



Guide for Academic Writing

October 2022

Contents

List of Figures	II
List of Tables	III
List of Abbreviations	IV
1 General information	1
1.1 Elements of an academic paper	1
1.2 Length of an academic paper	1
1.3 Layout	2
1.4 Submission	3
2 Formal requirements	4
2.1 Title page	4
2.2 Table of contents	5
2.3 Tables and figures	6
2.4 List of abbreviations	7
2.5 Principal part	7
2.6 Appendix	7
2.7 List of references	8
2.8 Declaration	10
3 Notes on content	11
3.1 Introduction	11
3.2 Main part	12
3.3 Conclusion	12
3.4 Writing	12
4 Referencing guide	14
4.1 Paraphrasing versus quoting	14
4.2 Rules for referencing	15

List of Figures

1 Layout of a possible title Page 5

List of Tables

1 Length of the principal part 2

List of Abbreviations

GDP Gross Domestic Product

HGB Handelsgesetzbuch

U.S.C. United States Code

WiSo Wirtschafts- und Sozialwissenschaftliche Fakultät

1 General Information

This guide serves as an overview of the general requirements related to seminar papers and theses at the chair in Economics, Energy and Sustainability.

While the guide is quite detailed, it is important that specifications made in the seminar or by the supervisor are always given precedence.

This section elaborates on the general structure of an academic paper, its required length as well as the details on the submission procedure.

1.1 General Structure

A seminar paper consists of the following elements.¹

- Title page
- Table of contents
- List of figures
- List of tables
- List of abbreviations
- Principal part
- Appendix
- List of references
- Declaration

The structure of a bachelor's or master's thesis is identical to the one above, with one exception: The statutory declaration has to be handed in separately (see *section 2.8*).

1.2 Length of an Academic Paper

The length, counted from introduction to conclusion, depends on the type of academic paper submitted.

¹Note that not all of the elements must necessarily appear in a submission. If e.g. no abbreviations were used, a *list of abbreviations* should not be included.

Table 1: LENGTH OF THE PRINCIPAL PART

This table provides an overview on the suggested length of a seminar paper and the maximum length of a thesis.

Seminar Paper	Thesis
Bachelor's seminar: ~ 3.000 words	Bachelor's thesis: max. 30 pages
Master's seminar: ~ 5.000 words	Master's thesis: max. 60 pages

Source: Own illustration

Table 1 summarises how long seminar papers usually are and how long theses can be at maximum. Note that the maximum length of the text in a bachelor's or master's thesis refers to the written text excluding blank spaces that occur due to the beginning of a new chapter as well as the space devoted to graphs and tables.

The word count for a seminar paper only pertains to the main text, starting with the introduction and ending with the conclusion. Excluded from the word count are captions of tables and figures.

1.3 Layout

The following general formal requirements are mandatory.²

- **Paper size:**
DIN A4. The sheets should only be printed one-sided.
- **Font style:**
Cambria (standard) or Calibri (standard).
- **Font size:**
The font size has to be 12pt in the main text and 10pt in the footnotes (sequential numbering), with normal character spacing each.
- **Page margins:**
left, right, top and bottom: 2 cm.
- **Line spacing:**
1.5 line spacing.
- **Alignment:**
Full justification.
- **Table of contents:**
Chapters, sections, etc. must be numbered using *Arabic numerals* (e.g. 1.2, 1.3,

²The here outlined formal requirements do also apply in LaTeX (documentclass *article*, font size *12pt*, encoding-packages *[utf8]{inputenc}* for Windows or *[applemac]{inputenc}* for Mac). On the chair's website a template for LaTeX is provided that is in accordance with the mandatory formal requirements outlined here.

1.3.1, 1.3.2), the appendix must be numbered using *letters and Arabic numerals* (A.1, A.2, B, C).

- **Page numbering:**

On the title page no page numbering is visible, although it is included in the page count. All pages preceding the principal part (see *section 1.1*) are numbered using *Roman numerals* (II, III, IV...). With the start of the principal part, page numbering should restart while switching to *Arabic numerals* (1, 2, 3...). Page numbering runs until the end of the paper.

