Writing your thesis

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1 General information

As part of your study program at the faculty of Management, Economics and Social Sciences you are required to write a Bachelor's or a Master's thesis and possibly a seminar paper. This guide is intended to provide tips and support as well as to specify what the Chair of Applied Microeconomics and Business Economics expects of written work.

Any statement here is legally subordinate to the overarching rules of the university's study program and its regulations.

You can write your thesis in English, German or French.

The department of your thesis supervisor need not coincide with the department that runs your study program. The requirement is that the topic of the thesis must relate to the topics of one of the courses that you followed within your study program. Ideally, that was a course at our chair that you liked. The following table gives a brief overview of the different thesis types.

		ECTS credits	Grading			
	BACHELOR					
2nd year 3rd year	seminar paper Bachelor's thesis	6 15	no (pass / fail) yes			
	MASTER					
	Master's thesis	18-27	yes			

2 Objectives

The seminar paper and Bachelor's thesis will be your first scientific writing. The thesis should be set out in such a way that it logically structures and clearly communicates connections, findings and ideas on a specific topic.

In particular, the aim is to learn how

- to develop and narrow down a workable problem,
- to search for literature and data,
- methods and concepts (discussed in lectures that you have attended) are applied.

Other important learning objectives are to establish

- a clear, clean structure within the work,
- sound arguments,
- logical conclusions,
- a critical reflection,
- a coherent bibliography.

3 Procedure

3.1 Selecting a topic

Students can make their own suggestions for a topic for discussion or get inspired by the topics that are listed on the website www.unifr.ch/amabe.

A suitable topic meets three criteria:

- 1. It inspires the student.
- 2. It falls within the area that the Chair can supervise this area is much wider than is sometimes assumed.
- 3. It is feasible within the framework of a student's thesis.

It is important to properly define the subject. Generally, it is better to narrow down a topic and comprehensively analyse it, rather than dealing with a comprehensive topic superficially. You should therefore invest sufficient time in defining the topic. You have to **discuss the topic with the supervisor.** Non-binding brainstorming sessions are a suitable way of doing this.

3.2 Researching literature

You can find literature in various ways:

- **Wikipedia**: not an excellent source itself but a helpful starting point to get an overview and to find sources.
- Google scholar: probably the most often used search engine for scientific literature.
- Literature databases: www.istor.org, www.sciencedirect.com, ideas.repec.org, www.cepr.org, www.iza.org, www.iza.org, www.iza.org, www.cepr.org, www.iza.org, www.iza.org, www.cepr.org, www.iza.org, www.iza.org, www.cepr.org, www.iza.org, <a href="www.iza.or
- Websites of **authorities**, e.g., the Swiss federal authorities: <u>www.admin.ch</u>.
- Serious media websites: e.g., Economist (<u>www.economist.com</u>), Neue Zürcher Zeitung (<u>www.nzz.ch</u>), Frankfurter Allgemeine (<u>www.faz.net</u>), The New York Times (<u>www.nytimes.com</u>).
- Websites of serious research institutions: e.g., Konjunkturforschungsstelle ETH (www.kof.ethz.ch), Max-Planck- Gesellschaft (www.mpg.de/de), World Bank (https://data.worldbank.org), IZA World of Labor (wol.iza.org)
- Homepages: it may be interesting to take a look at the homepages of well-established researchers (e.g., economics.with.edu/faculty/acemoglu)
- **Textbooks**: textbooks can also be quoted for standard concepts, e.g., for a well-known model. It is preferrable to use the textbook only to find the original source.

The best sources are typically journal articles that were recently published in top journals in economics (like the so-called "top five" journals).

Most sources should be openly accessible. For the others, the university's computer network provides access to many important journals and databases. Outside of the university's network this is possible via a VPN connection.

3.3 Proposal

Before starting to write the paper, you will need to write a proposal and discuss it with your supervisor. The proposal should very briefly describe the thematic scope. Ideally, it should be about two pages long. The proposal should contain:

- the title of the paper,
- the definition of the problem,
- the objective,
- the method and the approach,
- the structure of the paper (provisional table of contents),
- the key literature and data sources.

The supervisor's acceptance of the proposal is the official starting point for the paper. Preliminary work carried out on preparing the proposal and the proposal itself can well be used as material for the actual paper.

3.4 Tools

There are many tools that may help you better answer your research question. Those include math programs (e.g., Mathematica, Wolfram Alpha, ...), statistics software (e.g., STATA, R, ...), programming languages (Python, C++, ...), generative Al (e.g., ChatGPT, Gemini, Claude, Perplexity, ...), text editing software (e.g., Overleaf, LaTex, MS Word, ...) and so on.

