

Formatting documents for research and scientific publication

Presented during the **Mentorship Training in Scientific Writing at UVRI**

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Introduction

- You've done the research.
- You've carefully recorded your lab results
- Compiled a list of relevant sources.
- Even written a draft of your scientific, technical, or medical paper, hoping to get published in a reputable journal.

But how do you format your paper to ensure that every detail is correct?

- If you're a scientific researcher or co-author looking to get your research published, you need to know how to format the document

Basics

- While it's true that you'll eventually need to tailor your research for your target journal, which will provide specific author guidelines for formatting the paper (see, for example, author guidelines for publications by [Elsevier](#), [PLOS ONE](#), and [mBio](#)),
- Explore some of the formatting rules that apply to scientific writing, helping you to follow the correct order of sections ([IMRaD](#)), understand the requirements of each section and prepare your scientific paper for publication.
- There are some formatting rules that are useful to know for your initial draft.

What is Formatting a document?

- It is a way a document is laid out on the page
- the way it looks and is visually organized—and it addresses things like font selection, font size and presentation (like bold or italics), spacing, margins, alignment, columns, indentation, and lists.

Basically, the mechanics of how the words appear on the page. A well formatting document is consistent, correct (in terms of meeting any stated requirements), and easy to read.

Format Overview

- Four main elements of a scientific paper and can be represented by the acronym IMRaD:

Introduction – what did you/others do? Why did you do it?

Methods – How did you do it?

Results, What did you find?

and

Discussion – What does it all mean?

Main text is followed by the conclusion, acknowledgments, references and supporting materials.

Length of the Manuscript

- Again, look at the journal's Guide for Authors, but an ideal length for a manuscript is 25 to 40 pages, double spaced, including essential data only.

Here are some general guidelines:

Cont...

Section	length	Section	length
Cover Page	1 page short & informative	Conclusion	1 paragraph
Abstract	1 paragraph (100–300 words)	Figures	6-8 (1 page)
Keywords	3–7 words (approx.)	Tables	1-3 (1 page)
Introduction	1–2 pages	Acknowledgments	1–2 sentences
Methods	2–3 pages	Conflicts of Interest/Originality Statement	1 sentence
Results	6–8 pages	References	20–50 sources (2–4 pages)
Discussion	4-6 pages		

Length guidelines are taken from <https://www.elsevier.com/connect/11-steps-to-structuring-a-science-paper-editors-will-take-seriously#step6>.

General Formatting Guidelines

Basic Formatting Standards for Documents

A few standards that should be used in most lab documents, unless specified otherwise:

- 11-12 pt. font in a consistent style throughout, including headers, footers, and visual labels
- 14 pt font for section headings (and “Memo” or other document label within a header)
- A standard, professional font (e.g., Times New Roman, Cambria, Calibri)
- Single or 0.15 line spacing, with no indentation on the first line of the paragraph
- Additional line break between paragraphs
- Left-justified body text
- Page numbers at bottom right corner (starting the first page of the main text, i.e. not the cover page or Table of Contents)
- line margins

General Structure of research article

- Title
- Abstract
- Keywords

Make them easy for the easy for indexing and searching (informative, attractive, effective)

Main text (IMRaD)

- Introduction
- Methods
- Results, and
- Discussion
- Conclusions

Journal space is not for unlimited
Make your article as concise as possible

- Acknowledgements
- References
- Supplementary Data

Title /Cover page

The title page of your paper includes the following information:

- a) **Title of the paper**
- b) **Author's name (s)**
- c) **Name of the institution with which the author is affiliated**

E.g. Oche Prince I¹*, Ndukwu Geraldine U²

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d) Abstract:

In this summary of your research, you must state your subject (i.e., what you did) and compress the main findings and conclusions of your paper.

Note: Do not add citations in an abstract (the reader might not be able to access your reference list).

Avoid using acronyms and abbreviations in the abstract, as the reader may not be familiar with them. Use full terms instead.

e) Keywords

Below the abstract, include a list of key terms to help other researchers locate your study. Note that

"keywords" is one word (with no space) and is followed by a colon:

Keywords: paper format, scientific writing.