- **Equations:**

All equations have to be indented and written on a separate line. Be careful to number equations consecutively. The number generally consists of two parts. The first part refers to the section in which the equation is located, while the second part refers to the respective equation number in the section. The first equation in section 2, should thus be numbered as *(2.1)* and referenced as *Eq. 2.1* or *Equation 2.1* in the text.

Example: *Eq.1.1* denotes the Pythagorean theorem.

$$a^2 + b^2 = c^2 \tag{1.1}$$

- **List of references:**

Single line spacing, left justification, 1.5 line spacing between paragraphs.

1.4 Submission

A seminar paper has to be submitted in electronic form in PDF format. Further information and requirements will be provided during the seminar.

For information on how to submit a thesis in due form and due time, students have to inquire with the examination office. Information is provided, i.a. on the web page of the Wirtschafts- und Sozialwissenschaftliche Fakultät (WiSo) examination office: <https://wiso.uni-koeln.de/en/faculty/managing-board/examination-office/2015-2021-examination-regulations/final-theses>

2 Formal Requirements

This section elaborates on the formal requirements. Building upon the general structure introduced in *section 1.1*, the elements of an academic paper are further explained in their respective subsections.

2.1 Title Page

If not otherwise specified, a seminar paper must include a title page. For theses, the title page is mandatory.

A title page shows all the pertinent information about the paper or thesis and the author. The title page usually contains the following:

- Type of document (thesis/seminar paper)
- Title
- Student's name
- Information on the faculty and chair
- Responsible lecturer (for seminar papers)
- Examiner (for theses)
- Supervisor (if applicable)
- Matriculation number
- Date when the thesis/seminar paper was handed in

An exemplary layout is shown in *Figure 1*.

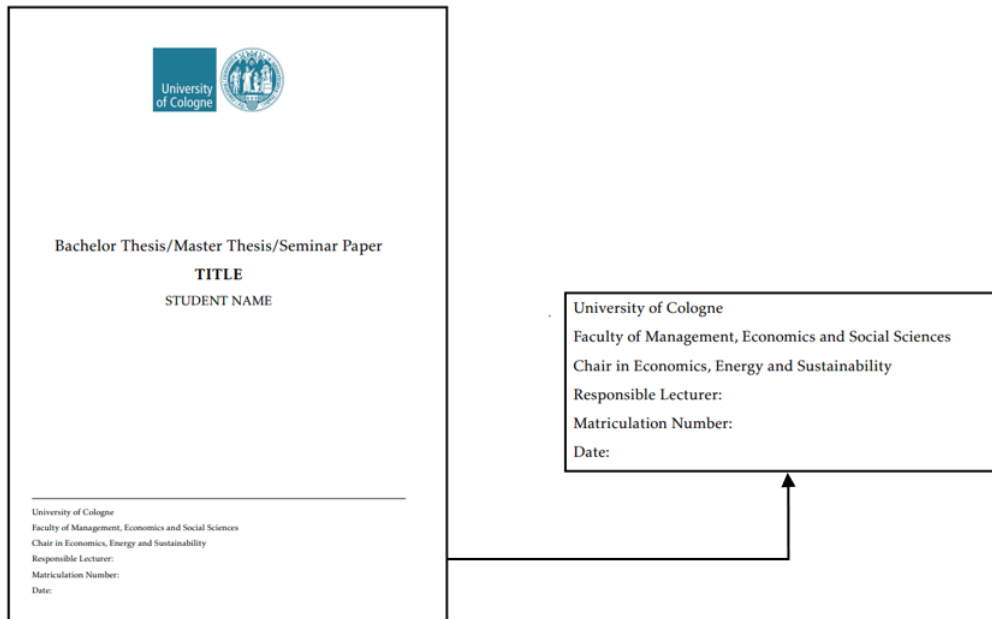


Figure 1: LAYOUT OF A POSSIBLE TITLE PAGE

This figure provides an example of a layout for the title page. *Source: Own illustration*

An alternative layout can be found on the website of the WiSo examination office:
<https://wiso.uni-koeln.de/sites/fakultaet/dokumente/PA/formulare/Mustertitelblatt.pdf>

2.2 Table of Contents

The *table of contents* presents the structure and the line of thought of the paper and is placed directly after the title page. It contains all the headings and subheadings of all sections indicated by Arabic or Roman numerals. The table of contents must show the page numbers on which the respective headings are found. The headings included in the table of contents must be identical with those in the running text.

