

*Intro Stats*, fifth edition, has been especially exciting to develop. The book you hold steps beyond our previous editions in several important ways. Of course, we've kept our conversational style and anecdotes,<sup>1</sup> but we've enriched that material with tools for teaching about randomness, sampling distribution models, and inference throughout the book. And we've expanded discussions of models for data to include models with more than two variables. We've taken our inspiration both from our experience in the classroom and from the 2016 revision of the Guidelines for Assessment and Instruction in Statistics Education (GAISE) report adopted by the American Statistical Association. As a result, we increased the text's innovative uses of technology to encourage more statistical thinking, while maintaining its traditional core concepts and coverage. You'll notice that, to expand our attention beyond just one or two variables, we've adjusted the order of some topics.

## Innovations

---

### Technology

One of the new GAISE guidelines states: *Use technology to explore concepts and analyze data.* We think a modern statistics text should recognize from the start that statistics is practiced with technology. And so should our students. You won't find tedious calculations worked by hand. You *will* find equation forms that favor intuition over calculation. You'll find extensive use of real data—even large data sets. Throughout, you'll find a focus on statistical thinking rather than calculation. The question that motivates each of our hundreds of examples is not “How do you calculate the answer?” but “How do you think about the answer?”

For this edition of *Intro Stats* we've taken this principle still further. We have harnessed technology to improve the learning of two of the most difficult concepts in the introductory course: the idea of a sampling distribution and the reasoning of statistical inference.

### Multivariable Thinking and Multiple Regression

GAISE's first guideline is to give students experience with multivariable thinking. The world is not univariate, and relationships are not limited to two variables. This edition of *Intro Stats* introduces a third variable as early as Chapter 3's discussion of contingency tables and mosaic plots. Then, following the discussion of correlation and regression as a tool (that is, without inference) in Chapters 6, 7, and 8, we introduce multiple regression in Chapter 9.

Multiple regression may be the most widely used statistical method, and it is certainly one that students need to understand. It is easy to perform multiple regressions with any statistics program, and the exercise of thinking about more than two variables is worth the effort. We've added new material about interpreting what regression models say. The effectiveness of multiple regression is immediately obvious and makes the reach and power of statistics clear. The use of real data underscores the universal applicability of these methods.

When we return to regression in Chapter 20 to discuss inference, we can deal with both simple and multiple regression models together. There is nothing different to discuss.

---

<sup>1</sup>And footnotes

(For this reason we set aside the  $F$ -test and adjusted  $R^2$ . Students can add those later if they need them.) This course is an *introduction* to statistics. It isn't necessary to learn *all* the details of the methods and models. But it is important to come away with a sense of the power and usefulness of statistics to solve real problems.

Innovative ways to teach the logic of statistical inference have received increasing attention. Among these are greater use of computer-based simulations and resampling methods (randomization tests and bootstrapping) to teach concepts of inference.

## Bootstrap

The introduction to the new GAISE guidelines explicitly mentions the bootstrap method. The bootstrap is not as widely available or as widely understood as multiple regression. But it follows our presentation naturally. In this edition, we introduce a new feature, **Random Matters**. Random Matters elements in early chapters draw small samples repeatedly from large populations to illustrate how the randomness introduced by sampling leads to both sampling distributions and statistical reasoning for inference. But what can we do when we have only a sample? The bootstrap provides a way to continue this line of thought, now by re-sampling from the sample at hand.

Bootstrapping provides an elegant way to simulate sampling distributions that we might not otherwise be able to see. And it does not require the assumption of Normality expected by Student's  $t$ -based methods. However, these methods are not as widely available or widely used in other disciplines, so they should not be the only—or even the principal—methods taught. They may be able to enhance student understanding, but instructors may wish to downplay them if that seems best for a class. We've placed these sections strategically so that instructors can choose the level that they are comfortable with and that works best with their course.

## Real Data

GAISE recommends that instructors integrate real data with a context and purpose. More and more high school math teachers are using examples from statistics to demonstrate intuitively how a little bit of math can help us say a lot about the world. So our readers expect statistics to be about real-world insights. *Intro Stats* keeps readers engaged and interested because we show statistics in action right from the start. The exercises pose problems of the kind likely to be encountered in real life and propose ways to think about making inferences almost immediately—and, of course, always with real, up-to-date data.

