

Preface

I am truly elated to have had the opportunity to write the present third edition of this book, which is a sequel to GTM 249 *Classical Fourier Analysis, 3rd Edition*. This edition was born from my desire to improve the exposition, to fix a few inaccuracies, and to add a new chapter on multilinear operators. I am very fortunate that diligent readers across the globe have shared with me numerous corrections and suggestions for improvements.

Based on my experience as a graduate student, I decided to include great detail in the proofs presented. I hope that this will not make the reading unwieldy. First time readers may prefer to skim through the technical aspects of the presentation and concentrate on the flow of ideas.

This second volume *Modern Fourier Analysis* is addressed to graduate students who wish to delve deeper into Fourier analysis. I believe that after completing a study of this text, a student will be prepared to begin research in the topics covered by the book. While there is more material than can be covered in a semester course, the list of sections that could be taught in a semester without affecting the logical coherence of the book is: 1.1, 1.2, 1.3, 2.1, 2.2, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3, and 5.1.

In such a large piece of work, it is impossible to have no mistakes or omissions. I encourage you to send your corrections to me directly (grafakosl@missouri.edu). The website

<http://math.missouri.edu/~loukas/FourierAnalysis.html>

will be updated with any significant corrections. Solutions to all of the exercises for the present edition will be available to instructors who teach a course out of this book.

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