



Preface

By:
OpenStaxCollege

About *Introductory Statistics*

Introductory Statistics is designed for the one-semester, introduction to statistics course and is geared toward students majoring in fields other than math or engineering. This text assumes students have been exposed to intermediate algebra, and it focuses on the applications of statistical knowledge rather than the theory behind it.

The foundation of this textbook is *Collaborative Statistics*, by Barbara Illowsky and Susan Dean. Additional topics, examples, and ample opportunities for practice have been added to each chapter. The development choices for this textbook were made with the guidance of many faculty members who are deeply involved in teaching this course. These choices led to innovations in art, terminology, and practical applications, all with a goal of increasing relevance and accessibility for students. We strove to make the discipline meaningful, so that students can draw from it a working knowledge that will enrich their future studies and help them make sense of the world around them.

Coverage and Scope

Chapter 1 Sampling and Data
Chapter 2 Descriptive Statistics
Chapter 3 Probability Topics
Chapter 4 Discrete Random Variables
Chapter 5 Continuous Random Variables
Chapter 6 The Normal Distribution
Chapter 7 The Central Limit Theorem
Chapter 8 Confidence Intervals
Chapter 9 Hypothesis Testing with One Sample
Chapter 10 Hypothesis Testing with Two Samples
Chapter 11 The Chi-Square Distribution
Chapter 12 Linear Regression and Correlation
Chapter 13 F Distribution and One-Way ANOVA

Alternate Sequencing

Introductory Statistics was conceived and written to fit a particular topical sequence, but it can be used flexibly to accommodate other course structures. One such potential structure, which will fit reasonably well with the textbook content, is provided. Please consider, however, that the chapters were not written to be completely independent, and that the proposed alternate sequence should be carefully considered for student preparation and textual consistency.

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Pedagogical Foundation and Features

- **Examples** are placed strategically throughout the text to show students the step-by-step process of interpreting and solving statistical problems. To keep the text relevant for students, the examples are drawn from a broad spectrum of practical topics; these include examples about college life and learning, health and medicine, retail and business, and sports and entertainment.
- **Try It** practice problems immediately follow many examples and give students the opportunity to practice as they read the text. **They are usually based on practical and familiar topics, like the Examples themselves.**
- **Collaborative Exercises** provide an in-class scenario for students to work together to explore presented concepts.
- **Using the TI-83, 83+, 84, 84+ Calculator** shows students step-by-step instructions to input problems into their calculator.
- **The Technology Icon** indicates where the use of a TI calculator or computer software is recommended.
- **Practice, Homework, and Bringing It Together** problems give the students problems at various degrees of difficulty while also including real-world scenarios to engage students.

Statistics Labs

These innovative activities were developed by Barbara Illowsky and Susan Dean in order to offer students the experience of designing, implementing, and interpreting statistical analyses. They are drawn from actual experiments and data-gathering processes, and offer a unique hands-on and collaborative experience. The labs provide a foundation for further learning and classroom interaction that will produce a meaningful application of statistics.

Statistics Labs appear at the end of each chapter, and begin with student learning outcomes, general estimates for time on task, and any global implementation notes. Students are then provided step-by-step guidance, including sample data tables and calculation prompts. The detailed assistance will help the students successfully apply the concepts in the text and lay the groundwork for future collaborative or individual work.

Ancillaries

- **Instructor's Solutions Manual**
- **Webassign Online Homework System**
- [Video Lectures](#) delivered by Barbara Illowsky are provided for each chapter.

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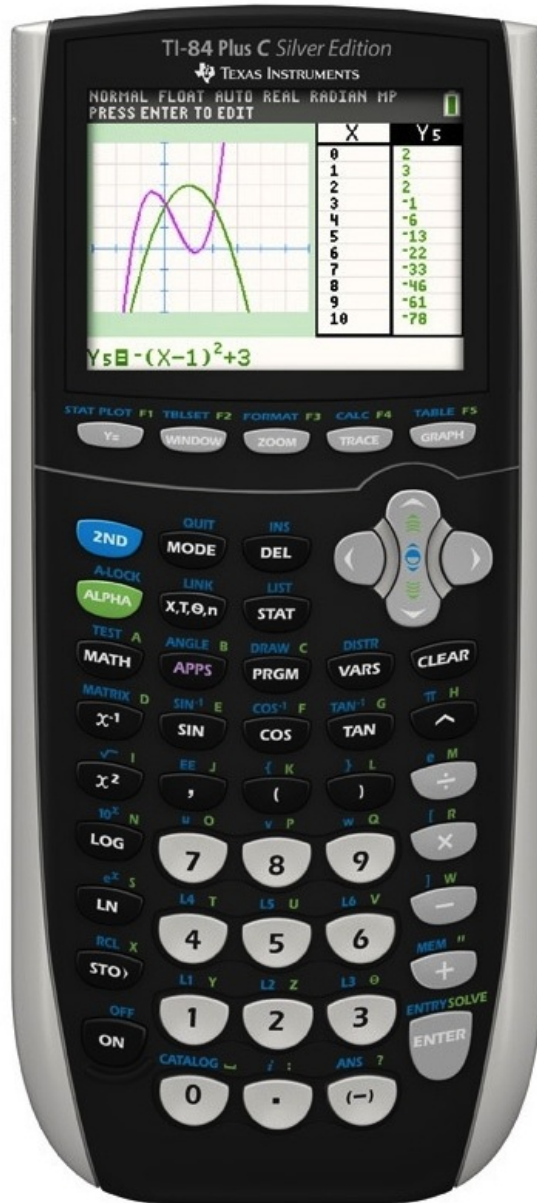
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Sample TI Technology



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