Any tool has its powers and its limitations. They must be applied appropriately, ethically, and transparently. Make sure that you properly refer to the used tools including the exact version of the used software.

Regulations concerning the usage of generative AI are evolving and are part of an important ongoing debate. Currently, some warnings are in order: generative AI can support you in well-defined, rather simple tasks, but it will (by now) not produce *your original answer to your research question* (which is the core substance of your thesis!).

The usage of any tool must conform with the principle of scientific integrity. This is legally reassured by signing the declaration of honor. In German it currently reads: "Ich bestätige mit meiner Unterschrift, dass ich die Arbeit persönlich erstellt und dabei nur die aufgeführten Quellen und Hilfsmittel verwendet sowie wörtliche Zitate und Paraphrasen als solche gekennzeichnet habe."

3.5 Time frame

There can be deadlines and time restrictions from the general study regulation and from the specific study program. The chair sets no additional time restrictions.

The student is responsible for managing the project independently and obtaining feedback as required. Milestones and deadlines are very helpful in good time management.

We advise taking your time to choose your topic. Once the proposal has been accepted, we recommend starting with the most important part, i.e., the core of the work.

3.6 Submitting your thesis

Bachelor's and Master's theses are to be submitted to the Dean's Office. For this purpose, please refer to the faculty's instructions, which are currently here: https://www.unifr.ch/ses/en/studies/info.html.

Our chair does neither require additional printed copies, nor an electronic copy in pdf or word.

Finished seminar papers are to be submitted directly to the chair together with the <u>faculty's</u> corresponding form.

4 Requirements

4.1 Content requirements

With regard to the content of the work, it is expected that

- the reference to the subject matter always be maintained,
- the reasoning be logical and free from contradictions,
- attention be paid to the scientific nature of the work,
- topics be presented and discussed in a balanced way,
- your own contribution be presented in a comprehensible way.

The entire work must focus on the research question. In case of doubt, anything that does not serve to answer the research question has no place in the work.

4.2 Linguistic requirements

The following requirements must be observed:

- clear language,
- correct spelling and punctuation,
- correct and precise choice of words,
- an easily readable sentence structure,
- · consistent use of tenses.

In academic writing, inclusivity is vital for ensuring that all individuals, regardless of their gender identity, feel respected and represented. The following practical tips are intended to help you write your thesis in a gender-neutral and inclusive way when English is the language of choice.

1. Avoid gendered terms for roles and occupations. Replace gender-specific terms with gender-neutral alternatives.

Examples: Use "chair" instead of "chairman" or "chairwoman."

Use "spokesperson" instead of "spokesman."

2. Use singular "they" instead of "he" or "she". To avoid gendered language, use "they" as a singular pronoun when referring to a person whose gender is unknown or when referring to a hypothetical individual.

Example: Each student must make sure that their bibliography is consistent.

In German and French there are similar solutions that serve the same aim, e.g., "Studierende" or "étudiant-e-s". By using gender-neutral language, you not only enhance the inclusiveness of your writing but also contribute to a broader culture of respect and equality. We encourage you to apply these guidelines throughout your academic work. An alternative is to add the following disclaimer in a footnote at the beginning of your thesis: for readability, the neutral masculine [or another grammatical gender] form has been used throughout this thesis, but it is intended to include all genders.

4.3 Structural requirements

We recommend that the work be structured as follows:

- o cover page,
- (optionally an abstract,)
- table of contents,
- possibly a list of figures and tables,
- o introduction,
- main part (including several sections)
- o closing remarks,
- o bibliography,
- possibly appendix.

Cover page: the cover page can, but needs not, be set up according to the sample in the appendix to this guide. This page is not numbered. <u>The University of Fribourg's logo is available</u> in the download area of the corporate design webpage.

Abstract (optional): a scientific paper usually begins with a short and concise 100-200-word summary, which is known as an 'abstract'. For Bachelor's and Master's theses it is not required.

As a reference for form and style, we recommend reading some abstracts of scientific articles. An abstract is not mentioned in the table of contents (and its page is not numbered).

