Scientific Reports and Manuscripts

Here, we summarize how a manuscript should be structured, what the different sections should contain and how the literature should be cited. The course reports should be structured accordingly.

1. Title page: It contains the title (only proper nouns or acronyms are capitalized), lists authorship, address of institution, key words, running title, corresponding author's address, phone, fax and e-mail.

2. Abstract: Begin the abstract with your most significant finding. The abstract summarizes the paper's intent, methods, results, and the significance of the findings. It is of prime importance since it is used by the reader for guidance about the subject, how it is treated and how the significans of the results can be valued. The quality and readability of the abstract will determine how much attention a reader will devote to the rest of the report. The abstract , therefore, summarize the contents accurately and be understandable independent of the text of the rest of the manuscript. It should contain no equations, figures or illustrations and it should be brief.

3. Executive Summary: This will be one of the last sections written. It should be able to stand by itself, be concise and right to the point. Like the abstract, the executive summary summarizes the content and contains brief statements which serve as: introduction, objectives, methodlogy, main results, conclusions and recommendations. (Scientific papers submitted for publication do not contain executive summaries.)

4. Introduction: It should make the "story" of your work clear and interesting to the reader. An introduction contains a section on the significance of the subject matter, reviewing the most pertinent literature as background information and introducing the methodologicial approach. It provides the reader with the information necesssary to comprehend the topic and to understand how and why you formulated the problem the way you did. It briefly states subject, goals, purposes, importance, methods, audience and anticipated form of the results. The last paragraph should be a definition of the question addressed and a description of how your study attempts to answer that question.

5. Procedures, methods, materials: This chapter, one of the most important of the report, must present your methods of analysis in a way that will allow the reader to replicate your efforts under similar conditions. The procedure or methodology is the general, conceptual flow chart of the problem solving approach. You must provide a rationale for all procedures you elected to use.
In conducting your work you may have had to modify the procedures you first intended to use. Explain what modifications you made and why.

6. Results: This chapter contains the presentation of the finding of your investigation. When appropriate, summarize your findings in tables and graphs. Tables and graphs should supplement not simply duplicate the text. In the text you should tell the reader what to look for in the table or graph. Do not use a table or graph to take the place of text (e.g. do not say: results see table..).
Each table and graph should be numbered (Figure 1) and have a title. Readers should be able to understand the table or graph without further explanation. In the text, refer to tables and graphs by their number.

7. Discussion: This chapter contains an analysis of your results with reference to the questions you originally addressed. Do not neglect to analyse data which does not support your original hypothesis. As a researcher you

have an obligation to report and analyse all relevant data. Finding lack of support for a theory or stating that the evidence is inconclusive is as important as finding supporting evidence.
Be sure that all your conclusions are consistent with and follow from an analysis of your data. Everything in this section must grow logically from what you have presented in earlier sections. In closing you may want to mention new directions, questions and experiments which emerge from your results.
Conclude your discussion with a summary of your most important findings and discoveries.

8. Appendices: They might contain information which is not necessarily needed to understand the results, but which is difficult to compile again.

9. References: You are responsible for supplying complete bibliographic information but do not mention less relevant references. All references cited in the text appear in the References, and vice versa.
Literature citations in the text are given in chronological followed by alphabetical order and are formatted like these examples: "Campbell (1983, 1987b)" or "(Smith et al. 1984; Karl and Craven 1988; Korobi 1997, 1998)."
The References are listed in alphabetical, then chronological order. Each citation is complete, according to the following examples (since these rules might vary between journals, one should consult the journals instructions for authors):

Article: Fenchel, T. 1986. Protozoan filter feeding. Prog. Protistol. 1: 65-113.
Book: Stumm, W. and J. Morgan. 1981. Aquatic chemistry, 2nd ed. Wiley.
Chapter: Codispoti, L. A. 1983. Nitrogen in upwelling systems, p. 513-564. In E. J. Carpenter and G. Capone [eds.], Nitrogen in the marine environment. Academic Press.

