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## Guidelines for Writing Scientific Papers

When writing a scientific paper, such as a term paper or a thesis, certain basic principles need to be followed. These principles are outlined in the present guidelines.

### 1. Objectives

- (1) The aim of these guidelines is to lay down binding rules regarding the layout of scientific papers at the Faculty of Business at FH Aachen.
- (2) The guidelines do not claim to be complete, meaning you are given some freedom when writing your paper. Moreover, the supervising professors might state other academic specifications. In any case, your chosen approach should be consistent and meet scientific standards.
- (3) As to the Bachelor and Master theses, these guidelines complement all further rules regarding the final examination issued by the examination board<sup>11</sup>.

### 2. General

#### 2.1 What constitutes a scientific paper?

- (1) Scientific papers in the sense of these guidelines are term papers as well as Bachelor and Master theses written at and submitted to the Faculty of Business.
- (2) The purpose of scientific papers is to work systematically on a given research issue, using scientific methods and techniques, to assess the given problem in a critical way and to communicate your findings intelligibly and comprehensively in writing. An important part of the writing process consists of positioning your own contributions in a broader context of existing knowledge.
- (3) Scientific papers need to be inter-subjectively verifiable, have an objective writing style and comply with other formal criteria.

#### 2.2 Language and writing style of scientific papers

- (1) As a rule, scientific papers are to be written in German or English.
- (2) Regardless of the author's personal style of expression, the general writing style of a scientific paper contributes significantly to understanding and legibility.. Clear, succinct and concise formulations, without nested sentences support a logically perfect thought process.
- (3) As a rule of thumb, the text is written in an impersonal form and in the present tense. Subjective formulations ("I"-sentences) are not permitted because all statements, except direct or indirect citations marked as such, are attributed to the author.
  - (4) Also not to be used should be generalized formulations (I-phrases), substantiations, filler words ("now"), pseudo-arguments ("natural", "self-evident"), exaggerations ("immense", "enormous") as well as colloquial, narrative or poetic idioms. Reinforcing adverbs, superlatives and - especially in headlines - certain punctuation marks (exclamation marks, question marks) should be used moderately.

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<sup>11</sup> Cf. Dean of the Faculty of Business, 2014, Information on the final examination <http://www.fh-aachen.de/fachbereiche/wirtschaft/internes/download-wirtschaftswissenschaften/downloads-fuer-die-abschlusspruefung/>.

### 2.3 Length of and prerequisites for submitting scientific papers

- (1) The length of a paper is measured by the text pages without tables of contents and appendices.
- (2) Unless otherwise specified by the supervisor, term papers of approx. 30 pages of text must be submitted in electronic form to the supervisor by the submission date. The supervisor may additionally require the submission of a punched copy to be fastened with a flexi fastener (no plastic folder or other bindings).
- (3) Unless otherwise specified by the supervisor bachelor's theses with the length of approx. 60 pages, master theses with the length of approx. 90 pages must be sent in full, including abstract, appendices and online sources, to the first examiner, the second examiner and the examination office (pruefungsekretariat(at)wirtschaft.fh-aachen.de) by e-mail as a PDF file by the submission date. A paper version only needs to be submitted if this is desired by the examiners. and by e-mail.
- (4) Neither cover sheet nor title page must contain the logo of FH Aachen nor of any internship partner of the paper as it is for but not by these organizations.

### 2.4 Formal structure

The following formal structure must be adhered to:

01. Fixed cover sheet (not applicable in case of coursework assignments)
02. Title page (compare appendices 1-2)
03. Abstract
04. Table of contents
05. List of abbreviations, list of figures, list of tables
06. Text
07. Appendix
08. Reference list
09. Closing declaration (compare appendix 3)
10. CV
11. Loose appendices in an envelope
12. Fixed cover sheet (not applicable in case of coursework assignments)

### 2.5 Spelling, punctuation and grammar

Spelling, punctuation and grammar of a paper written in English must comply with the requirements of the Oxford English Dictionary (OED).

### 2.6 Formalities

- (1) The scientific paper (when required as paper copy) is to be submitted in bound form with hard cover and spine (no spiral binding) and printed one side only on regular A4 paper .
- (2) Formatting Guidelines  
Block with or without separating function; in case of the latter, please check the correct application before handing in the paper..
- (3) Margins  
top: 2 cm (not taking into account the page numbers), bottom: 2cm, left: 5 cm, right: 2 cm.
- (4) Typeface  
Font type and size: Times New Roman 12 pt. or Arial 12 pt. (to be used consistently throughout the document)  
Typeface: (1) text: normal, (2) headings: not specified; width: standard; line spacing: 18 pt.

