

General Advice on How to Write Scientific Papers

Edition: March 27, 2024

Chair of Economics of Horticulture and Landscaping

1 General Instructions

Due to multiple student requests, we have developed instructions on how to write scientific papers. In particular, reducing misconceptions and ambiguity regarding correct quoting to avoid (unintentional) plagiarism seems important. That is also the purpose of the affidavit (see appendix), which you should print, fill out, sign, and attach to any written work as the last page. For formatting and design of your paper please adhere to the following detailed guidelines for authors and use the appropriate cover page included at the end of this document. Adapt the cover page to your own data and purpose. For a thesis, please hand in a printed copy of your work, plus an electronic version with appendices.

As you can see when reviewing scientific journals, each discipline has different foci and different specific guidelines for authors. The instructions laid out below apply to the Chair of Economics of Horticulture and Landscaping. If you are completing your scientific paper at a different chair, please ask about the respective requirements.

For almost all scientific work, the selection and use of appropriate literature is of paramount importance. The use of articles published in peer-reviewed scientific journals is a prerequisite of scientific work. As a rule, textbooks, lecture notes, practitioner journals, etc., are less appropriate depending on the way you use them in your writing. Numerous books explain the execution of scientific work in detail. A good introductory textbook is O`Leary, Z. *The Essential Guide to Doing Your Research Project*. Los Angeles, USA: Sage. A free (very comprehensive) version is available online.

Developing a proposal at an early stage will make work easier for you and your supervisor(s). A proposal is an intermediate step on the way to successful completion. Specifically, it includes a first overview of the state of knowledge regarding the topic you are working on, demonstrates the need for further research, and outlines the proposed methods.

2 Guidelines for Authors

Word Processing: MS Word

Font: Arial; **Text:** 11pt; **Tables/Figures:** 10 pt.

Line Spacing: 1.5 lines

Paragraphs: standard format

Number of Pages

The following table provides benchmarks for the appropriate length for various types of scientific papers. Especially for a thesis the appropriate number of pages may vary, depending on the particular topic. You must consult with your supervisor about what is appropriate in your case. Please note that scientific work requires language that is concise and to the point and that additional pages will not mean higher quality or a better grade.

Table 1. Approximate page numbers for scientific reports and theses

Type of scientific work	Approximate number of pages (including cover page, table of contents, etc.)
Short report (in various courses, as assigned)	1 to 10
Research internship	10 to 20
Bachelor thesis	40 to 60
Master thesis	60 to 100

Submissions consist of a cover page with title and other information (see appendix), abstract (and keywords), table of contents, introduction, literature review, material and methods, results, discussion, and conclusions, and list of references, as well as appendices, as needed. For spelling and grammar, please rely on reference materials and guides. You may choose either US or UK spelling but do not mix different spelling types.

The **outline** should be structured using the decimal system: 1 Introduction, 2, 2.1, 2.1.1, etc. Put chapter headings in **bold** type (11pt). Please note: a 1 must be followed by a 2, i.e., 2.1 requires 2.2, otherwise 2.1 is not needed.

Page numbers are to be placed at the outer margin of the footer on the right side.

Figures and tables must be mentioned in the text in advance, e.g., (see Figure 3) or “Several prior studies have used this method (Table 2) [...]”. Figures and tables are referred to indirectly, as in the example in the prior sentence. Please try to avoid page breaks within tables or figures.

Tables (Excel, Word) are numbered consecutively, and require a title (e.g., Table 5. World Pork Trade in 1998). The table number and title are flush left above the table. Notes and source(s) are flush left under the table.

Figures are numbered consecutively and require a caption. Figure number and caption, annotations, and source(s) are flush left below the figure. Please pay attention to clear contrasts, adequate font size, correct axis labeling, and complete legends.

Emphasize (sparingly) in **bold** or *italic* (no underlining).

For **mathematical formulas and symbols**, use the font “Symbol” or the Formula Editor (based on font size 10pt) in MS Word.

Footnotes are numbered consecutively and put at the end of each page. Please use footnotes only when they seem inevitable. Footnotes are not used for literature references.

The **citation style** that we **require** is **APA** (American Psychological Association). Some examples are provided below (for more information: <http://www.apa.org/pubs/index.aspx>). Anything taken from the web requires a direct link and an access date.

Direct quotations must be put in quotation marks (“...”) and require a page number. We prefer that you use your own words to summarize and paraphrase, as well as express your own thoughts. However, you still need to refer to each author or other material that you have used to develop your thoughts.

In-text citations generally have to be sufficiently detailed so the reference is made clear (e.g., Herzberg, 1966, p. 65). With text passages that are not reliably identified by author, year, and page, confusion must be avoided by extended specifications (e.g., Bach, 1979a, p. 65). Page numbers of references in the text must be provided when using monographs or longer works. Contributions from journals and scientific journals require page numbers when you are referring to a specific detail in the source. If you relate to the whole article, you do not need page numbers in the text (e.g., Kandel, 2008). When integrating references actively into the sentence, the following procedure is recommended: According to Herzberg (1966, p. 72-75) [...]; with the introductory phrase adapted to what you want to say.

The **reference list** is a collection of all authors and sources mentioned in the text in **alphabetical order**. Reserve a paragraph for each source. Abbreviations of sources used in the text (e.g., USDA), are explained here.

Please note that for better understanding, the following examples are sorted by type of publication. This is **not** how the literature is presented in the finished work. The list of references is ordered solely **alphabetically by authors' last names**. In putting together your list of references and your affidavit, please follow the guidelines exactly.

Government Documents

U.S. Department of Agriculture (USDA). National Agricultural Statistics Service. (2007). *Census of Agriculture*. Retrieved January 1, 2013, from http://www.nass.usda.gov/Census_of_Agriculture.