Subheadings should facilitate the overview of the paper and highlight the line of argument. The structure should be consistently organised from the general to the specific. The headings and subheadings must be in an appropriate relation to each other. Too many subheadings often indicate false or clumsily chosen headings. Avoid using too many subheadings and aim for roughly equal blocks of text.

Headings and subheadings have to be enumerated consecutively. All numbers - except for the last one - are followed by a dot. There have to be at least two subsections in each section. If it is not possible to divide a section into at least two subsections, it is not necessary to create subsections and thus subheadings. This means that section 1.1 has

to be followed at least by section 1.2, section 1.1.1 has to be followed at least by section 1.1.2.

In addition, headings in the running text should be followed by at least a short paragraph in order to avoid a bare listing of heading and subheading. A short text introducing the structure of the following sections can be used in order to avoid the abovementioned. Be sure to use breaks between paragraphs and lines in such a manner that your thoughts are easier to follow and the general readability of your submission is further improved.

2.3 Tables and figures

If tables, figures, diagrams etc. are used in the text, they have to be numbered separately and itemised in different lists (e.g. *list of figures* and *list of tables*). Figures and tables have to be marked with a number (e.g. *Figure 1*, *Figure 2*, *Table 1*) as well as with a caption. The caption for a figure appears below the illustration; for a table, above. The captions must be shown in the lists with the exact same caption and page number. Tables, figures and diagrams can be used for the purpose of illustration, but they must not be used to shift explanations from the text to the illustrations.

Tables and figures must be captioned such that the content is captured (thematic, spatial and temporal differentiation, if appropriate mention the dimension or unit). Geographical figures have to contain coordinates, curves, dots etc.

If the author refers to a table/figure within the text, the number of the table/figure has to be cited. The source of a table or a figure should always be mentioned under the illustration.

If an illustration is created based on a different source, all the relevant material used, has to be cited³. In any case it should be made clear where the relevant material for own illustrations and calculations comes from.

Note that the *list of figures* and *list of tables* should only include a short caption and the page number where the item is found. A short caption entails only the most relevant information, i.e. information on sources, unit etc. are excluded. By no means should the entire figure, table etc. be replicated in the lists!

The lists in the front matter are a reference point for the reader and are meant to increase readability.

³If the author creates a figure/table from another source, the material can be cited as: *Own graph based on Source, Year, Page*. If the figure/table is self made, the material can be cited as: *Own illustration* or *Own calculation*.

2.4 List of Abbreviations

Only the usage of abbreviations and acronyms (short words as USA) used in e.g. the Oxford English Dictionary are permitted without limitations; they do not have to (but they can) be listed in the list of abbreviations. If subject-specific abbreviations are used that are not listed in the Oxford English Dictionary, they have to be spelled out in full in the *list of abbreviations*, even if they only appear once, e.g. in the *list of references*.

When using a subject-specific abbreviation for the first time in the running text, the abbreviation has to be spelled out in full, followed by the abbreviation in brackets.

Example: The economic growth of a country can be measured by the time series of its gross domestic product (GDP).

2.5 Principal Part

The principal part of a seminar paper or thesis consists of an introduction, a main section and a conclusion. Note that the sections should be headed appropriately and with respect to the topic at hand. Refrain from having a section headed *Main part* etc.

Headings must be differentiated from the text using appropriate methods. Space should be left after the previous paragraph and before the following paragraph. Moreover, the font size of headings should be adjusted accordingly.

Sections (first outline level) in a thesis have to start on a new page. This does not hold for seminar papers, where pages can be written on continuously.

2.6 Appendix

The main elements of an appendix are additional material, documents or overviews that are suitable to give additional topic-related information or that are difficult or impossible to access for the reader. Only aspects that are not necessarily needed for the understanding of the content may be mentioned in the appendix. In other words: It is not allowed to use the appendix as a further part of the main text (e.g. because of lack of space due to page number limitation). The appendix directly follows the main text. Page counting continues (with Arabic numerals). Illustrations and tables in the appendix are counted anew (*Table A1, Table A2... & Figure B1, Figure B2...*). Each element of the appendix is to be indicated separately (e.g. Appendix A, B, C) and is listed in the table of contents with the corresponding headline. Note that figures and tables that are displayed in the Appendix should also be referenced in the *list of tables* and *list of figures*. Citations and source references in the appendix are done as in the main text (see *section 4*).

