Introduction: How to Use This Book

The goal of this book is to be relentlessly practical. It has been designed with the specific needs of science and engineering graduate students and junior professionals in mind. It is the result of working with hundreds of you in Europe and Australasia to learn how you access information, the type of information you want and the sorts of books you don't like. These are the sorts of things that many students have told me:

- **You appreciate prescriptions.** This book certainly gives prescriptive guidelines. It's very user-centred – almost a recipe book. In places, it even gives formulae, e.g. for structuring material in the various sections of a journal paper. It was this feature of the first edition that students liked, and I've expanded on this concept in the second edition. Science and technical writing *can* be guided to a great extent by prescriptions. You may not achieve high style, but you'll get professional competency.
- **You don't like dense text.** I've heard many disparaging comments about books with 'too many words'. A great many of you have said that you don't want to read long passages of text; most of you prefer concise, listed material to long paragraphs.
- **You need to be able to read any chapter in isolation.** In this book, you don't have to have read the previous parts of the book to understand the later ones.
- **Looking things up and cross-referring is second nature to scientists and engineers.** This book has lots of cross-references within it to other parts of the book.
- **You appreciate knowing the mistakes to avoid, and that you are not alone in your difficulties.** This book lists the common difficulties and errors.
- **Many of you have not had enough guidelines on the requirements of technical writing and presentation during your undergraduate years.** This book assumes no basic knowledge, but it is not simplistic.

Added for the Second Edition

Since the publication of the first edition, I've spent 15 years running programmes for many hundreds of graduate students in German and Swiss graduate schools associated with major universities and Max Planck Institutes. All of them are doing cutting-edge science in areas ranging from molecular biology, neurobiology, plasma physics, medicine and microbial genetics to intelligent systems, computational neuroscience, biophysical chemistry and more.

The subject areas are wide-ranging, yet the students have the same types of problems and make similar mistakes. They are also under pressure to publish in high-impact journals.

The twice-yearly experience of intensive small-group teaching has been ideal for updating and developing the concepts in this second edition. My thanks to all these students; the education has flowed in both directions. Any mistakes, of course, are all mine.

The Basic Structure of the Book

Chapter 1	**Structuring a Document: Using the Headings Skeleton**	How to decide on a structure for a document
Chapter 2	**The Core Chapter: Sections and Elements of a Document**	The requirements for all the sections likely to be found in a graduate document.
Chapters 3–14	**Specific types of documents**	The requirements for each type of document. Extensively cross-referred to Chapter 2: *The Core Chapter*:
Chapter 15	**Referencing: text citations and the *List of References***	The conventions for referencing within the text and for the *List of References*.
Chapter 16	**Conventions used in scientific and technical writing**	The conventions for such things as formatting equations, rules for capitalisation, etc.
Chapter 17	**Revising and proofreading**	The techniques for revising a document and proofreading the final version or editor's page-proofs.
Chapter 18	**Problems of style: recognising and correcting them**	Recognising and correcting common problems of writing style.
Chapter 19	**A seminar or conference presentation**	The techniques for a formal oral presentation
Chapter 20	**A presentation to a small group**	The techniques for a presentation to a small panel of people, e.g. PhD oral or a design presentation.
Appendix 1	**SI units**	
Appendix 2	**The parts of speech; tenses and forms of the verb**	
Appendix 3	**Recommended Scientific Style manuals**	

How to Use This Book

If you need the primary information about the following: • **The basic skeleton of headings of a technical document** • **How to choose sections for a document** • **How to guide a reader through a document**	See Chapter 1: *Structuring a Document: Using the Headings Skeleton*
If you need information about how to write a specific section or element of a document	See Chapter 2: *The Core Chapter: Sections and Elements of a Document*
If you need to write a specific type of document	See Chapters 3–14. Go straight to the chapter covering that specific type of document. It will be extensively cross-referred to the detail you need in other parts of the book.
If you need to prepare a seminar or conference presentation	See Chapter 19: *A Seminar or Conference Presentation*
The other chapters give the supporting information on the conventions of technical documentation: referencing, editorial conventions and revising.	Chapters 15–17