Table of contents: usually, the core part of the manuscript receives Arabic numerals, beginning with the introduction until the conclusion. The other parts, such as the table of contents, the list of figures and tables, the bibliography and the appendix are either not numbered or receive Roman numerals. Still, they do appear in the table of contents. There are various ways to set up the table of contents. We recommend decimal classification: 1. / 1.1. / 1.1.1. etc. Such a classification makes it easier to structure the work clearly and logically. Avoid classifications with more than three levels. If one level has a sub-chapter, e.g., 3.1., then there must also be a second sub-chapter in this section, i.e., 3.2. Text can, but need not, be placed between chapter and sub-chapter headings. For each section, the table of contents indicates the corresponding page number.

List of figures and tables (if applicable): the list of figures and tables provides information on the figure or table number, the figure or table heading and the page numbers on which the figures or tables can be found in the text section. If a paper contains both figures and tables in the written section, but relatively few of either or both types of graphics, they can be recorded in one common index (index of graphics).

Introduction: the introduction should – in a way similar to the proposal – contain the following points:

- a definition of the problem (and topicality of the subject),
- questions relating to the closer definition,
- the objective of the paper,
- a short presentation of the most important findings
- the relation of the paper to the key literature references
- the structure of the work.

Main part: the design of the main part is up to the author of the paper and depends on whether they are preparing a theoretical or empirical paper. It is important that there be a clear structure and that most space be given to one's own contribution, the core of the work.

Closing remarks: the closing remarks are where a conclusion is drawn. The initial question can be repeated, and the central statements or results of the paper can be briefly summarised and discussed. This is also the place to mention any important limitations of your work. You may also point out future research questions on the topic of the work.

Bibliography: the bibliography must contain all references cited in the paper and must be arranged alphabetically according to the surnames of the authors. The form of the references must be consistent.

Appendix (if applicable): tables, figures, programming code and other supplementary documents can be placed in the appendix of the thesis. This avoids distorting the text in the

main part. In the main body, reference can be made to the corresponding element in the appendix.

4.4 Formal requirements

4.4.1 General information

While Arabic numerals must be used to number the pages of the text section, Roman numerals could be used for the pages before the text section (see Section 4.3.).

The line spacing must be 1.0 to max. 1.5 lines and the font size for the main text must be 11 or 12 pt. Only longer quotations and footnotes may be written with reduced line spacing and in a smaller font.

As a rough rule, seminar papers should be 15-20 pages long while a Bachelor's thesis should be 20-40 pages, and a Master's thesis 25-50 pages.

Try to be brief and write concisely. Quality and content always dominate quantity.

4.4.2 Tables and figures

The tables/figures must be numbered consecutively and given a comprehensible title and, where appropriate, a brief explanation. Each table or figure should be understandable on its own. As such, the reader should be able to understand each table/figure without the need to study the text. You have to indicate the source of the data used for each table/figure.

4.4.3 Citation methods

Any use of third-party intellectual property must be identified by precise references. This applies to both literal quotations and analogous reproduction of a text passage.

The beginning and end of a literal quotation must be highlighted and separated from the remaining text by quotation marks. The principle of 'faithfulness to the original' applies to every literal quotation (including orthography, punctuation, bold and spaced lettering, etc.).

Any deviations from the original must be noted. If individual words or sentences are omitted to shorten the quotation or for stylistic reasons, this must be indicated as follows: [...].

By analogous reproduction we mean quotations in which authors reproduce thought processes from a source in their own words. The source is then traditionally indicated by using 'cf.'. However, it has become common to not write 'cf.' in English.

In principle, each quotation must meet the following three criteria:

- scientific faithfulness,
- comprehensibility,
- uniformity.

Scientific journals, especially top journals in economics, can be used as a model for your citation method.

4.4.4 Details of one citation method

Regarding citation in the text, we recommend using the short citation method. Here, each item – regardless of whether it is being quoted for the first time or repeatedly – is recorded as follows: name, year.

Examples: "Tirole (1988) showed that..."

"This is consistent with empirical evidence (see Goldin, 2024)."

Observe that the brackets are part of the same sentence, they do not follow after the full stop.

When two authors were involved, both are always named. For three or more authors, you usually use the first name and "et al.". The Latin term "et al." stands for "et alia" which means "and others". According to one convention, for three to five authors, you can write their full names in the first mention and follow by mentioning the first name and 'et al.'. You should rather not write the names of six or more authors in full, but instead write 'et al.'.

Example: First quote: (Blanchard, Amighini & Giavazzi, 2013), others:

(Blanchard et al., 2013)

You should write the full name for corporate authors. For longer names, common abbreviations can be added in brackets when they are first mentioned and then used alone.