2.7 List of References

The *list of references* is a mandatory part of all scientific work. It is a complete list of all the sources (publications, materials) used in the text. Literature that has been used but that was not taken into account verifiably, should not be included in the *list of references*.

The *list of references* is sorted by the authors' surnames. The details concerning the indication of sources in footnotes and in the *list of references* have to be taken from the source itself. Be advised to include the following information in the *list of references*:

- **Author's surname and given name:**

If author is unknown you can write *N.N.*. Academic degrees are not mentioned.

- **Year of publication:**

The year of publication is obligatory for all types of sources.

- **Title of the work:**

For articles in journals or in compilations the respective source must be stated (*In: Title of the journal/the compilation*). For compilations, the editor's name is to be mentioned with the addition (*ed.:*) before the title of the compilation.

- **The volume and the edition:**

The edition is stated for books, compilations etc. only if it is not the first edition. For journals, both the edition and the volume have to be stated.

- **Place of publication:**

The place of publication is mandatory for books, compilations etc. It does not necessarily have to be included for journals.

- **Page numbers:**

Page numbers have to be included for articles in journals and/or contributions to compilations.

- **Internet sources:**

The name, URL, and date that the source has last been accessed should also be given.

- **Further formatting:**

The author's name and the year can be printed in bold type in order to facilitate the readability. It is also common to indicate single article titles in italics. If there are several publications from one author in one year, letters are used to distinguish between them.

Examples:

The following entries show how different kinds of literature should be cited in the *list of references*.

Complete book:

Gravelle, H. and Rees, R. (2004): Microeconomics. 3rd edition. Harlow: Financial Times/Prentice Hall.

Complete book with more than two authors:

Mas-Colell, A., Whinston, M. D. and Green, J. R. (1995): Microeconomic Theory. Oxford: University Press.

Collective Volume:

Secomandi, N. (ed.)(2017): Real Options in Energy and Commodity Markets. Singapore: World Scientific Publishing Co. Pte. Ltd.

Essay in a book:

Dodds, P.E. and Garvey, S.D. (2016): *The Role of Energy Storage in Low-Carbon Energy Systems*. In: Letcher, T.M. (ed.): Storing Energy: with Special Reference to Renewable Energy Sources. Amsterdam: Elsevier 2016, pp.3-22.

Article in a journal:

Alcott, H. (2011): *Rethinking real-time electricity pricing*. In: Resource and Energy Economics, 33(4), pp.820-842.

Internet source:

Eurostat (2022): *Euro/ECU exchange rates - annual data*. https://ec.europa.eu/eurostat/databrowser/view/ert_bil_eur_a/default/table?lang=en. Accessed: 07.02.2022.

Legal source:

Directive 2009/73/EC in the version of 13 July 2009.

Using a reference management software when writing a paper is recommended. The WiSo web page offers a good overview over existing software:

<https://www.wiso.uni-koeln.de/en/faculty/library-service/searching-literature/bibliographic-management-programmes/>

This software helps to organise the literature so more focus can be put on writing. Having added the literature to the software, the citing and the creation of the *list of references* should be easier.

2.8 Declaration

A seminar paper has to be accompanied by the following declaration on the last page, which has to be signed by the author and has to be written in German. With this declaration, the author confirms that he/she wrote the seminar paper independently, only making use of the stated literature and aides.

„Hiermit versichere ich, dass ich die vorliegende Arbeit selbstständig und ohne die Benutzung anderer als der angegebenen Hilfsmittel angefertigt habe. Alle Stellen, die wörtlich oder sinngemäß aus veröffentlichten und nicht veröffentlichten Schriften entnommen wurden, sind als solche kenntlich gemacht.“

A bachelor's or master's thesis has to be accompanied by a sworn declaration in German. The statutory declaration and further information are available on the web page of the WiSo examination office:

<https://wiso.uni-koeln.de/en/faculty/managing-board/examination-office/2015-2021-examination-regulations/final-theses>.