Let us be clear. *Intro Stats* comes with an archive of nearly 300 datasets used in more than 600 applications throughout the book. The datasets are available online at the student resource site and in MyStatlab. Examples that use these datasets cite them in the text. Exercises are marked when they use one of them; exercise names usually indicate the name of the dataset. We encourage students to get the datasets and reproduce our examples using their statistics software, and some of the exercises require that.

## Streamlined Content

Following the GAISE recommendations, we've streamlined several parts of the course: Introductory material is covered more rapidly. Today's students have seen a lot of statistics in their K–12 math courses and in their daily contact with online and news sources. We still cover the topics to establish consistent terminology (such as the difference between a histogram and a bar chart). Chapter 2 does most of the work that previously took two chapters.

The discussion of random variables and probability distributions is shorter than in previous editions—again, a GAISE recommendation. Those are interesting topics, but they are not needed in this course. We leave them for a later course for those students who want to go further.

The Random Matters features show students that statistics vary from sample to sample, show them (empirical) sampling distributions, note the effect of sample size on the shape and variation of the sampling distribution of the mean, and suggest that it looks Normal. As a result, the discussion of the Central Limit Theorem is transformed from the most difficult one in the course to a relatively short discussion (“What you think is true about means really is true; there’s this theorem.”) that can lead directly to the reasoning of confidence intervals.

Finally, introducing multiple regression doesn’t really add much to the lesson on inference for multiple regression because little is new.

## GAISE 2016

As we’ve said, all of these enhancements follow the new Guidelines for Assessment and Instruction in Statistics Education (GAISE) 2016 report adopted by the American Statistical Association:

1. Teach statistical thinking.
  - ◆ Teach statistics as an investigative process of problem-solving and decision-making.
  - ◆ Give students experience with multivariable thinking.
2. Focus on conceptual understanding.
3. Integrate real data with a context and purpose.
4. Foster active learning.
5. Use technology to explore concepts and analyze data.
6. Use assessments to improve and evaluate student learning.

The result is a course that is more aligned with the skills needed in the 21st century, one that focuses even more on statistical thinking and makes use of technology in innovative ways, while retaining core principles and topic coverage.

The challenge has been to use this modern point of view to improve learning without discarding what is valuable in the traditional introductory course. Many first statistics courses serve wide audiences of students who need these skills for their own work in disciplines where traditional statistical methods are, well, traditional. So we have not reduced our emphasis on the concepts and methods you expect to find in our texts.

## Chapter Order

---

We’ve streamlined the presentation of basic topics that most students have already seen. Pie charts, bar charts, histograms, and summary statistics all appear in Chapter 2. Chapter 3 introduces contingency tables, and Chapter 4 discusses comparing distributions. Chapter 5 introduces the Normal model and the 68–95–99.7 Rule. The four chapters of Part II then explore linear relationships among quantitative variables—but here we introduce only the models and how they help us understand relationships. We leave the inference questions until later in the book. Part III discusses how data are gathered by survey and experiment.

In Part IV, Chapter 12 introduces basic probability and prepares us for inference. Naturally, a new approach to teaching inference has led to a reorganization of inference topics. In Chapter 13 we introduce confidence intervals for proportions as soon as we’ve reassured students that their intuition about the sampling distribution of proportions is correct. Chapter 14 formalizes the Central Limit Theorem and introduces Student’s  $t$  models. Chapter 15 is then about testing hypotheses, and Chapter 16 elaborates further, discussing alpha levels, Type I and Type II errors, power, and effect size. The subsequent chapters in Part V deal with comparing groups (both with proportions and with means), paired samples, chi-square, and finally, inferences for regression models (both simple and multiple).

We’ve found that one of the challenges students face is how to know what technique to use when. In the real world, questions don’t come at the ends of the chapters. So, as always, we’ve provided summaries at the end of each part along with a series of exercises

designed to stretch student understanding. These Part Reviews are a mix of questions from all the chapters in that part. Finally, we've added an extra set of "book-level" review problems at the end of the book. These ask students to integrate what they've learned from the entire course. The questions range from simple questions about what method to use in various situations to a more complete data analyses from real data. We hope that these will provide a useful way for students to organize their understanding at the end of the course.

## Our Approach

---

We've discussed how this book is different, but there are some things we haven't changed.