- (5) Paragraphs  
Spacing before the paragraph 8 pt, first line not to be indented.
- (6) Footnotes  
Font/size: Times New Roman 9 pt. or Arial 9 pt; typeface: normal, width: standard; line spacing: 12 pt within or between footnotes.
- (7) Tables and figures  
Within tables and figures font type/size at least Times New Roman 9 pt or Arial 9 pt.
- (8) Pagination  
Centred in the header in Times New Roman 9 pt. or Arial 9 pt.

Except for the fixed cover sheets and title page, all sheets are to be numbered. The first items (numbers 1. - 5. according to 2.3 (1) of these guidelines) is consecutively numbered with Roman numerals, the title page counts as page I, although this is not to be shown. The main part (numbers 6. - 8. according to 2.3 (1) of these guidelines) is serially numbered with Arabic numerals.

## 2.7 Abstract

- (1) The abstract is a succinct (one paragraph) summary of the entire paper. The abstract should briefly describe the question posed in the paper, the methods used to answer this question, the results obtained and the conclusion(s). It should be possible to determine the major points of a paper by reading the abstract. Although it is located at the beginning of the paper, it is easiest to write the abstract after the paper is completed.

## 3. Table of contents and structuring

The Table of Content precedes the text. It should reflect the structure of your paper's argument and be self-explanatory. Your headlines should be as informative as possible to let the reader understand what your paper is about. Consequently, please make sure that the Table of Contents has a logical and consistent structure: For instance, if there is a sub-chapter 2.1, there also has to be a sub-chapter 2.2 and both need to be essential for your argument given in Chapter 2.

## 4. Abbreviations, figures and tables

- (1) Some common abbreviations that do not require definition are shown in (3). Explain all other abbreviations the first time they are used, and then subsequently use the abbreviation [e.g. Activity Based Costing (ABC)]. As a rule, do not use an abbreviation unless a term is mentioned at least three times in the manuscript.
- (2) All abbreviations but the ones mentioned in the OED must be stated in a List of Abbreviations. The List of Abbreviations is to be arranged alphabetically.
- (3) Departing from the aforementioned rule, the following common abbreviations need not be included in the List of Abbreviations.

Ed.	=	Edition
Vol.	=	volume
Diss.	=	dissertation
p.	=	page
cf.	=	compare

- (4) Abbreviations for convenience sake are not allowed, such as "Int'l" or "Managem't".

- (5) Figures and tables serve as illustrations of facts presented in the paper; they must not replace textual explanations. The figures and tables used must be referred to in the text. Large tables and figures should be put in an appendix.
- (6) Figures and tables are to be numbered consecutively and should have a title concisely describing the contents and, if applicable, a source, as in the following examples:
- > Self-created figure:  
*Figure 7: The development of Internet marketing*
  - > Self-created figure from a data source:  
*Figure 7: Development of purchase in E-commerce*  
Reference: German Federal Office for Statistics
  - > Self-created figure following ideas from a literary source  
*Figure 7: The development of Internet marketing*  
Source: following Meffert, H. Bruhn M.; p. 543.
  - > Adopted figure  
Reference: Meffert, H. Bruhn M.; p. 543.

## 5. Citation

- (1) When you quote, paraphrase, or refer to another author's ideas, theories or findings, you have to give a proper citation in order to:
- > support your own argument;
  - > show that you know the respective research;
  - > allow the reader to follow your sources;
  - > enable further research;
  - > not to be charged with plagiarism.

- (2) Scientific research has to be accurate, traceable and reproducible. Therefore, keep track of all sources during the writing process and state them properly in your paper.

### (3) Quotation

A direct quotation consists of another author's exact words, within quotation marks, followed by the information where these words can be found.

For example, "a revolution is not a dinner party" (Mao 1975: 28).

All changes within the quotation (to adapt it to the position within your sentence, to add an explanation, or to leave out less important parts in between) have to be marked by square brackets. However, be careful not to change the meaning of the quotation.

For example: "[A] revolution is not a dinner party, [...] it cannot be so refined, so leisurely and gentle [...]" (Mao 1975: 28).

When you take the quotation from a secondary source, you have to be precise as well. In the bibliography, you then only mention the author you actually read (in this example: Perry 2008).

For example: "A revolution is not a dinner party" (Mao Zedong, quoted in: Perry 2008: 40).

### (4) Paraphrase

When you summarise another author's ideas and findings, you have to use your own words, followed by the specific reference. You have to rephrase completely the original text, because:

- a) it shows that you understand the content of these words; and
- b) it is plagiarism to display another author's ideas and words as your own.