3 Notes on Content

This section provides some notes on what might be expected when it comes to the content of a seminar paper or a thesis.

The overview is not exhaustive and serves as a small window as to what is normally considered when writing an academic paper.

The lecturers and supervisors in the seminars will detail what they expect in the seminar papers.

3.1 Introduction

An academic paper should start with an introduction. The purpose of an introduction is to inform the reader about the creation of the paper and to outline the fundamental research issue and the methodological procedure. The introduction should include the following aspects:

1) **Motivation for the topic:**

At the beginning, interest has to be raised through an outline of the topic and its relevance. It should include why the topic is relevant and how it is related to current research or policy debates.

2) **Goal of the paper and scope of the topic:**

The following step should be to outline the paper's goals or aims and to narrow down the topic. It might be helpful to state a research question or hypothesis. This serves as the scope or thread of the paper and must be explicitly revisited in the conclusion.

3) **Gap in the literature:**

It is critical to explain how the paper relates to previous research and literature. How does it amend existing research? How does it fill a gap in the literature? (If the paper consists of a broad literature review, this can also be done in the following parts.)

4) **Roadmap and methodological procedure:**

In the last paragraph, the methodological procedure is clarified by briefly describing the structure of the paper in text form.

In principle, it is useful to write the introduction at the very end of the writing process in order to ensure that it corresponds with the following parts of the paper. Nevertheless, the aim and the approach should already be established at the beginning of the work process.

3.2 Main Part

An academic paper should follow a coherent and comprehensible reasoning and the research question should run like a thread through the text. Depending on the topic, different ways to structure the content and the reasoning are recommended in the following:

1) **Deductive reasoning:**

Deductive reasoning is reasoning by applying general principles or a general theory. After having explained those in the first part of the paper, the theory is illustrated in a second part by using practical or theoretic examples (e.g. a case study or an empirical examination). The final part then relates the concrete, practical realisations to the theory.

2) **Inductive reasoning:**

Inductive reasoning follows the opposite logic. First, a specific individual problem (e.g. a case study or an empirical examination) is analysed and general questions are presented. Second, the general questions are illustrated and related to existent theories and concepts.

3.3 Conclusion

The conclusion should pick up and answer the main problem/research question of the paper such that the reader gets an overall impression. There are two possibilities for writing a conclusion (a combination of both is also possible). On the one hand, a *summary* is the author's own conclusion that is deduced from the previous parts. It should give a condensed answer to the research question. On the other hand, a *preview* presents unanswered questions that could be studied and contribute to the topic. It is specifically meant to incentivise avenues for further research.

3.4 Writing

An overview of aspects to be considered while writing your paper is provided below.

1) **Stringent writing:**

Generally, it is difficult to find the right balance between an extensive and detailed presentation on the one hand and a short, concise emphasis on the substantial aspects on the other hand. When describing and discussing, it is best to strictly follow the research question and its individual aspects. Being off-topic and including redundant information can only be avoided by being stringent.

2) **Linguistic style:**

It might be tempting to write a scientific paper in the style of certain scientific authors after having read a lot of their work. It is best to avoid doing so and use one's personal writing style. Nevertheless, some formal aspects should be respected. All technical and economic terms should be used properly, and the idea stated has to be clear. The language should be reviewed for unclear, misleading and false terms. Imprecise terms, sloppy use of language as well as fillers should be avoided, just as nested and confusing sentences. Furthermore, the use of clear and factual language is advised and personal evaluations such as "I think", " I believe" and so on should be evaded.

3) **Revision:**

It is strongly advised that the entire manuscript be revised and checked for stylistic aspects, language, and cogency several times. Enough time to do so is essential.

Further, checking whether sections form reasonable units is advised.

During revision, it is possible to shorten passages that are too long. This often leads to a higher quality of the text as it becomes more precise and reduced to the essentials. In general, it is easier to reduce the text afterwards than to search for the shortest way to formulate a thought. This also serves the flow of thoughts.

4 Referencing Guide

In every scientific work, the origin of ideas, statements, theses etc. has to be proved clearly using source references. The source reference always refers to the effectively used source, even in the case that this source in turn quotes another author or source. As a general rule, it holds that a source has to be referenced twice: In the text and in the *list of references* at the end. Generally speaking, a source that appears in the text must also appear in the *list of references*, and every source in the *list of references* has to appear in the text.

