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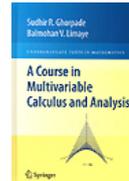
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A Course in Multivariable Calculus and Analysis

Sudhir R. Ghorpade and Balmohan V. Limaye

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**Publisher:** Springer (2010)**Details:** 475 pages, Hardcover**Series:** Undergraduate Texts in Mathematics**Price:** \$69.95**ISBN:** 9781441916204**Category:** Textbook**Topics:** Multivariable Calculus, Real Analysis
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MAA Review

[Reviewed by Mehdi Hassani, on 06/24/2010]

There is no doubt that one of the key mathematical courses, perhaps the most important and fundamental one for undergraduates in various branches of science and engineering, is calculus. Because of wide range of audiences for this course, many books with various points of view have been written. Among them we can find a limited number written for mathematics students. As its title indicates, the book under review is of this kind. In this book the authors consider natural generalizations of familiar topics in one variable calculus, such as monotonicity, the mean value theorem, and numerical integration.

This is essentially a textbook suitable for a one-semester course in multivariable calculus or analysis for undergraduates in mathematics. Each chapter ends with various exercises. Most of the exercises are facts to be proved rather than computational problems. Because of the focus on proofs, at first it doesn't seem that this book could be useful for engineering students, but in fact it contains some material that would be very useful for engineers. For example, the sixth chapter, which studies applications and approximations of multiple integrals, includes some nice theorems on finding centroids.

A course in multivariable calculus and analysis usually needs to be continuation of a one variable course written by same authors. This is the case here as well. The authors refer to their [other book](#) frequently. The book under review doesn't cover vector calculus, so readers won't find Green's theorem and the topics surrounding it.

I recommend this book (together with its one-variable version written by same authors) for undergraduate students in mathematics and professors teaching courses in multivariable calculus.

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