Monographs, Series, and Edited Volumes

Fisher, C.D., & Locke, E.A. (1992). The new look in job satisfaction research and theory. In: C.J. Cranny, P.C Smith, & E.F. Stone (Eds.), *Job Satisfaction: How People Feel About Their Jobs and How It Affects Their Performance* (pp. 165-194). New York, USA: Lexington Books.

Herzberg, F. (1966). *Work and the Nature of Man*. Cleveland, USA: World Publishing Company.

Maloney, T.R. (1999). *Management of Hispanic Employees on New York Dairy Farms: A Survey of Farm Managers* (EB 99-19). Ithaca, New York, USA: Cornell University, Department of Agricultural, Resource, and Managerial Economics.

Journals

Goisser, S., Mempel, H. & Bitsch, V. (2020). Food scanners as a radical innovation in German fresh produce supply chains. *International Journal on Food System Dynamics* 11 (2), 101-116. [dx.doi.org/10.18461/ijfsd.v11i2.43](https://doi.org/10.18461/ijfsd.v11i2.43)

Kandel, W. (2008). Hired farmworkers a major input for some U.S. farm sectors. *Amber Waves* 6 (2), 10-15.

University Documents, Conference Presentations, and Internet Sources

Yu, L., Hurley, T.M., Kliebenstein, J.B., & Orazem, P.F. (2007). Firm Size, Technical Change and Wages: Evidence from the Pork Sector from 1990-2005. *Selected Paper, American Agricultural Economics Association Annual Meeting, Portland, Oregon*. Retrieved January 1, 2011, from <http://purl.umn.edu/9991>. [Always add a link if possible!]

Sources to be documented, but **not in the reference list**

Legislation

Please indicate in a footnote and do not include in the list of references. In the text, legislative texts require paragraph and sentence numbers, for full and exact reference.

Personal Communication as a Source

Personal communication is not included in the reference list. It is either fully described in the main text or in a table, which can be in the appendix or in the section where quoted. For example, if you do expert interviews, the experts should be fully described in the method section (including a table). Each statement is then attributed to a specific person. Different forms are possible for this purpose.

Technical University of Munich

School of Management & School of Life Sciences

Chair of Economics of Horticulture and Landscaping

Thesis

Submitted in Partial Fulfillment of the Requirements for the
Academic Degree of B.Sc. [please fill in]

TitleTitleTitleTitleTitle

Lisa Exemplary

First Examiner:

Second examiner:

Supervisor:

Start Date:

Date Submitted:

Technical University of Munich

School of Management & School of Life Sciences

Chair of Economics of Horticulture and Landscaping

Thesis

Submitted in Partial Fulfillment of the Requirements for the
Academic Degree of M.Sc. [please fill in]

TitleTitleTitleTitleTitle

Lisa Exemplary

Examiner:

Second examiner:

Supervisor:

Start Date:

Date Submitted:

Technical University of Munich

School of Management & School of Life Sciences

Chair of Economics of Horticulture and Landscaping

Research Report as Part of the Module
[please fill in]

TitleTitleTitleTitleTitle

Lisa Exemplary

Examiner:

Supervisor:

Start Date:

Date Submitted:

Affidavit

Last Name:

First Name:

Date of Birth:

Matriculation Number:

I hereby declare under penalty of perjury that the work submitted is my own unaided work. All direct or indirect sources used are acknowledged as references.

I am aware that the work, in digital form, can be examined for the use of unauthorized aid and in order to determine whether the work, as a whole or parts incorporated in it, may be deemed as plagiarism. For the comparison of my work with existing sources, I agree that it shall be entered in a database where it shall also remain after examination, to enable comparison with future work submitted. Further rights of reproduction and usage, however, are not granted here.

You must explicitly state here whether or not you have used AI tools for your work. If you used AI at all, please fill in the required details for 'each tool' used in the table below.

Name of AI tool used	Prompt used	Purpose of using the AI tool

For more details on APA citation style for AI use, please refer to [APA style: How to cite ChatGPT](#). While employing any AI tools, please remember to extensively document your interactions, as you will need to submit the documentation as a supplement to your thesis, in your electronic appendix.

The work has not been submitted previously either in this country or in another country in the same or in a similar version to any other examining body, and was not previously part of a course requirement or any other examination, and has not been published.

(Place, Date)

(Signature)

Example of Formatted Scientific Paper

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As you will notice when reviewing scientific journals, each discipline has different foci and different specific guidelines [...]

2 Guidelines for Authors

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Figures are also numbered consecutively and require a caption. Figure number and caption, annotations, and source(s) are flush left below the figure [...]

3 References

[Please note that the references are sorted alphabetically!]

- Fisher, C.D., & Locke, E.A. (1992). The new look in job satisfaction research and theory. In: C.J. Cranny, P.C Smith, & E.F. Stone (Eds.), *Job Satisfaction: How People Feel About Their Jobs and How it Affects Their Performance* (pp. 165-194). New York: Lexington Books.
- Gisser, M., & Davila, A. (1998). Do farm workers earn less? An analysis of the farm labor problem. *American Journal of Agricultural Economics* 80 (4), 669-682.
- U.S. Department of Agriculture. National Agricultural Statistics Service. (2007). *Census of Agriculture*. Retrieved January 1, 2013, from http://www.nass.usda.gov/Census_of_Agriculture.
- Yu, L., Hurley, T.M., Kliebenstein, J.B., & Orazem, P.F. (2007). Firm Size, Technical Change and Wages: Evidence from the Pork Sector from 1990-2005. *Selected Paper, American Agricultural Economics Association Annual Meeting, Portland, Oregon*. Retrieved January 1, 2010, from <http://purl.umn.edu/9991>.