While there are different ways to reference, *in-text* is the most common form in economics and is hence also advised for your paper. *In-text* means that the author's surname, year of publication and page number are stated in parentheses right after the respective passage or sentence where the information was used.

The full reference has to be entered in the *list of references*. In the following, different referencing rules are further explained. While the chair is ambivalent about the exact style used (e.g. Harvard style, APA, MLA...), consistency is key!

The following sections are meant to give a consistent example of one possible referencing style, based on the *Harvard in-text and reference list citation style*.

4.1 Paraphrasing versus Quoting

Generally, both *paraphrasing* and *quoting* are possible.

However, in economics, it is more common to paraphrase. In this case, either the content of one single source (summary) or the content of several sources (generalisation) is reproduced in own words.

Example: Efficient systems, where individual units are not capable of enhancing their positions without making other units worse off, are a result of competitiveness and the absence of external effects from economic units' decisions (Herfindahl & Kneese, 1974, p.100).

Directly quoting a source is less common in economics but can be useful, e.g. for important definitions.

Short quotes are included in the text with quotation marks.

Example: As Asplund (2008, p.41) points out, "the higher cost of running a power plant is the main reason for rising electricity prices."

Long quotes are indented and the font size is reduced. No quotation marks are used. When leaving out words, this must be indicated by [...]. If the word order is changed due to a different sentence structure, these words have to be placed in square brackets. Direct quotes should be reduced to a minimum.

Example:

These high costs make it imperative for many businesses to have some type of self-generated power or at least backup power systems that can hold them over until the grid comes back to life. The unreliability of the grid is a key driver for the industries that sell distributed power generating solutions and power backup solutions (Asplund, 2008, p.41).

4.2 Rules for Referencing

This subsection provides a list of examples that can be used as a guide. The following rules apply, regardless of whether a source is used for the first time or has been used before.

When using in-text referencing, each source has to be mentioned in parentheses after the respective sentence or paragraph as follows:

(Lindenberger, 2004, p.37)

Different sources have to be separated by using a semicolon:

(Lindenberger, 2004, p.37; Parsons, 2011, p.645)

In case of several publications from one author in one year, use letters to distinguish them:

(Lindenberger, 2002a, p.37; Lindenberger, 2002b, p.68)

When referencing a source with two or three authors, the surnames should be stated as follows:

(Abadie, Diamond and Hainmueller, 2015, p.10)

When referencing more than three authors, use the abbreviation "et al."⁴:

(Parsons et al., 2011, p.700)

It is also possible to reference secondary literature.⁵ In this case the primary source is stated first, followed by "qtd. in" (for quoted in) and the secondary source.

(Ajzen, 1991, p.11 qtd. in Macovei, O., 2015, p.18)

⁴Note, that "et al." should only be used in the main text, the List of References must include all names!

⁵Referencing of secondary literature should be kept to a minimum, try to find the original source!

Referencing internet sources that have not been published elsewhere has to be done according to the following standard: Author's surname and year of publication. The URL has to be given in the List of References and not in the text.

(Bartels, 2005)

Data has to be cited to the following: Institution's name and year of publication.

(Bureau of Labor Statistics, 2016)

Legal sources have to be cited according to the standards in their country of origin. A German legislative text has to be cited as follows: Section symbol followed by section number, including all smaller units and their abbreviations as well as the name of the legal code. Below is an example from the Handelsgesetzbuch (HGB).

(§ 248 Abs. 2 HGB)

A legislative text from the United States has to be cited as follows: Title number followed by the name of the legal code preceded by the section symbol or abbreviation and the section number. Below is an example from the United States Code (U.S.C.).

(16 U.S.C. §824(c)(1))

Some examples for general abbreviations when dealing with literature:

Diss. = Dissertation

ed. = Editor(s)

et al. = and others

f. or ff. = following page or pages

Ibid. = Ibidem (*dt. "ebenda"*)

Loc. Cit. = in the place cited

n.d. = No date

No. = Number

p. or pp. = page or pages

Vol. = Volume