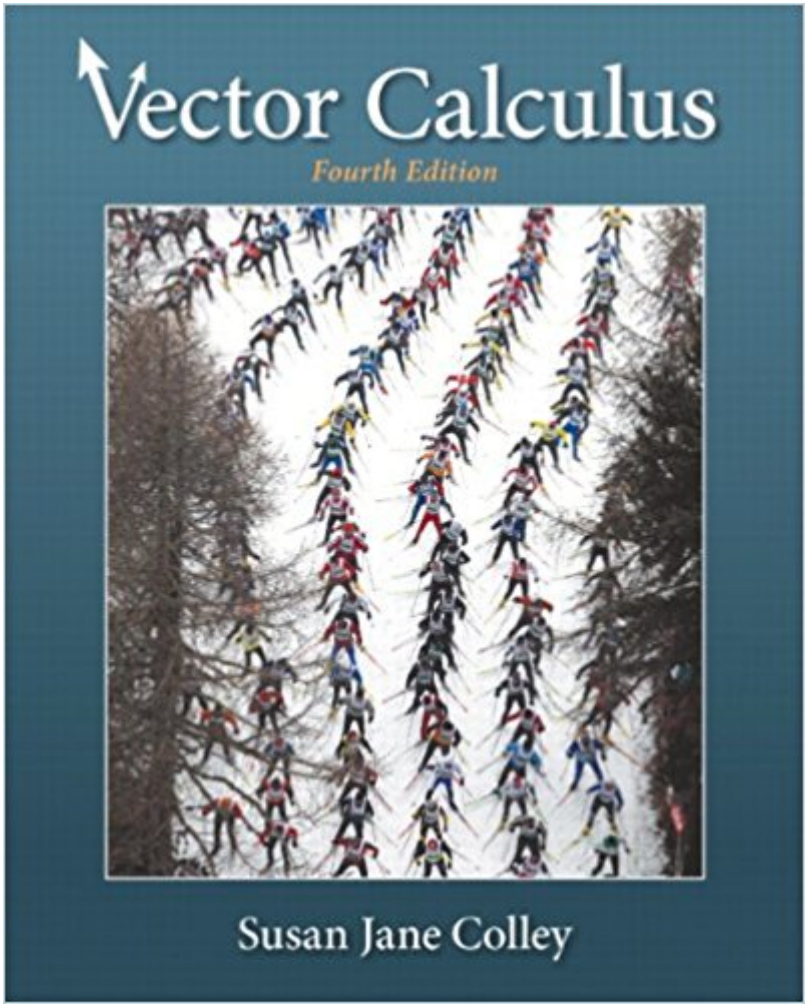
Vector Calculus (4th Edition)



Synopsis

Vector Calculus, Fourth Edition, uses the language and notation of vectors and matrices to teach multivariable calculus. It is ideal for students with a solid background in single-variable calculus who are capable of thinking in more general terms about the topics in the course. This text is distinguished from others by its readable narrative, numerous figures, thoughtfully selected examples, and carefully crafted exercise sets. Colley includes not only basic and advanced exercises, but also mid-level exercises that form a necessary bridge between the two.

Book Information

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Customer Reviews

Susan Colley is the Andrew and Pauline Delaney Professor of Mathematics at Oberlin College and currently Chair of the Department, having also previously served as Chair. She received S.B. and Ph.D. degrees in mathematics from the Massachusetts Institute of Technology prior to joining the faculty at Oberlin in 1983. Her research focuses on enumerative problems in algebraic geometry, particularly concerning multiple-point singularities and higher-order contact of plane curves. Professor Colley has published papers on algebraic geometry and commutative algebra, as well as articles on other mathematical subjects. She has lectured internationally on her research and has taught a wide range of subjects in undergraduate mathematics. Professor Colley is a member of several professional and honorary societies, including the American Mathematical Society, the Mathematical Association of America, Phi Beta Kappa, and Sigma Xi.

Possibly one of the best I've ever read. The author does a fantastic job explaining every concept covered. The practice problems do a good job spanning a range between basic practice and challenging. The author is also very aware of how much hard math students will need to see. The proofs are contained in the book for those who desire them. But they aren't necessary for the development of the content which is great for physics students who will learn to abuse notation throughout their careers (I love it.) The examples are illuminating and very good for explaining the material, they follow every new concept. I read through this book with ease until I hit manifolds... those were not fun but still very interesting. I would suggest this for any vector calculus (Calc 4 or "Advanced Calculus") course.

This book is awesome! Out of all the multivariable calculus and vector calculus books out there that claim to truly integrate calculus with linear algebra, none do it like Susan Colley does it. This book is by far the best multivariable calculus book for integrating linear algebra with calculus in arbitrary dimensions, and in particular, makes especially good work of explaining the linear relationship of coordinate systems and basis vectors, with non-linear analytical functions, and explains exactly how to express things like curves in terms of basis vectors, as linear combinations, which I personally believe is what confuses many lectures that teach these intro calculus classes, and since they themselves do not understand the material in this way, they do not teach their students the material with a theoretical emphasis. Colley's Ch. 1 takes care of this issue well, and continues to show how linear algebra can be used for things like constraints and optimization problems, of course mentioning the obvious uses in economics, but also, in general, learning theory is more than just something economics majors should want to know, it's something everyone ought to know, and everyone deserves to know.In this way, Stewart is not the end all be all calculus book, and Hughes-Hallet isn't the only viable alternative, and, Hubbard and Hubbard and Theodore Shiffren's quirky books are not the only books that integrate this material in this way, and Marsden and Tromba seems to fall short in comparison with Colley's book. So, I recommend that anyone who wants to really learn calculus, and not just learn to memorize formulas for applications, take the initiative and buy Colley's book even if their college does not assign it.I also wish colleges would start assigning this book as the standard book in their curriculums since every student would be better off if they learned the material from this book and not any of the others listed above. Sadly, though, it doesn't seem like this will happen.

This is an excellent book on Vector Calculus. The book is written in a clear manner with the goal of

examining and explainingthe subject both for students and professionals. I have seen many books on Classical Mechanics, Linear Algebra, Differential Geometry,Analytics, etc. that all suffer due to the inability to clearly communicate the topic of Vector Calculus with their readers. Thus, whenI found this book as a reference on the fundamentals I was delighted. The author is not a physicist though she introduces many topicsof interest from the applied fields. Thus her approach is not exactly the same as you will see in the physical sciences. The different approach helps teach the underlying concepts instead of routinely copying material. Of course, the book is just a step in the path so you stillneed all of those other books as a practicing professional. Wish they were written as well.

One of the best Multivariable textbooks out there. The author does an excellent job in explaining the concepts along with providing sample problems.

really good book, best for vector calc, also cheapest to rent

Assigned for a Calculus III class

Good

The book is missing an entire chapter. In total, 34 pages were not printed in the book at all.

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