- ◆ **Readability.** This book doesn't read like other statistics texts. Our style is both colloquial and informative, engaging students to actually read the book to see what it says.
- ◆ **Humor.** You will find quips and wry comments throughout the narrative, in margin notes, and in footnotes.
- ◆ **Informality.** Our informal diction doesn't mean that we treat the subject matter lightly or informally. We try to be precise and, wherever possible, we offer deeper explanations and justifications than those found in most introductory texts.
- ◆ **Focused lessons.** The chapters are shorter than in most other texts so that instructors and students can focus on one topic at a time.
- ◆ **Consistency.** We try to avoid the "do what we say, not what we do" trap. Having taught the importance of plotting data and checking assumptions and conditions, we model that behavior through the rest of the book. (Check out the exercises in Chapter 20.)
- ◆ **The need to read.** Statistics is a consistent story about how to understand the world when we have data. The story can't be told piecemeal. This is a book that needs to be read, so we've tried to make the reading experience enjoyable. Students who start with the exercises and then search back for a worked example that looks the same but with different numbers will find that our presentation doesn't support that approach.

## Mathematics

Mathematics can make discussions of statistics concepts, probability, and inference clear and concise. We don't shy away from using math where it can clarify without intimidating. But we know that some students are discouraged by equations, so we always provide a verbal description and a numerical example as well.

Nor do we slide in the opposite direction and concentrate on calculation. Although statistics calculations are generally straightforward, they are also usually tedious. And, more to the point, today, virtually all statistics are calculated with technology. We have selected the equations that focus on illuminating concepts and methods rather than for hand calculation. We sometimes give an alternative formula, better suited for hand calculation, for those who find that following the calculation process is a better way to learn about the result.

## Technology and Data

We assume that computers and appropriate software are available—at least for demonstration purposes. We hope that students have access to computers and statistics software for their analyses.

We discuss generic computer output at the end of most chapters, but we don't adopt any particular statistics software. The **Tech Support** sections at the ends of chapters offer guidance for seven common software platforms: Data Desk, Excel, JMP, Minitab, SPSS,

StatCrunch, and R. We also offer some advice for TI-83/84 Plus graphing calculators, although we hope that those who use them will also have some access to computers and statistics software.

We don't limit ourselves to small, artificial data sets, but base most examples and exercises on real data with a moderate number of cases. Machine-readable versions of the data are available at the book's website, [pearsonhighered.com/dvb](http://pearsonhighered.com/dvb).

## Features

---

### Enhancing Understanding

**Where Are We Going?** Each chapter starts with a paragraph that raises the kinds of questions we deal with in the chapter. A chapter outline organizes the major topics and sections.

**New! Random Matters.** This new feature travels along a progressive path of understanding randomness and our data. The first Random Matters element begins our thinking about drawing inferences from data. Subsequent Random Matters draw histograms of sample means, introduce the thinking involved in permutation tests, and encourage judgment about how likely the observed statistic seems when viewed against the simulated sampling distribution of the null hypothesis (without, of course, using those terms).

**Margin and in-text boxed notes.** Throughout each chapter, boxed margin and in-text notes enhance and enrich the text.

**Reality Check.** We regularly remind students that statistics is about understanding the world with data. Results that make no sense are probably wrong, no matter how carefully we think we did the calculations. Mistakes are often easy to spot with a little thought, so we ask students to stop for a reality check before interpreting their result.

**Notation Alert.** Throughout this book, we emphasize the importance of clear communication, and proper notation is part of the vocabulary of statistics. We've found that it helps students when we are clear about the letters and symbols statisticians use to mean very specific things, so we've included Notation Alerts whenever we introduce a special notation that students will see again.

Each chapter ends with several elements to help students study and consolidate what they've seen in the chapter.

- ◆ **Connections** specifically ties the new topics to those learned in previous chapters.
- ◆ **What Can Go Wrong?** sections highlight the most common errors that people make and the misconceptions they have about statistics. One of our goals is to arm students with the tools to detect statistical errors and to offer practice in debunking misuses of statistics, whether intentional or not.
- ◆ Next, the **Chapter Review** summarizes the story told by the chapter and provides a bullet list of the major concepts and principles covered.
- ◆ A **Review of Terms** is a glossary of all of the special terms introduced in the chapter. In the text, these are printed in **bold** and underlined. The Review provides page references, so students can easily turn back to a full discussion of the term if the brief definition isn't sufficient.

The **Tech Support** section provides the commands in each of the supported statistics packages that deal with the topic covered by the chapter. These are not full documentation, but should be enough to get a student started in the right direction.

