

Preface

Getting the most out of this book

We write this section with some uncertainty since we rarely read a preface in a book and wonder if anyone is going to read what we've written here. Nonetheless, there are several important things we need to explain to you to enable you to get the best out of this book and its Online Resource Centre, so we'd encourage you to take a few moments to read on.

Who should read this book?

This book is primarily written for undergraduates who wish to develop their understanding of designing, carrying out, and reporting research. We anticipate that graduates, although familiar with most of this material, will find this book and its Online Resource Centre to be a useful reference too. We have therefore used examples almost entirely drawn from real undergraduate and some graduate research projects. We are indebted to all our students who have allowed us to use their ideas and data in this book.

Learning features

In our experience we have found that students best understand the statistics element of this book if they first use a calculator to work out the calculation. Therefore, in this book we have arranged the statistical information in boxes with general details and a worked example for you to follow.

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ONLINE RESOURCE CENTRE

Research Methods for the Biosciences
Holmes, Moody & Dine

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Student Resources

- Introduction: Choose a topic and work through the steps of carrying out a formal research project, with exercises and feedback at each stage**
- Full Calculators** Complete step-by-step worked examples of the exercises in the book
- Statistical Software** Detailed descriptions of how to use SPSS, Minitab and Excel

Lecturer Resources

- Downloadable resources** and for adopting lecturers use only
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We then include in the Online Resource Centre an explanation of how to use SPSS, Excel, and Minitab to carry out the same calculation.

In the calculations, we've included in this book we have rounded all values, usually to five decimal places. However, we carried out all the calculations using **all** decimal places (as you should). This means that some of our sums do not appear to quite add up. Any minor differences in the calculations should be the result of this rounding of values.

We know that most people will dip in to this book and so we have included a **glossary** of most terms that you need to be familiar with. Key terms are shown in coloured type the first time they appear; definitions of these key terms then appear in the glossary at the end of the book.

Online Resource Centre



Research Methods for the Biosciences is more than just this printed book. The *Research Methods for the Biosciences* **Online Resource Centre** features extensive online materials to help you really get to grips with the skills you need to carry out research work.

The **student** area of the Online Resource Centre includes:

- full details of all calculations in this book: every step in each calculation is shown so you can see exactly how we reach the answers shown in the book
- walk-through explanations of how to use SPSS, Excel, and Minitab to carry out these calculations
- interactive tasks for you to work through to test your understanding of the topics in this book, and hone your research methods skills.



You can access these resources at www.oxfordtextbooks.co.uk/orc/holmes

You'll see the Online Resource Centre icon throughout the book. This icon tells you that the part of the text you are reading has online materials to accompany it.

For the lecturer

The **lecturer** area of the Online Resource Centre provides additional materials to make the book easier to teach from. These materials include:

- **figures from the book**, available to download for use in lecture slides
- all the content from the student area as a **VLE cartridge**, so these materials can be readily uploaded into your own online teaching pages.

Simply go to www.oxfordtextbooks.co.uk/orc/holmes and register as a user of the book to gain free access to these materials.

Getting started

You may be coming to this book with very little in the way of training in maths. If you do not know how to calculate this sum $(4 - 3)^2/2$, or if you do not recognize the symbols $<$ or $>$, then we suggest you first look at **Appendix c** and the additional examples on the Online Resource Centre.

You may wish to analyse data you have gathered from an experiment carried out in your course. For this we suggest you start with **Appendix b**.

You may wish to prepare a critique of published research. The chapter that considers this is **Chapter 2**, with cross-referencing to earlier and some later chapters.

If you wish to design a research project and you are familiar with terms such as variable, parametric, aim, hypothesis, etc., then go to **Appendix a** and **Chapter 2**. If you are not familiar with these terms still refer to **Appendix a**, and then continue from **Chapter 1**.

And finally . . .

Just in case OUP ask us to produce a second edition, we would like to hear about any errors (we hope there are none) and any suggestions you have for improvements, so that a second edition can be even better than the first. You can contact us by using the 'Send us your feedback' option in the Online Resource Centre.

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