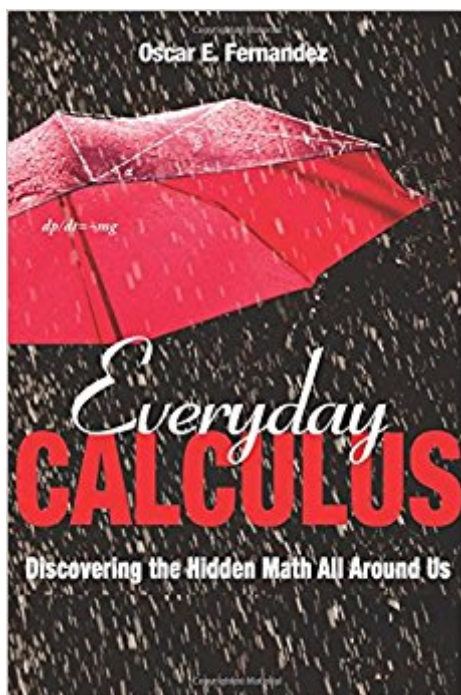# Everyday Calculus: Discovering The Hidden Math All Around Us

Synopsis

Calculus. For some of us, the word conjures up memories of ten-pound textbooks and visions of tedious abstract equations. And yet, in reality, calculus is fun, accessible, and surrounds us everywhere we go. In Everyday Calculus, Oscar Fernandez shows us how to see the math in our coffee, on the highway, and even in the night sky. Fernandez uses our everyday experiences to skillfully reveal the hidden calculus behind a typical day's events. He guides us through how math naturally emerges from simple observations--how hot coffee cools down, for example--and in discussions of over fifty familiar events and activities. Fernandez demonstrates that calculus can be used to explore practically any aspect of our lives, including the most effective number of hours to sleep and the fastest route to get to work. He also shows that calculus can be both useful--determining which seat at the theater leads to the best viewing experience, for instance--and fascinating--exploring topics such as time travel and the age of the universe. Throughout, Fernandez presents straightforward concepts, and no prior mathematical knowledge is required. For advanced math fans, the mathematical derivations are included in the appendixes. Whether you're new to mathematics or already a curious math enthusiast, Everyday Calculus invites you to spend a day discovering the calculus all around you. The book will convince even die-hard skeptics to view this area of math in a whole new way.

Book Information

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Customer Reviews

The systems, events and measurements highlighted in this fine little book are the "everyday" part--

the calculus is not! In order to model the types of everyday experiences the author describes in fine fashion, simply taking the first or second derivative to find slope or acceleration doesn't do much. The truth is that he's subtly talking about dynamical systems-- differential EQUATIONS, not just calc as we'd see it as an isolated technique.The real physics, engineering, biology, etc. that these equations model require matrix vectors and really advanced concepts and techniques, many of them not even able to be generalized beyond that model or problem. In fact, of the four methods used in dynamical systems (analytic, qualitative, numeric and the newest family member stochastic/statistical), most are incapable of modeling anything but the simplest versions of the underlying "reality." We can't, for example, specify the design of an airplane wing analytically, so we use qualitative (graphs, for example) and numeric ("guesses" with computer algorithms), which as we engineers would say, gets us "close enough."I just didn't want you misled into thinking that the calculus itself was everyday or simple. The author does a wonderful job of hand holding us through the foundations. There is a lot of value in this in: 1. Getting us "ready" for advanced applications 2. Giving us a fun glimpse at why calc is so important 3. Giving us an intuitive feel for why we model in the more advanced form. Every High School student interested in math should read this, even though the true topics are advanced undergrad and grad level! The author actually makes this possible, which is a rare feat. If you're an AP math student, you'll get this easily, and the appendix will transition you to undergrad.

Everyday Calculus: Discovering the Hidden Math All Around Us The Everything Everyday Math Book: From Tipping to Taxes, All the Real-World, Everyday Math Skills You Need (Everything Series) Discovering Wine: A Refreshingly Unfussy Beginner's Guide to Finding, Tasting, Judging, Storing, Serving, Cellaring, and, Most of All, Discovering Wine Sneaky Math: A Graphic Primer with Projects: Ace the Basics of Algebra, Geometry, Trigonometry, and Calculus with Everyday Things (Sneaky Books) The Joy of Mathematics: Discovering Mathematics All Around You The Calculus Lifesaver: All the Tools You Need to Excel at Calculus (Princeton Lifesaver Study Guides) Secret Of Mental Math Arithmetic: 70 Secrets To Super Speed Calculation & Amazing Math Tricks: How to Do Math without a Calculator 2nd Grade Math Flashcards: 240 Flashcards for Building Better Math Skills Based on Sylvan's Proven Techniques for Success (Sylvan Math Flashcards) 3rd Grade Math Flashcards: 240 Flashcards for Improving Math Skills Based on Sylvan's Proven Techniques for Success (Sylvan Math Flashcards) 4th Grade Math Flashcards: 240 Flashcards for Improving Math Skills Based on Sylvan's Proven Techniques for Success (Sylvan Math Flashcards) 1st Grade Math Flashcards: 240 Flashcards for Building Better Math Skills Based on Sylvan's Proven Techniques

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