## Learning by Example

**Step-by-Step Examples.** We have expanded and updated the examples in our innovative Step-by-Step feature. Each one provides a longer, worked example that guides students through the process of analyzing a problem. The examples follow our three-step Think, Show, Tell organization for approaching a statistics task. They are organized with general explanations of each step on the left and a worked-out solution on the right. The right side of the grid models what would be an “A” level solution to the problem. Step-by-Steps illustrate the importance of thinking about a statistics question (What do we know? What do we hope to learn? Are the assumptions and conditions satisfied?) and reporting our findings (the Tell step). The Show step contains the mechanics of calculating results and conveys our belief that it is only one part of the process. Our emphasis is on statistical thinking, and the pedagogical result is a better understanding of the concept, not just number crunching.

**Examples.** As we introduce each important concept, we provide a focused example that applies it—usually with real, up-to-the-minute data. Many examples carry the discussion through the chapter, picking up the story and moving it forward as students learn more about the topic.

**Just Checking.** Just Checking questions are quick checks throughout the chapter; most involve very little calculation. These questions encourage students to pause and think about what they’ve just read. The Just Checking answers are at the end of the exercise sets in each chapter so students can easily check themselves.

## Assessing Understanding

Our **Exercises** have some special features worth noting. First, you’ll find relatively simple, focused exercises organized by chapter section. After that come more extensive exercises that may deal with topics from several parts of the chapter or even from previous chapters as they combine with the topics of the chapter at hand. All exercises appear in pairs. The odd-numbered exercises have answers in the back of student texts. Each even-numbered exercise hits the same topic (although not in exactly the same way) as the previous odd exercise. But the even-numbered answers are not provided. If a student is stuck on an even exercise, looking at the previous odd one (and its answer) can often provide the help needed.

More than 600 of our exercises have a  tag next to them to indicate that the dataset referenced in the exercise is available electronically. The exercise title or a note provides the dataset title. Some exercises have a  tag to indicate that they call for the student to generate random samples or use randomization methods such as the bootstrap. Although we hope students will have access to computers, we provide ample exercises with full computer output for students to read, interpret, and explain.

We place all the exercises—including section-level exercises—at the end of the chapter. Our writing style is colloquial and encourages reading. We are telling a story about how to understand the world when you have data. Interrupting that story with exercises every few pages would encourage a focus on the calculations rather than the concepts.

**Part Reviews.** The book is partitioned into five conceptual parts; each ends with a Part Review. The part review discusses the concepts in that part of the text, tying them together and summarizing the story thus far. Then there are more exercises. These exercises have the advantage (for study purposes) of not being tied to a chapter, so they lack the hints of what to do that would come from that identification. That makes them more like potential exam questions and a good tool for review. Unlike, the chapter exercises, these are not paired.

**Parts I-V Cumulative Review Exercises.** A final book-level review section appears after the Part Review V. Cumulative Review exercises are longer and cover concepts from the book as a whole.

## Additional Resources Online

---

Most of the supporting materials can be found online:

At the book's website at [pearsonhighered.com/dvb](http://pearsonhighered.com/dvb)

Within the MyStatlab course at [www.mystatlab.com](http://www.mystatlab.com)

Datasets are also available at [dasl.datadesk.com](http://dasl.datadesk.com).

**Data desk 8** is a statistics program with a graphical interface that is easy to learn and use. A student version is available at [datadesk.com](http://datadesk.com). Click on the **Teachers & Students** tab at the top of the page.

New tools that provide interactive versions of the distribution tables at the back of the book and tools for randomization inference methods such as the bootstrap and for repeated sampling from larger populations can be found online at [astools.datadesk.com](http://astools.datadesk.com).

## MyStatLab™ Online Course (access code required)

MyStatLab from Pearson is the world's leading online resource for teaching and learning statistics; integrating interactive homework, assessment, and media in a flexible, easy-to-use format. It is a course management system that delivers proven results in helping individual students succeed.

- ◆ MyStatLab can be successfully implemented in any environment—lab-based, hybrid, fully online, traditional—and demonstrates the quantifiable difference that integrated usage has on student retention, subsequent success, and overall achievement.
- ◆ MyStatLab's comprehensive online gradebook automatically tracks students' results on tests, quizzes, homework, and in the study plan. Instructors can use the gradebook to provide positive feedback or intervene if students have trouble. Gradebook data can be easily exported to a variety of spreadsheet programs, such as Microsoft Excel.

MyStatLab provides engaging experiences that personalize, stimulate, and measure learning for each student. In addition to the resources below, each course includes a full interactive online version of the accompanying textbook.