Spelling of author(s) name(s) and years of publication need to be double-checked before submission. Citations of personal communications, manuscripts in preparaton, unpublished thesis, and other less easily accessible sources are kept to a minimum in the References. All entries need to be verified against original sources; check especially journal titles, accents, and spelling in languages other than English.

10. Acknowledgements: In this section one specifically acknowledges the assistance or involvement of particular people and one mentions the granting agencies and the project grants which supported the study financially.

11. Tables and Figures:
All figures and tables are cited in the text and numbered in the order that they appear.
Figures:
Graph axes on all figures are labeled using a single font (Times Roman preferred) and are sized so that they will be similar after final reduction.
The labels are at least 1/8 inch (0.71 cm) from all lines in the figure.
Lines and symbols are of proper thickness and size to be successfully reduced.
The final height of all type (after reduction) is at least 8 points (0.1 inch, 2.8 mm).
Scale bars are on the figure, NOT in the figure legend.
Figures are numbered in Arabic numerals in the order of their citation in the text.
Figure legends (one paragraph per figure) explain all panels (A, B, ...a, b, c,...) of a figure. Symbols used in the figure (e.g., circles, squares, ...) are explained in a key on the figure itself rather than in the legend.
The maximum size for a figure is 18.4x23.2 cm.
For figures taken from published work one needs copyright permision and the figures need to be acknowledged.
Maps include reference to latitude and longitude and are bounded by a fine border.
Tables: Contain a title and explanatory legends if necessary. Omit fancy table formats.

12. Abbreviations and acronyms: Abbreviations are used sparingly. Periods are used after all abbreviations except for metric measures, compass directions, and time (min, h, d, yr). All acronyms are spelled out upon first use. When dates are given, three-letter month abbreviations are used (Jan, Feb, Nov, ...), except for months with four letters, which are spelled out in full (June, July).

13. Selecting a journal: Chose a journal which publishes original articles about aspects of your research. The journal should have a broad readership and be regarded highly by the research community.
Submissions are judged mainly on the originality of their data, interpretations, and ideas, and on the degree to which these can be generalized beyond the particular experiments reported on. In microbial ecology, laboratory studies, modeling, and methodological studies must demonstrate relevance to natural environments. Manuscripts are edited for brevity and clarity. All submissions to a journal must be formatted according to the specifications outlined in the journal's "instructions for manuscripts" or "instructions to authors".
Editors place high priority on the susceptibility of results to independent verification. If a paper contains results obtained using a strain of microbe isolated from nature and not available yet from a public collection, the author is expected to honor in a reasonable time all requests for samples of the culture or to deposit specimens in a public culture collection.
Authors reporting on results that includes new nucleotide or amino acid sequences must submit the sequence information to a publicly accessible archive (e.g., GenBank or EMBL) and provide the accession number(s) in the part of the manuscript that describes the research methods. Manuscripts that use existing sequences from GenBank/EMBL must cite accession numbers and original literature references to them (if they exist).

14. Report / Manuscript Checklist:
- The General style: concise
- Title page: complete
- Abstract: brief
- (Executive summary: informative)
- Introduction: concise
- Methods: precise
- Results: clearly structured
- Discussion: logical
- References: selective
- Tables: inclusive
- Figures: graphically appealing
- Appendices: helpful and informative
- Abbreviations and acronyms: complete
- Acknowledgements: polite

15. Using Microsoft Correction Tools

NEW:

Announcing a new WWW site for OnLine English

*** a full outline of its editing service for academics and researchers (http://www.oleng.com.au)**

*** writers' links for researchers and other professionals (http://www.oleng.com.au/indexwl.html)**

*** the OnLine English phrase checker, a new way of using search engine technology to check any English phrase and better understand how English works in context (http://www.oleng.com.au/indexpc.html)**