

Contents

Preface to the Revised Edition xiv

Preface to the First Edition xvii

1

THE SEMANTIC ENVIRONMENT OF SCIENCE

References 9

2

BEFORE YOU BEGIN

Kinds of Scientific Communication 13
Sources of Help 13
Pencils, Mice, and Cyberspace 15
References 18

3

ORGANIZING AND WRITING A ROUGH DRAFT

Thinking and Writing 22
Prewriting Exercises 22
Organization and Development 26
Coordinating Organization and Development 28
Organizing and Your Point of Emphasis 29
Transitions 30
Writing the Rough Draft 31
References 34

4

SEARCHING AND REVIEWING SCIENTIFIC LITERATURE

Planning the Literature Search	35
Finding the Literature	39
Selecting and Evaluating the Literature	42
The Literature Review	46
References	49

5

THE PROPOSAL

The Graduate Proposal	51
The Grant Proposal	52
Content and Form	53
Other Considerations	63
Progress Reports	64
References	65

6

THE GRADUATE THESIS

The Thesis and Your Graduate Program	67
Avoiding Problems	70
Planning the Thesis	76
Acceptable Forms for Theses	77
The Thesis Defense	82
References	83

7

PUBLISHING IN SCIENTIFIC JOURNALS

Planning and Writing the Paper	86
After the Paper Is Written	87

Contents

ix

The Editing and Reviewing Process

89

References

92

8

STYLE AND ACCURACY IN THE FINAL DRAFT

Style

93

Styles in Headings

95

Accuracy and Style in Documentation

96

Proofreading

99

References

101

9

REVIEWING AND REVISING

Reviewing and Revising Your Own Paper

104

Making Use of Reviewers' Suggestions

106

Reviewing the Work of Others

107

References

109

10

TITLES AND ABSTRACTS

Titles

111

Abstracts

112

References

114

11

PRESENTING DATA

Tables

117

Figures

120

References

123

12

ETHICAL AND LEGAL ISSUES

Ethics in Scientific Communication	125
Professional Respect for Others	128
The Legal Issues: Copyrights and Patents	133
References	137

13

SCIENTIFIC PRESENTATIONS

Departmental Seminars	140
The Professional Meeting	141
Speaking at the Job Interview	144
The Question and Answer Session	146
Role of the Moderator	148
Fit the Occasion	149
References	150

14

COMMUNICATION WITHOUT WORDS

Symbols	152
Type Styles	153
Color	154
Physical Communication	156
Listening	159
References	161

15

VISUAL AIDS TO COMMUNICATION

Slide Composition	165
Slide Production	172
References	173

16

THE ORAL PRESENTATION

Conditioning Yourself	176
Timing	178
The Visual Aids	179
Coordinating the Visual Aids and the Speech	179
Transitions in a Slide Presentation	183
The Peer Review	187
Check List for Scientific Slide Presentation	187
References	189

17

POSTER PRESENTATIONS

Audience	192
Text	194
Type Size and Style	197
Color and Physical Qualities	197
Spacing and Arrangement	199
Presentation of Data	200
The Presenter	201
Handouts	202
Making It Fit	202
Time and Construction	203
References	204

18

GROUP COMMUNICATIONS

Group Communication with No Audience	205
Group Communication with an Audience	209
References	214

19

COMMUNICATING WITH OTHER AUDIENCES

Audiences	216
Avenues	219
Subject	220
Techniques	221
Science Writing and Presentation	222
References	223

20

TO THE INTERNATIONAL STUDENT

Becoming Adjusted to U.S. Cultures	226
General Cultural Differences	228
Scientific Writing in American English	230
Oral Presentations	234
Casual Conversation	236
Body Language	237
References	240

Appendix 1

Weaknesses in Scientific Writing	243
----------------------------------	-----

Appendix 2

The First Draft	249
-----------------	-----

Appendix 3

Sample Manuscript	253
-------------------	-----

Appendix 4

Sample Literature Review	261
--------------------------	-----

Appendix 5

Sample Proposal	269
-----------------	-----

<i>Appendix 6</i>	
Alternate Routes to the Thesis	279
<i>Appendix 7</i>	
Sample Review of Manuscript Submitted for Publication	285
<i>Appendix 8</i>	
Evolution of a Title	289
<i>Appendix 9</i>	
Evolution of an Abstract	293
<i>Appendix 10</i>	
Putting Data into Tables and Figures	297
<i>Appendix 11</i>	
Sample Letter Requesting Copyright Permission	303
<i>Appendix 12</i>	
Use of Color in Visual Aids	305
<i>Appendix 13</i>	
Sample Slides and Slide Set	311
<i>Appendix 14</i>	
Oral Presentations at Meetings	323
<i>Appendix 15</i>	
Sample Text for Poster	329
<i>Annotated Bibliography of Select References</i>	335
<i>Index</i>	341