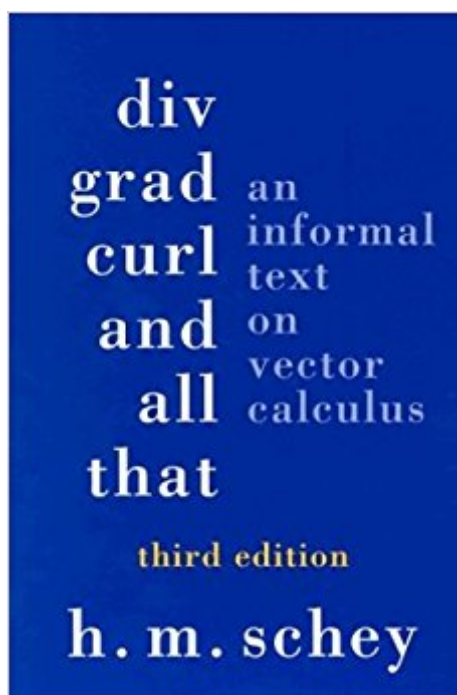# DIV, Grad, Curl, And All That: An Informal Text On Vector Calculus

Synopsis

1997: by H. M. Schey- Informal text on vector calculus. Paperback cover is bright and shiny; crease along spine; binding is tight; text is clean; page edges are sharp; owner's name on inside.

Book Information

Paperback: 176 pages

Publisher: W. W. Norton & Company; 3rd edition (August 1997)

Language: English

ISBN-10: 0393969975

ISBN-13: 978-0393969979

Product Dimensions: 9.2 x 6.2 x 0.5 inches

Shipping Weight: 9.9 ounces

Average Customer Review: 4.6 out of 5 stars See all reviews (27 customer reviews)

Best Sellers Rank: #507,009 in Books (See Top 100 in Books)   #40 in Books > Science & Math > Mathematics > Applied > Vector Analysis   #488 in Books > Textbooks > Science & Mathematics > Astronomy & Astrophysics   #735 in Books > Science & Math > Astronomy & Space Science > Astrophysics & Space Science

Customer Reviews

If you are an undergraduate engineering or science major, then you need to get a copy of this old classic and become good friends with it. If you are a graduate student or a professional in some branch of engineering or science, and you have not already read this book, then sneak out and get a copy before anybody finds out. (You can pretend that you really knew this stuff all along.) Seriously, this book should be considered Math 101 for scientists and engineers. You simply cannot get by without knowing the basics of vector calculus, curvilinear coordinates, Gauss' law, Stokes' theorem, and of course, the protagonists Divergence, Gradient, and Curl, known to their friends as Div, Grad, and Curl.This is about as tame a book on vector calculus as you could ever hope to meet, which is part of the reason it's been so popular for so long. It's very easy to read (as far as math texts go), it has many simple but effective illustrations, it has ample exercises (most of which have solutions in the back), and it avoids excessive formalism, instead focusing on the nuts-and-bolts of vector calculus as it most commonly arises in electrostatics, for example.Math majors will not be so enamored of this book, simply because of its heuristic approach (hence the word "informal" in the subtitle) and its close ties with applications, which it uses as motivation. Moreover, Schey does not develop differential forms or exterior calculus, which logically subsume

and extend the material in this book (at the expense of far greater abstraction, which the majority of engineering and science students will prefer to avoid or at least delay). Instructors, if you teach electrostatics or fluid dynamics, you may wish to consider having this as a supplementary text for your students.

It's been over two decades since I first studied vector calculus from my old textbook on electromagnetic fields and waves (Lorrain and Corson, Freeman, 1970). I really enjoyed that class, and remain fascinated by the beautiful mathematics involved in the classical field equations of electromagnetism. When I saw Schey's book on the shelf in Boulder, Co., I immediately picked it up and flipped through the pages. This wasn't the book I'd set out to find (I wanted a good book on Photonics, to commemorate the conference I was attending at NIST on fiber-optic measurements) but I decided it would be fun to read it as a refresher course.My first impression of Schey's book is that it would make a great first course in vector calculus. In fact, I recommend it for that purpose. It will also be very useful for the student enrolled in a class on vector calculus, who wants a secondary reference text to help expand concepts. Schey's approach will appeal to physicists and engineers, with it's intuitive, visual style. Schey uses electric fields as the motivating challenge for developing equations that use the divergence, gradient, and curl, and he uses chapter 1 to develop virtually all the physical concepts needed to follow the derivations. For prerequisites, you should have at least one semester of calculus, and it will help to have a little understanding about electromagnetism, as well (a high school level will be more than adequate for this purpose).Schey's book also makes a great refresher text (that's why I bought it). If you've had vector calculus in college, you'll be able to read this book in a week or so.

Div, Grad, Curl, and All That: An Informal Text on Vector Calculus (Fourth Edition) DIV, Grad, Curl, and All That: An Informal Text on Vector Calculus Cut & Carve Candles: Beautiful Candles to Dip, Carve, Twist & Curl The Ark of Mathematics Part 5: Vector Calculus Electricity And Magnetism Vector Calculus. Jerrold E. Marsden and Anthony J. Tromba Multivariable and Vector Calculus: An Introduction Vector Calculus Student's Solutions Manual for Vector Calculus Vector Calculus (Springer Undergraduate Mathematics Series) Vector Calculus, Student Solutions Manual The Calculus Lifesaver: All the Tools You Need to Excel at Calculus (Princeton Lifesaver Study Guides) Texting Women: 7 Simple Steps From Text to Sex (Flirty Texts, Texting Girls, How To Text Girls, Art Seduction, How to Seduce a Woman, Funny Text, Pick Up Women, Funny Pick Up Lines, Picking Up Women) Student Solutions Manual for Stewart/Day's Calculus for Life Sciences and Biocalculus:

Calculus, Probability, and Statistics for the Life Sciences Calculus for Biology and Medicine (Calculus for Life Sciences Series) Calculus - Study and Solutions Guide Volume II to accompany Calculus w/ Analytic Geometry Solutions Manual for: Calculus With Trigonometry and Analytic Geometry (Saxon Calculus) 1st (first) Edition by John Saxon, Frank Wang, John Young, Diana Harvey published by Saxon Publishers (1999) The Absolute Differential Calculus (Calculus of Tensors) (Dover Books on Mathematics) Bundle: Calculus: Early Transcendentals, Loose-Leaf Version, 8th + Enhanced WebAssign Printed Access Card for Calculus, Multi-Term Courses 5 Steps to a 5 AP Calculus BC 2017 (5 Steps to a 5 Ap Calculus Ab/Bc) Short Calculus: The Original Edition of "A First Course in Calculus" (Undergraduate Texts in Mathematics)