

# Preface

This book is primarily aimed at graduate students of statistics, mathematics, science and engineering who have had an undergraduate course in statistics, an upper division course in analysis and some acquaintance with measure theoretic probability. We have often taught courses based on it with very little emphasis on measure theory. Part I is designed as a one-semester course on basic parametric mathematical statistics whose presentation owes a great deal to the classic texts by Lehmann (1959) and Ferguson (1967). Part II deals with the large sample theory of statistics—parametric and nonparametric—and received a somewhat greater emphasis than Part I. But its main contents may be covered in a semester as well. Part III provides brief accounts of a number of topics of current interest. We expect the book to be used also as a reference by practitioners in other disciplines whose work involves the use of statistical procedures.

The Appendices at the end of the book provide a ready access to a number of standard results, with many proofs. Also, solutions are given to a number of selected exercises from Part I. For Part II, instead, exercises with a certain level of difficulty appear with detailed hints.

Statistics is a very big discipline and is growing fast in even new directions. The present book attempts to provide a rigorous presentation of what we consider to be the core of mathematical statistics.

It took us a long time to write this book which began with a set of class notes used over many years at Indiana University for a two-semester course in theoretical statistics. Its present incarnation, however, is quite different—much expanded and with many changes from the original.

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