- ◆ **Personalized Learning:** MyStatLab's personalized homework, and adaptive and companion study plan features allow your students to work more efficiently, spending time where they really need to.
- ◆ **Tutorial Exercises with Multimedia Learning Aids:** The homework and practice exercises in MyStatLab align with the exercises in the textbook, and they regenerate algorithmically to give students unlimited opportunity for practice and mastery. Exercises offer immediate helpful feedback, guided solutions, sample problems, animations, videos, and eText clips for extra help at point-of-use.
- ◆ **Learning Catalytics™:** MyStatLab now provides Learning Catalytics—an interactive student response tool that uses students' smartphones, tablets, or laptops to engage them in more sophisticated tasks and thinking.
- ◆ **Getting Ready for Statistics:** A library of questions now appears within each MyStatLab course to offer the developmental math topics students need for the course. These can be assigned as a prerequisite to other assignments.
- ◆ **Conceptual Question Library:** A library of 1,000 Conceptual Questions available in the assignment manager requires students to apply their statistical understanding.
- ◆ **StatTalk Videos:** Fun-loving statistician Andrew Vickers takes to the streets of Brooklyn, NY, to demonstrate important statistical concepts through interesting stories and real-life events. This series of 24 fun and engaging videos will help students actually understand statistical concepts. Available with an instructor's user guide and assessment questions.
- ◆ **StatCrunch™:** MyStatLab integrates the web-based statistical software, StatCrunch, within the online assessment platform so that students can easily analyze data sets from exercises and the text. In addition, MyStatLab includes access to [www.statcrunch.com](http://www.statcrunch.com), a vibrant online community where users can access tens of thousands of shared data sets, create and conduct online surveys, perform complex analyses using the powerful statistical software, and generate compelling reports.
- ◆ **Statistical Software Support and Integration:** We make it easy to copy our data sets, both from the ebook and the MyStatLab questions, into software such as StatCrunch, Minitab, Excel, and more. Students have access to a variety of support tools—Tutorial Videos, Technology Study Cards, and Technology Manuals for select titles—to learn how to effectively use statistical software.
- ◆ **Accessibility:** Pearson works continuously to ensure our products are as accessible as possible to all students. We are working toward achieving WCAG 2.0 Level AA

and Section 508 standards, as expressed in the Pearson Guidelines for Accessible Educational Web Media.

## MathXL<sup>®</sup> for Statistics Online Course (access code required)

Part of the world's leading collection of online homework, tutorial, and assessment products, Pearson MathXL delivers assessment and tutorials resources that provide engaging and personalized experiences for each student. Each course is developed to accompany Pearson's best-selling content, authored by thought leaders across the math curriculum, and can be easily customized to fit any course format. With MathXL, instructors can:

- ◆ Create, edit, and assign online homework and tests using algorithmically generated exercises correlated at the objective level to the textbook.
- ◆ Create and assign their own online exercises and import TestGen tests for added flexibility.
- ◆ Maintain records of all student work tracked in MathXL's online gradebook.

With MathXL, students can:

- ◆ Take chapter tests in MathXL and receive personalized study plans and/or personalized homework assignments based on their test results.
- ◆ Use the study plan and/or the homework to link directly to tutorial exercises for the objectives they need to study.
- ◆ Access supplemental animations and video clips directly from selected exercises.

MathXL is available to qualified adopters. For more information, visit our website at [www.pearson.com/mathxl](http://www.pearson.com/mathxl), or contact your Pearson representative.

## StatCrunch<sup>™</sup>

StatCrunch is powerful web-based statistical software that allows users to perform complex analyses, share data sets, and generate compelling reports of their data. The vibrant online community offers tens of thousands shared data sets for students to analyze.

- ◆ **Collect.** Users can upload their own data to StatCrunch or search a large library of publicly shared data sets, spanning almost any topic of interest. Also, an online survey tool allows users to quickly collect data via web-based surveys.
- ◆ **Crunch.** A full range of numerical and graphical methods allow users to analyze and gain insights from any data set. Interactive graphics help users understand statistical concepts and are available for export to enrich reports with visual representations of data.
- ◆ **Communicate.** Reporting options help users create a wide variety of visually appealing representations of their data.

Full access to StatCrunch is available with a MyStatLab kit, and StatCrunch is available by itself to qualified adopters. StatCrunch Mobile is also now available when you visit [www.statcrunch.com](http://www.statcrunch.com) from the browser on your smartphone or tablet. For more information, visit [www.StatCrunch.com](http://www.StatCrunch.com) or contact your Pearson representative.