For example:

Quotation: "[A] revolution is not a dinner party, [...] it cannot be so refined, so leisurely and gentle [...]" (Mao 1975: 28).

Citation: According to Mao Zedong, a revolution has to be considered a difficult and even violent endeavour (Mao 1975: 28).

### (5) References

References can be placed either within the text or in a footnote. Whichever you choose, please be consistent throughout the paper. There are also different citation styles and preferences in every discipline. The minimum information to be given is: Name, year, page.

For example: Perry 2008: 48.

Every reference mentioned in the text must be verifiable with the bibliography.

## 6. Bibliography

### 6.1 Objective and content of the bibliography

The bibliography should enable the reader to find literature sources easily so that they can follow up on and verify them. The bibliography lists all literary sources that are referenced in the text and the corresponding footnotes.

### 6.2 Forms of references

(1) All references follow a unified basic form that is modified depending on the different sources. First names may be abbreviated, but only consistently throughout the bibliography. For example:

(2) Monographs:

Name 1, First name 1 (if applicable Name I, First name I), Year of publication, Title, Edition (unless First edition), Publisher, Location.

*Example:*

*Wöhe, G.;Döring,U., 2013, Introductroy Business, 23rd ed., published by Franz Vahlen, München*

(3) Journal articles:

Name 1, First name 1 (if applicable Name I, First name I), Year of publication, Title, in: Name of journal, Year or volume, if applicable Number, Pages (from...to).

*Example:*

*Smith, John, 2009, Studies in pop rocks and Coke, in: Weird Science, 2009, 12, p.78-93.*

In case of magazine articles, the first and the last page of the essay is to be stated. If the pages of a magazine are not consecutively numbered, the volume number of the magazine must be added. In case of a newspaper article, the number of the edition and the publication date is to be mentioned.

(4) Article in a compilation

Name 1, First name1 (; if applicable. Name i, First name i), Publication year, Title, in: Name 1, First name 1 (; if applicable. Name i, First name i) (Publisher.), Compilation title or name of conference or the like, Edition (unless first edition), Publisher, Publication year, Pages (from ... to)

*Example:*

*Pick, D., 2013, Die Relevanz von Social Media für B2B-Referenzen von Dienstleistungsunternehmen, in: Bruhn, M.; Hadwich, K. (Publisher.), Dienstleistungsmanagement und Social Media. Potenziale, Strategien und Instrumente, Springer Gabler, Wiesbaden, p. 321-343.*

When quoting from an article in a compilation not only the article itself must be stated in the bibliography but also the compilation as a whole.

## (5) Other sources (working papers, project reports, miscellaneous)

Name 1, first name1 (; if applicable name i, first name i), publication year, title, kind (working paper, manuscript etc.), place of publication

*Example:*

*Struck, O. et al., 2014, Bonuszahlungen an Manager: Gerechtigkeitsurteile und betriebliche Folgewirkungen, Working Paper No. 12, Arbeitswissenschaft, Universität Bamberg, Bamberg*

## (6) Internet

Name 1, first name1 (; if applicable. name i, first name i), publication year, title, Internet address of document with complete path to the file, date of access [dd.mm.yyyy]

*Example:*

*Hoberg, p., 2014, Ableitung des Kalkulationszinssatzes (Vergleichszinssatz) für die Investitionsrechnung, [http://www.controllingportal.de/Fachinfo/ Investitionsrechnung/Ableitung-des-Kalkulationszinssatzes-Vergleichszinssatz-fuer-die-Investitionsrechnung.html](http://www.controllingportal.de/Fachinfo/Investitionsrechnung/Ableitung-des-Kalkulationszinssatzes-Vergleichszinssatz-fuer-die-Investitionsrechnung.html), 09.09.2014*

The identification of Internet sources is done by using the Uniform Resource Locator (URL), for example „http://www...“. The path describes the corresponding directory on the server. The correctness of the information (periods, hyphens, lower case and upper case letters etc.) requires special attention. Should an Internet source reference extent to more than one line the separation should be made behind a „/“ without using additional marks such as a hyphen. Should the source only be available by way of personalised access (e.g. logging on/user-id/password), this needs be explicitly stated. The URL is not to be stated in blue, nor underlined.

If there is no author mentioned in the Internet source, the indication of the person in charge or the company in the disclaimer is to be adopted instead.

Due to the volatility of the medium Internet, a copy of the source in question has to be provided in digital form with the thesis (cf. item 2.7 (3)).

## (7) Laws and other legal provisions,

Complete name of legal reference, Abbreviations, Date and publication of current version with indication of Volume and Page number.

