

## Mathematics for Social Scientists

*Jonathan M. Kropko*


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**JONATHAN KROPKO**



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**Jonathan M. Kropko : Mathematics for Social Scientists** before purchasing it in order to gauge whether or not it would be worth my time, and all praised Mathematics for Social Scientists:

6 of 6 people found the following review helpful. most useful, and most helpful in my training so far By Andrew As a first-year political science graduate student, this book and its contents have been the most impactful, most useful, and most helpful in my training so far. This book is designed for a political (or social) science student who is interested in improving their technical math foundations in order to succeed in follow on advanced methods courses (e.g., Game Theory, Linear Models, etc). Pros:- Organized well (covers multiple topics in a logical manner including algebra, calculus, linear algebra, probability, and regression)- Provides explanations and practical applications of the math in political science- Generally easy to follow (even if you are weak in math) Cons:- In the example problems, not every step is broken out for you (it assumes you have a High School level understanding of math). If you have been away from mathematics for many years, you may find some problems difficult to deal with on your own. There are not many mathematics books out there designed for political or social scientists. This book fills that gap by covering the relevant and necessary mathematical tools needed to succeed in research and analysis. 0 of 2 people found the following review

helpful. Not suitable for self-study. A common problem of books ...By Cheung Yuk MingNot suitable for self-study. A common problem of books on science, mathematics and engineering is that the concepts and calculation steps are not self explanatory so that most readers are forced to stop mid-way and give up the study. The problem is with the writer, not the struggling readers.1 of 1 people found the following review helpful. This book is really excellent and very clearly written in an invitingly informal but ...By JVerkuilenI was one of the reviewers for SAGE and am quoted on the back cover. This book is really excellent and very clearly written in an invitingly informal but still rigorous style. I'd like to take credit for it, but the truth is that Jonathan Kropko's draft was very good to start with, and it improved dramatically with each version. The material it covers is essential for understanding methodology in the social sciences. Students who know it have a HUGE leg up when they are learning methodology courses to be able to understand things like optimization, eigenvalues, or the like. Alternatives such as self-study (though the book is good for that) or taking undergraduate mathematics department classes are just too difficult. Economics has a tradition of "mathematics for economists" and so should the other social sciences. The problems are very nice, which is good because doing problems is the foundation of understanding mathematics. In the spring I am teaching my own seminar on this and will use the course that's laid out in the introduction. Easiest prep ever!

Written for social science students who will be working with or conducting research, *Mathematics for Social Scientists* offers a non-intimidating approach to learning or reviewing math skills essential in quantitative research methods. The text is designed to build students confidence by presenting material in a conversational tone and using a wealth of clear and applied examples. Author Jonathan Kropko argues that mastering these concepts will break students reliance on using basic models in statistical software, allowing them to engage with research data beyond simple software calculations.

Students in the social and behavioral sciences increasingly need a solid foundation of mathematical knowledge to be able to contribute to the research literature and be able to keep themselves current on new methodology. Unfortunately, math department classes really are not tailored to their needs. *Mathematics for Social Scientists*, on the other hand, is clearly aimed at what students need to be able to advance in subsequent methodology courses and in their future careers. It is written in an inviting and clear manner, without ever sacrificing rigor.--Jay VerkuilenMany students entering higher-level statistics classes have somehow forgotten their basic statistics or were never properly exposed to more than a cookbook explanation. More often than not, a student will leave the course without an understanding of probability, random variables, basic distribution theory and concepts etc. Without some background, it proves difficult for students to catch up with these ideas when they are introduced (or assumed to be known) in more advanced courses. This gap is especially pronounced between those students who were exposed to basic probability in a previous course and those who were not. *Mathematics for Social Scientists* will be a great resource for an instructor wishing to add this content to a basic statistics course as well as for the motivated self-learner.--Dan Powers"Students in the social and behavioral sciences increasingly need a solid foundation of mathematical knowledge to be able to contribute to the research literature and be able to keep themselves current on new methodology. Unfortunately, math department classes really are not tailored to their needs. *Mathematics for Social Scientists*, on the other hand, is clearly aimed at what students need to be able to advance in subsequent methodology courses and in their future careers. It is written in an inviting and clear manner, without ever sacrificing rigor."--Jay Verkuilen"Many students entering higher-level statistics classes have somehow forgotten their basic statistics or were never properly exposed to more than a cookbook explanation. More often than not, a student will leave the course without an understanding of probability, random variables, basic distribution theory and concepts etc. Without some background, it proves difficult for students to catch up with these ideas when they are introduced (or assumed to be known) in more advanced courses. This gap is especially pronounced between those students who were exposed to basic probability in a previous course and those who were not. *Mathematics for Social Scientists* will be a great resource for an instructor wishing to add this content to a basic statistics course as well as for the motivated self-learner."--Dan Powers-Students in the social and behavioral sciences increasingly need a solid foundation of mathematical knowledge to be able to contribute to the research literature and be able to keep themselves current on new methodology. Unfortunately, math department classes really are not tailored to their needs. *Mathematics for Social Scientists*, on the other hand, is clearly aimed at what students need to be able to advance in subsequent methodology courses and in their future careers. It is written in an inviting and clear manner, without ever sacrificing rigor.---Jay Verkuilen-Many students entering higher-level statistics classes have somehow forgotten their basic statistics or were never properly exposed to more than a cookbook explanation. More often than not, a student will leave the course without an understanding of probability, random variables, basic distribution theory and concepts etc. Without some background, it proves difficult for students to catch up with these ideas when they are introduced (or assumed to be known) in more advanced courses. This gap is especially pronounced between those students who were exposed to basic probability in a previous course and those who were not. *Mathematics for Social Scientists* will be a great resource for an instructor wishing to add this content to a basic statistics course as well as for the motivated self-learner.---Dan Powers "Students in the social and behavioral sciences

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About the Author Jonathan Kropko is a professor in the Department of Politics at the University of Virginia, where he also serves on the steering committee of the Quantitative Collaborative, an interdisciplinary research initiative for applied statistics in the social sciences. Previously, he held a postdoctoral research fellowship at the Applied Statistics Center at Columbia University and was a statistics consultant at the H. W. Odum Institute for Research in the Social Sciences at the University of North Carolina. He holds degrees in mathematics (BS) and political science (BA) from Ohio State University, and earned a PhD in political science from the University of North Carolina in 2011. He is a specialist in political methodology, with a focus on missing data imputation, time series, and measurement methods.