Example: First quotation: (State Secretariat for Economic Affairs [SECO], 2016)

others: (SECO, 2016)

To indicate the exact origin within the source, further clarification may be added following the year, especially for literal quotations or longer sources.

Examples: (Solow, 1956, p.76), (Tirole, 1988, chapter 2)

If you cite several titles by the same author from the same year, these need to be distinguished by small letters placed after the year (e.g., Tirole, 1988b).

Every source cited in the text must be listed in the bibliography. The references have to be sorted alphabetically (by surname). The entries usually consist of the name, year of publication, title and information on the publication.

a) Books

Basic format for books: author(s) (year). Title of the book. Place of publication: publisher.

If the work comprises several volumes, the number of the cited volume must be indicated. If it is not the first edition of a book, you have to state which edition the quotation was made in.

Examples: Tirole, Jean (1988). The Theory of Industrial Organization.

Cambridge, Massachusetts: The MIT Press.

b) Anthologies, manuals and dictionaries

Basic format for anthologies, manuals and dictionaries: author(s). (year). Title in: name of the editor (ed.) Title of the work. Place of publication: publisher. Pages.

If the work comprises several volumes, the number of the cited volume must be indicated.

c) Journals and newspapers.

Basic format for articles: author(s) (year). Article title. Magazine name, volume/year, pages.

Examples: O'Donoghue, Ted & Rabin, Matthew (1999). Doing it now or later.

American Economic Review, 89(1), 103-124.

For journals or newspapers, the exact date or month must be provided in addition to the year.

Examples: Sinn, Hans-Werner (2014, 1 November). Sie sind wie Spürhunde.

Süddeutsche Zeitung. Retrieved from http://www.sueddeutsche.de. Cudré-Mauroux, C. & Stadler, P. (2016, March). Weniger Armut –

mehr Ungleichheit. Die Volkswirtschaft, P. 15-18.

For articles whose author is not mentioned, the publisher replaces the name.

Examples: The Economist (2016, 20 February). Unfamiliar ways forward. P. 14-

17.

d) Electronic sources

For electronic sources there are some additional rules. Ideally, the article has been assigned a so-called DOI (digital object identifier), in which case it only needs to be added to the entry.

Example: Solow, R. M. (1956). A Contribution to the Theory of Economic

Growth. The Quarterly Journal of Economics, 70(1), 65-94.

doi:10.2307/1884513.

If no DOI is available, the URL of the journal or publisher should be given (see Sinn (2014) and SECO (2016) above). If you check on the web, you will find that the correct entry for Cudré-Mauroux and Stadler (2016) is therefore:

Examples: Cudré-Mauroux, C. & Stadler, P. (2016, March). Weniger Armut –

mehr Ungleichheit.

Die Volkswirtschaft. Retrieved from http://dievolkswirtschaft.ch.

Mentioning the full URL (e.g., http://dievolkswirtschaft.ch/de/2016/02/stadler-03-2016/) makes sense if the article would otherwise be difficult to find (authorities, NGOs, blogs, etc.). The retrieval date is only necessary for sources that change over time.

e) Data sets

As a basic rule, the same format applies to data sets. If available, the version number of the data set is provided in round brackets. The type of document is specified in square brackets.

Examples: Federal Statistical Office (2015). Gross domestic product (GDP) by

major region and canton (je-d-04.02.06.01) [data set]. Retrieved from

http://www.bfs.admin.ch.

Other citation methods can also be used. However, these must always be in line with a form used in specialist literature and must be applied consistently.

5 Assessment

The paper is assessed according to the requirements listed in section 4. Among the dimensions of the assessment are **problem**, **analysis**, **synthesis**, **literature** and **form**.

As feedback on your thesis, you will receive an assessment report.

The official assessment time is long, e.g., 3 months for a Bachelor's thesis. We are usually much faster than that, in particular when a student asks for assessment up to an informal deadline.

6 Appendix: sample of a current cover page



UNIVERSITÉ DE FRIBOURG UNIVERSITÄT FREIBURG

The title of the thesis

Seminar paper / Bachelor's thesis / Master's thesis

at

Chair of Applied Microeconomics and Business Economics

Department of Economics

Faculty of Management, Economics and Social Sciences

University of Fribourg

submitted by

first name(s) SURNAME from place of residence

Student number

for the Bachelor / Master of Arts in Economics / Master Science in Data Analytics & Economics

Place and Year of Printing

Fall or Spring semester 202_,

Supervisor: Prof. Berno Büchel

Assistant: ...

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