## Additional Resources

**Minitab<sup>®</sup> and Minitab Express<sup>™</sup>** make learning statistics easy and provide students with a skill-set that's in demand in today's data driven workforce. Bundling Minitab<sup>®</sup> software with educational materials ensures students have access to the software they need in the classroom, around campus, and at home. And having the latest version of Minitab ensures that students can use the software for the duration of their course. ISBN 13: 978-0-13-445640-9 ISBN 10: 0-13-445640-8 (Access Card only; not sold as standalone.)

**JMP Student Edition** is an easy-to-use, streamlined version of JMP desktop statistical discovery software from SAS Institute, Inc. and is available for bundling with the text. ISBN-13: 978-0-13-467979-2; ISBN-10: 0-13-467979-2



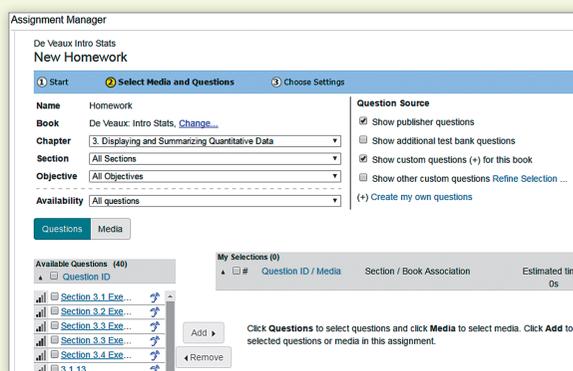
# Resources for Success

**MyStatLab® Online Course for *Intro Stats, 5e***  
 by Richard D. De Veaux, Paul F. Velleman,  
 and David E. Bock (access code required)

MyStatLab is available to accompany Pearson's market-leading text offerings. To give students a consistent tone, voice, and teaching method, each text's flavor and approach are tightly integrated throughout the accompanying MyStatLab course, making learning the material as seamless as possible.

## Expanded objective-based exercise coverage

MyStatLab exercises are newly mapped to improve student learning outcomes. Homework reinforces and supports students' understanding of key statistics topics.



College Students

	Smart Phone	No Smart Phone	Total
Pet	13%	2%	15%
No Pet	67%	18%	85%
Total	80%	20%	100%

## Enhanced video program to meet Introductory Statistics needs

Updated Step-by-Step Example videos guide students through the process of analyzing a problem using the "Think, Show, and Tell" strategy from the textbook.

## Real-world data examples

Examples and exercises throughout the textbook and MyStatLab use current, real-world data to help students understand how statistics applies to everyday life.

Movie\_budgets.txt

Row	Movie	Run Time (minutes)	Budget (\$M)	USGross (\$)	Genre	Dramas	var7
1	White Noise	101	30	56094360	Horror	0	
2	Coach Carter	136	45	67264877	Drama	1	
3	Elektra	100	65	24409722	Action	0	
4	Racing Stripes	110	30	49722522	Comedy	0	
5	Assault on Precinct 13	109	30	20040895	Action	0	
6	Are We There Yet?	94	20	82674398	Comedy	0	
7	Alone in the Dark	96	20	5178569	Horror	0	
8	Indigo	105	25	51100486	Drama	1	
9	Boogeyman	88	20	46752382	Horror	0	
10	The Wedding Date	90	40	31726995	Comedy	0	
11	Hitch	113	55	1.7778426e8	Comedy	0	
12	Poo's Heffalump Movie	68	20	18081626	Adventure	0	
13	Because of Winn-Dixie	106	15	32647042	Comedy	0	
14	Constantine	122	75	75976178	Action	0	
15	Son of the Mask	86	100	17018422	Comedy	0	
16	Cursed	105	35	19294901	Horror	0	
17	Man of the House	100	50	19699706	Comedy	0	
18	Be Cool	150	75	55849401	Comedy	0	
19	The Jacket	103	28.5	6301131	Thriller	0	
20	The Pacifier	97	56	1.1300688e8	Comedy	0	
21	Hostage	108	75	34636443	Action	0	
22	Robots	89	80	1.2820001e8	Adventure	0	
23	The Upside of Anger	117	12	18761993	Drama	1	
24	Ice Princess	99	25	24381334	Comedy	0	
25	The Ring Two	111	50	75941727	Horror	0	
26	Miss Congeniality 2: Armed at	115	60	48478006	Comedy	0	



