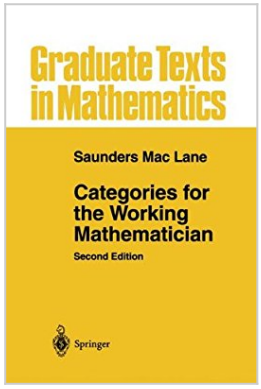


# Categories for the Working Mathematician (Graduate Texts in Mathematics)

*By Saunders Mac Lane*



**Categories for the Working Mathematician (Graduate Texts in Mathematics)** By Saunders Mac Lane

An array of general ideas useful in a wide variety of fields. Starting from the foundations, this book illuminates the concepts of category, functor, natural transformation, and duality. It then turns to adjoint functors, which provide a description of universal constructions, an analysis of the representations of functors by sets of morphisms, and a means of manipulating direct and inverse limits. These categorical concepts are extensively illustrated in the remaining chapters, which include many applications of the basic existence theorem for adjoint functors. The categories of algebraic systems are constructed from certain adjoint-like data and characterised by Beck's theorem. After considering a variety of applications, the book continues with the construction and exploitation of Kan extensions. This second edition includes a number of revisions and additions, including new chapters on topics of active interest: symmetric monoidal categories and braided monoidal categories, and the coherence theorems for them, as well as 2-categories and the higher dimensional categories which have recently come into prominence.

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## Editorial Review

Review

From the reviews of the second edition:

“The book under review is an introduction to the theory of categories which, as the title suggests, is addressed to the (no-nonsense) working mathematician, thus presenting the ideas and concepts of Category Theory in a broad context of mainstream examples (primarily from algebra). … the book remains an authoritative source on the foundations of the theory and an accessible first introduction to categories. … It is very well-written, with plenty of interesting discussions and stimulating exercises.” (Ittay Weiss, MAA Reviews, July, 2014)

Second Edition

*S.M. Lane*

*Categories for the Working Mathematician*

*"A very useful introduction to category theory."?*INTERNATIONALE MATHEMATISCHE NACHRICHTEN

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