*Examples:*

*German civil code, BGB, in the edition as of 2<sup>nd</sup>. January 2002, BGBl. I, p. 42.  
German commercial code, HGB, without date, HGBl. III, item number 4100-1.*

Regarding legal texts, the corresponding official compilation must be used and specified as a source. If, exceptionally, secondary sources are being used, they must be listed according to the rules for monographs.

## (8) Jurisdiction

Court, if applicable Place of court, Form and date of ruling, Reference number, if applicable Official key word, Source of copy, if applicable Remarks

*Example:*

*BFH, Urteil (Beschluss) vom 29.10.2013, VII R 24/12, Keine Energiesteuerentlastung für die Herstellung von verlorenen Sandgussformen in einer Eisengießerei,*

### 6.3 Specific requirements

- (1) The bibliography must not be divided into separate groups (e.g. monographs, articles, Internet etc.). Only the law, jurisdiction and statistics references are listed separately.
- (2) The bibliography is organised alphabetically, by surname of the authors (including Anon., if no name can be stated). The umlaute ä, ö and ü are treated as a, o or u respectively. If there are several authors, the names are separated by semicolon. With identical surnames, the sorting is according to the first names. If several titles with the same co-authors have the same first author within this group, the sorting is done according to the name of the second author. If the co-author is identical in several sources, these in turn are sorted in ascending chronological order.
- (3) Sources by more than three authors are not stated with all their names. Instead, the name of the first author is given, plus the addition „et al.”.
- (4) Several publications of an author or the same team of authors in one year are differentiated by lower case letters (for example Meffert, H., 2001a and Meffert, H., 2001b).
- (5) Academic degrees and professions of the authors are to be omitted; titles of nobility are placed after the first name.
- (6) To improve visual access, names are outdented ca 1 cm.
- (7) If no author is mentioned in the text to be referenced, the source is included with the abbreviation „Anon.” in the bibliography and alphabetically integrated accordingly. If there are several „Anon.” titles to be listed, the order is determined by the year of publication.
- (8) If date and/or place of publication of a reference to be cited are not indicated „n.d.” (no date) or „n.p.” (no place) are used instead. The place of publication is always the place stated by the publisher. It is possible to mention just one or all places of publication.
- (9) In case of foreign language titles, the spelling of the original source must be retained. This notwithstanding, the first word of a title begins with an upper case letter. In case of English references, abbreviations such as p. (page), vol. (Volume) or ed. (Editor) should be used consistently.
- (10) Unpublished sources that cannot be included in the appendix for reasons of size are, in the PDF-format and in their entirety, to be attached to the thesis in digital format (cf. item 2.7 (3)).

## 7. Appendix

The appendix includes such material that would disturb the sequence in the main text but that is on the other hand necessary to follow up on the argumentation (for example extensive figures, data evaluation, empirical evidence, question forms, extensive tables, long formula deductions and so on). If, within a scientific paper, expert interviews are made, the minutes of these interviews must be put in the appendix or in digital form. The same applies to raw data of polls carried out as well as contributions from the internet. These, too, are to be provided in the PDF format in digital form (cf. item 2.7 (3)).

## 8. Closing declaration

- (1) The closing declaration is a compulsory part of a scientific paper; in the case of Bachelor and Master theses it is to be added after the appendix and before the CV and forms the last written page in the case of term papers. The text is shown in Appendix 3.
- (2) The declaration must be signed by hand, indicating place, first and second name. It is not listed in the table of contents and contains neither page nor item number.



## **Appendix 1**

Sample cover sheet for term paper

### **Topic of paper**

Term paper

at

FH Aachen

FB Wirtschaftswissenschaften

<Name of course>

<Title, first name, name of supervisor>

<submission date>

submitted by

<First name, name>

<Matriculation number>, <number of semester> Sem.

<Study course>

<Street, house no.>

<Postal code, place>

<Tel.>

<Email>

## Appendix 2

Sample cover sheet of Bachelor/Master thesis

**Topic of paper**  
Bachelor's/Master's Thesis<sup>26</sup>

at

FH Aachen

FB Wirtschaftswissenschaften

<Name of course>

<Title, first name, name of supervisor>

<Submission date>

submitted by

<First name, name>

<Matriculation number>

from <Place of birth>

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2 Delete where inapplicable

### **Appendix 3**

#### **Closing declaration**

I hereby declare to have written the present paper without the help of others and without using any other aids than the ones indicated. All quotes directly or indirectly taken from published or unpublished sources have been marked as such. The paper has not been presented to any other examination office in the same or similar form.

Aachen,.....

Signature.....

(First name, surname)