Introduction

- Reader's first impression of your paper,
- so it should be clear and concise.
- Include relevant background information on your topic,
- Report new developments in the field, and state how your research fills gaps in the existing research. Focus on [the specific problem](#) you are addressing, along with its possible solutions, and outline the limitations of your study. You can also include a **research question**, **hypothesis**, and/or **objectives** at the end of this section.

Formatting Tips:

- Organize your information from broad to narrow (general to particular). However, don't start too broad; keep the information relevant.

Methods

- Part of your paper that explains *how* the research was done.
- Relate your research procedures in a clear, logical order (i.e., [the order](#) in which you conducted the research) so that other researchers can reproduce your results. Simply refer to the established methods you used, but describe any procedures that are original to your study in more detail.

Formatting Tips:

- Identify the specific instruments you used in your research by including the manufacturer's name and location in parentheses.
- Stay consistent with the order in which information is presented (e.g., quantity, temperature, stirring speed, refrigeration period).

Results

- You've explained how you gathered your research, you've got to report what you actually found.
- In this section, outline the main findings of your research.
- You need not include too many details, particularly if you are using tables and figures.
- While writing this section, be consistent and use the smallest number of words necessary to convey your statistics.

Formatting Tips:

- Use appendices or supplementary materials if you have too much data.
- Use headings to help the reader follow along, particularly if your data are repetitive (but check whether your style guide allows you to use them).

Discussion

- In this section, you interpret your findings for the reader in relation to previous research and the literature as a whole. Present your general conclusions, including an assessment of the strengths and weaknesses of the research and the implications of your findings. Resolve the hypothesis and/or research question you identified in the introduction.

Formatting Tips:

- Use in-text citations to support your discussion.
- Do not repeat the information you presented in the results or the introduction unless it is necessary for a discussion of the overall implications of the research.

Conclusion

- This section is sometimes included in the last paragraph of the discussion. Explain how your research fits within your field of study, and identify areas for future research.

Formatting Tips:

- Keep this section short.

Conflicts of Interest/Originality Statement & References

Conflict of Interest

- Some journals require a statement attesting that your research is original and that you have no conflicts of interest (i.e., ulterior motives or ways in which you could benefit from the publication of your research). This section only needs to be a sentence or two long.

References

- The list of references can be in alphabetical order (author–date style of citation) or in the order in which the sources are presented in the paper (numbered citations). Follow your style guide; if no guidelines are provided, choose a citation format and be consistent.

Formatting Tips:

- While doing your final proofread, ensure that the reference list entries are consistent with the in-text citations (i.e., no missing or conflicting information).
- Many citation styles use a hanging indent and may be alphabetized. Use the styles in Microsoft Word to aid you in citation format.
- Use EndNote, Mendeley, Zotero, RefWorks, or another similar reference manager to create, store, and utilize bibliographic information.

Microsoft word 2016



If you've worked with Word much at all, you know how frustrating it can be getting formatting just the way you want it. While you can't remove all of the frustration, you can eliminate a lot of it by learning how formatting works in Word and what tools are available to help you control it.

Using Features in Word

Using the built-in features in Microsoft Word can help maintain proper formatting even when you need to make changes to your document.

- Word's Equation Editor should be used for all equations and calculations.
- All page breaks should use the Page Break option within Word. This ensures that proper spacing will be maintained regardless of changes to the surrounding text or file type.
- Many citation styles use hanging indents in the reference list. Word has an option to indent all lines in a paragraph except the first line. This is accessible under Paragraph Options and should be used for all reference lists that require hanging indents. This option will maintain your hanging indent if the text or font size is changed.

Cont...

- First trick is learn how Word thinks about formatting
- We humans might think of a document as being built of words that form sentences, sentences that form paragraphs, paragraphs that form pages, and so on. But to Word, every document is comprised of three basic levels:
- **Sections.** Every Word document has one or more sections.
- **Paragraphs.** Every section has one or more paragraphs.
- **Characters.** Every paragraph has one or more characters.

And while Word sometimes makes it seem like you can apply formatting to an entire document or to specific pages in a document, you are always applying formatting to one of these three levels.

THANK
YOU



Q&A