

CHAPTER OVERVIEW

1: Getting Started

How to use this book

This eBook is intended to accompany and support students at [Chaminade University of Honolulu](#) enrolled in [BI 311 Biostatistics](#), a one-semester introduction to biostatistics. Like all textbooks, the intent is to provide the reader with a guided and interactive presentation about the subject. However, the text should not be taken as the only voice — there are plenty of good textbooks, many of them free, to help you learn statistics. You are encouraged to seek additional help with the material.

Homework and projects

The book is a standalone product, but the purpose of the book is to provide content for my biostatistics course. Homework and projects designed to build confidence with the material are provided in a separate workbook, also available as a free eBook at <https://mikeworkbook.letgen.org/>. The companion site, [Mike's Workbook for Biostatistics](#), provides homework and projects to learn-by-doing biostatistics.

The websites serve the course

Mike's Biostatistics Book is hosted at biostatistics.letgen.org. Organization at the site is facilitated by the WordPress theme [wp-gitbook](#) by Tom J. Nowell at <https://github.com/tomjn/wp-gitbook>. Thank you, Tom!

The course, BI311 Biostatistics, is a [CANVAS CMS](#) website is accessible through chaminade.edu. The course website helps me to organize and support the course. BI311 is web-enhanced course, not a blended or hybrid course; that is, online materials are presented to supplement your work in class and do not replace “face-to-face” time.

Students of BI311 enrolled in CANVAS will find lecture slides, help with your computer, help with [R statistical programming language](#) and [R Commander](#), a basic statistics GUI that works with R, and an extensive glossary covering statistics and data science terminology on that site. You will submit your work to the CANVAS website. Online quizzes provide rapid feedback and suggestions for further study.

Material on the website is organized to follow the table of contents from Mike's Biostatistics book. For a 16-week semester, the course would be divided into four parts:

Part 1. Chapter 1 — 5 → Exam 1

Part 2. Chapters 6 – 10 → Exam 2

Part 3. Chapters 11 — 15 → Exam 3

Part 4. Chapters 16 — 18 → Exam 4

Book conventions

Chapters are divided into main subject sections. Headings within sections indicate that important concepts follow, concepts you will be expected to understand and demonstrate that understanding on quizzes and exams.

Figures and tables in each chapter start with Figure 1 and Table 1. If a figure from chapter 3 is referred to in chapter 5, then the reference to that figure will be Figure 3.1, with Figure 1 referring to the first figure in Chapter 5.

Equations were written using [LaTeX](#); in some cases, equations are presented as images.

Each section also include questions and additional readings, particularly where there are opinions or interpretations of statistical concepts, references are provided. For example, we spend considerable time discussing what the “p value” means. Additional readings either extend the discussion or provide context to the topic.

Like any new subject, a key to your success will be to learn the language. Terms in the text requiring definitions and your attention are in **bold**. Take care with definitions in statistics: while the words are recognizable, their meanings are often distinctly different from common usage.

Parenthetical notes will appear enclosed in a green box (e.g., this note about statistical terms on this page).

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R code

Throughout the text we will also include relevant R code. R code you type will appear in a sentence as a code block, like `help.start()` , or as a `preformatted` shaded text block, like so

```
help.start()
```

R code you type will be in blue; any output from R will be displayed as red type.

Each section includes worked examples that are presented to illustrate concepts, demonstrate how R can be used, and include interpretations as appropriate.

Questions for you

I have added questions at the end of most book sections to emphasize important concepts or to have you explore more about a subject. Questions range from extensions of concepts introduced in the section to exercises and problems to solve. Questions in the text are generally short answer or require a numerical solution.

Quiz questions are typically multiple choice or True/False. Questions in the book are intended to provide the student with an outline of topics likely to show up on quizzes and exams. On the other hand, the accompanying workbook, [Mike's Workbook for Biostatistics](#), provides students with opportunities to conduct more detailed data analysis and to learn about the R language.

[1.1: A quick look at R and R Commander](#)

[1.2: Chapter 1 References and Suggested Readings](#)

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