Pearson

# Resources for Success

## Student Resources

**Intro Stats, 5th edition** is part of De Veaux, Velleman, and Bock's Statistics series (ISBN-13: 978-0-13-421022-3; ISBN-10: 0-13-421022-0)

**Student's Solutions Manual** by William Craine, provides detailed, worked-out solutions to odd-numbered exercises. This manual is available within MyStatLab. (ISBN-13: 978-0-13-426535-3; ISBN-10: 0-13-426535-1)

## Instructor Resources

**Instructor's Edition** contains answers to all exercises, plus recommended assignments and teaching suggestions. (ISBN-13: 978-0-13-421036-0; ISBN-10: 0-13-421036-0)

**Instructor's Solutions Manual (Download Only)**, by William Craine, contains solutions to all the exercises. These files are available to qualified instructors through Pearson Education's online catalog at [www.pearsonhighered.com/irc](http://www.pearsonhighered.com/irc) or within MyStatLab.

**Online Test Bank and Resource Guide (Download Only)**, by William Craine, includes chapter-by-chapter comments on the major concepts, tips on presenting topics, extra teaching examples, a list of resources, chapter quizzes, part-level tests, and suggestions for projects. These files are available to qualified instructors through Pearson Education's online catalog at [www.pearsonhighered.com/irc](http://www.pearsonhighered.com/irc) or within MyStatLab.

### TestGen® Computerized Test Bank

([www.pearsoned.com/testgen](http://www.pearsoned.com/testgen)) enables instructors to build, edit, print, and administer tests using a computerized bank of questions developed to cover all the objectives of the text. TestGen is algorithmically based, allowing instructors to create multiple but equivalent versions of the same question or test with the click of a button. Instructors can also modify test bank questions or add new questions. The software and test bank are available for download from Pearson Education's online catalog at [www.pearsonhighered.com](http://www.pearsonhighered.com).

**PowerPoint® Lecture Slides:** Free to qualified adopters, this classroom lecture presentation software is geared specifically to the sequence and philosophy of the book. Key graphics from the book are included to help bring the statistical concepts alive in the classroom. These files are available to qualified instructors through Pearson Education's online catalog at [www.pearsonhighered.com/irc](http://www.pearsonhighered.com/irc) or within MyStatLab.

**Learning Catalytics:** Learning Catalytics is a web-based engagement and assessment tool. As a "bring-your-own-device" direct response system, Learning Catalytics offers a diverse library of dynamic question types that allow students to interact with and think critically about statistical concepts. As a real-time resource, instructors can take advantage of critical teaching moments in the classroom or through assignable and gradeable homework.

[www.mystatlab.com](http://www.mystatlab.com)

## ACKNOWLEDGMENTS

Many people have contributed to this book throughout all of its editions. This edition never would have seen the light of day without the assistance of the incredible team at Pearson. Director, Portfolio Management Deirdre Lynch was central to the genesis, development, and realization of this project from day one. Our Portfolio Manager, Patrick Barbera, has been invaluable in his support of this edition. Sherry Berg, Content Producer, kept the cogs from getting into the wheels, where they often wanted to wander. Product Marketing Manager Emily Ockay and Field Marketing Manager Andrew Noble made sure the word got out. Justin Billing, Portfolio Management Assistant, Jennifer Myers, Marketing Assistant, and Erin Rush, Field Marketing Assistant, were essential in managing all of the behind-the-scenes work. Senior Producer Stephanie Green put together a top-notch media package for this book. Senior Project Manager Chere Bemelmans of Cenveo Publisher Services led us expertly through every stage of production. Manufacturing Buyer Carol Melville, LSC Communications, worked miracles to get this book in your hands.

We would like to draw attention to three people who provided substantial help and support on this edition. First, to Nick Horton of Amherst College for his in-depth discussions, guidance, and insights. Nick was invaluable in helping us find the balance between the poles of Normal-based inference and resampling methods. Second, we would like to thank Corey Andreasen of Qatar Academy Doha, Doha, Qatar, and Jared Derksen of Rancho Cucamonga High School for their help with updating the exercises, answers, and data sets.

We'd also like to thank our accuracy checker, Dirk Tempelaar, whose monumental task was to make sure we said what we thought we were saying.

