

# Preface

*Excel 2010 for Physical Sciences Statistics: A Guide to Solving Practical Problems* is intended for anyone looking to learn the basics of applying Excel's powerful statistical tools to their science courses or work activities. If understanding statistics isn't your strongest suit, you are not especially mathematically-inclined, or if you are wary of computers, then this is the right book for you.

Here you'll learn how to use key statistical tests using Excel without being overpowered by the underlying statistical theory. This book clearly and methodically shows and explains how to create and use these statistical tests to solve practical problems in the physical sciences.

Excel is an easily available computer program for students, instructors, and managers. It is also an effective teaching and learning tool for quantitative analyses in science courses. The powerful numerical computational ability and the graphical functions available in Excel make learning statistics much easier than in years past. However, this is the first book to show Excel's capabilities to more effectively teach science statistics; it also focuses exclusively on this topic in an effort to render the subject matter not only applicable and practical, but also easy to comprehend and apply.

Unique features of this book:

- This book is appropriate for use in any course in the Physical Sciences Statistics (at both undergraduate and graduate levels) as well as for managers who want to improve the usefulness of their Excel skills.
- Includes 159 color screen shots so that you can be sure you are performing the Excel steps correctly
- You will be told each step of the way, not only *how* to use Excel, but also *why* you are doing each step so that you can understand what you are doing, and not merely learn how to use statistical tests by rote.
- Includes specific objectives embedded in the text for each concept, so you can know the purpose of the Excel steps.
- This book is a tool that can be used either by itself or along with *any* good statistics book.

- Statistical theory and formulas are explained in clear language without bogging you down in mathematical fine points.
- You will learn both how to write statistical formulas using Excel and how to use Excel's drop-down menus that will create the formulas for you.
- This book does not come with a CD of Excel files which you can upload to your computer. Instead, you'll be shown how to create each Excel file yourself. In a work situation, your colleagues will not give you an Excel file; you will be expected to create your own. This book will give you ample practice in developing this important skill.
- Each chapter presents the steps needed to solve a practical science problem using Excel. In addition, there are three practice problems at the end of each chapter so you can test your new knowledge of statistics. The answers to these problems appear in Appendix A.
- A "Practice Test" is given in Appendix B to test your knowledge at the end of the book. The answers to these practical science problems appear in Appendix C.

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