We extend our sincere thanks for the suggestions and contributions made by the following reviewers of this edition:

Ann Cannon <i>Cornell College</i>	Sheldon Lee <i>Viterbo University</i>	Dirk Tempelaar <i>Maastricht University</i>
Susan Chimiak <i>University of Maryland</i>	Pam Omer <i>Western New England University</i>	Carol Weideman <i>St. Petersburg College</i>
Lynda Hollingsworth <i>Northwest Missouri State University</i>	Sarah Quesen <i>West Virginia University</i>	Ming Wang <i>University of Kansas</i>
Jeff Kollath <i>Oregon State University</i>	Karin Reinhold <i>SUNY Albany</i>	Lisa Wellinghoff <i>Wright State</i>
Cindy Leary <i>University of Montana</i>	Laura Shick <i>Clemson University</i>	Cathy Zucco-Teveloff <i>Rider University</i>

We also extend our sincere thanks for the suggestions and contributions made by the following reviewers of the previous editions:

Mary Kay Abbey <i>Montgomery College</i>	Sanjib Basu <i>Northern Illinois University</i>	Jerry Chen <i>Suffolk County Community College</i>
Froozan Pourboghnaf Afiat <i>Community College of Southern Nevada</i>	Carl D. Bodenschatz <i>University of Pittsburgh</i>	Rick Denman <i>Southwestern University</i>
Mehdi Afiat <i>Community College of Southern Nevada</i>	Steven Bogart <i>Shoreline Community College</i>	Jeffrey Eldridge <i>Edmonds Community College</i>
Nazanin Azarnia <i>Santa Fe Community College</i>	Ann Cannon <i>Cornell College</i>	Karen Estes <i>St. Petersburg Junior College</i>
	Robert L. Carson <i>Hagerstown Community College</i>	

- |   |  |   |
|---|--|---|
| Richard Friary<br>Kim (Robinson) Gilbert<br><i>Clayton College &amp; State<br/>University</i> | Michael Kinter<br><i>Cuesta College</i>                              | Charles C. Okeke<br><i>Community College of<br/>Southern Nevada</i>   |
| Ken Grace<br><i>Anoka-Ramsey Community<br/>College</i>  | Kathleen Kone<br><i>Community College of<br/>Allegheny County</i>    | Pamela Omer<br><i>Western New England College</i>                     |
| Jonathan Graham<br><i>University of Montana</i>   | Michael Lichter<br><i>State University of New York–<br/>Buffalo</i>  | Mavis Pararai<br><i>Indiana University of<br/>Pennsylvania</i>        |
| Nancy Heckman<br><i>University of British<br/>Columbia</i>                                    | Susan Loch<br><i>University of Minnesota</i>                         | Gina Reed<br><i>Gainesville College</i>                               |
| James Helreich<br><i>Marist College</i>   | Pamela Lockwood<br><i>Western Texas A &amp; M<br/>University</i>     | Juana Sanchez<br><i>UCLA</i>  |
| Susan Herring<br><i>Sonoma State University</i>   | Wei-Yin Loh<br><i>University of Wisconsin–<br/>Madison</i>           | Gerald Schoultz<br><i>Grand Valley State University</i>               |
| Mary R. Hudachek-Buswell<br><i>Clayton State University</i>                                   | Steve Marsden<br><i>Glendale College</i>                             | Jim Smart<br><i>Tallahassee Community<br/>College</i>                 |
| Patricia Humphrey<br><i>Georgia Southern University</i>                                       | Catherine Matos<br><i>Clayton College &amp; State<br/>University</i> | Chamont Wang<br><i>The College of New Jersey</i>                      |
| Becky Hurley<br><i>Rockingham Community<br/>College</i>                                       | Elaine McDonald<br><i>Sonoma State University</i>                    | Edward Welsh<br><i>Westfield State College</i>                        |
| Debra Ingram<br><i>Arkansas State University</i>  | Jackie Miller<br><i>The Ohio State University</i>                    | Heydar Zahedani<br><i>California State University,<br/>San Marcos</i> |
| Joseph Kupresanin<br><i>Cecil College</i>   | Hari Mukerjee<br><i>Wichita State University</i>                     | Cathy Zucco-Teveloff<br><i>Rider University</i>                       |
| Kelly Jackson<br><i>Camden County College</i>   | Helen Noble<br><i>San Diego State University</i>                     | Dottie Walton<br><i>Cuyahoga Community College</i>                    |
| Martin Jones<br><i>College of Charleston</i>  | Monica Oabos<br><i>Santa Barbara City College</i>                    | Jay Xu<br><i>Williams College</i>                                     |
| Rebecka Jornsten<br><i>Rutgers University</i>   | Linda Obeid<br><i>Reedley College</i>                                |   |