

Guidelines for writing graduation theses in the School of Science

These guidelines lay down the procedure for writing Bachelor's and Master's theses and the requirements for the theses in the School of Science. The programme directors of the School of Science have the right, depending on the specificity of the discipline, to establish a different or supplementary procedure for writing graduation theses provided that the procedure complies with TTÜ's legislation on graduation theses, good practice and is made available to students on the website of the School of Science.

The graduation thesis template can be used for writing other student papers by leaving out the parts required only in the case of graduation theses (author's declaration, annotation). The guidelines and the thesis template are based on MS Word, but other suitable word processing programs (e.g. LibreOffice/OpenOffice, LaTeX) may be used provided that the style and the thesis structure set out in this procedure is retained.

Written papers must be submitted in the form of a printed paper copy (in paperback, with transparent front cover) and in PDF format together with metadata and the non-exclusive licence. The file name must include the student's first and last name. The number of paper copies, the format and place of and deadlines for submission of the theses shall be established by the programme director.

1. Ethical principles

The ethical principles for research are laid down in the TTÜ Principles of Academic Ethics. One of the key principles is that anyone who creates new values must respect others' creation, be it created in written, digital, oral or any other form, and provide proper references to it. Refraining from academic fraud is an essential requirement in research and studies. If a graduation thesis concerns persons or companies it must be ensured that their interests are protected in accordance with legislation.

2. Topic of the graduation thesis

The topic of a graduation thesis must correspond to the content of the study programme and shall, as a rule, be related to the speciality.

3. General requirements for and structure of graduation theses

3.1 Language of the thesis

As a rule, a thesis is written in the language of instruction. A thesis may, with the consent of the programme director and the supervisor, be written in another language. In this case, the thesis must include a summary in the language of instruction.

3.2 Volume of the thesis

As a rule, a Bachelor's thesis shall be 20-30 pages long (approximately 50-75 thousand characters) and a Master's thesis shall be 30-50 pages long (approximately 75-100 thousand characters), annexes not included.

3.3 Structure of the thesis

A thesis shall include the following:

- title page;

- translation of the title page into the language of instruction if the thesis is not written in the language of instruction;
- author's declaration and supervisor's resolution on the reverse side of the title page;
- table of contents;
- annotation (and abstract) (in case of a thesis written in Estonian also in English and in case of a thesis written in another language also in the language of instruction);
- glossary of abbreviations and terms (if applicable);
- introduction;
- body text of the thesis divided into chapters;
- summary;
- acknowledgements
- references;
- appendices.

3.3.1 Title page

A title page shall include the following (see the template): - the name of the university, school and department where the thesis is defended; the title of the thesis; the type of the thesis; the name and student code of the author; the name and post of the supervisor (co-supervisor); the name of the study programme; the year of the defence. The translation of the title page must be presented immediately after the title page.

3.3.2 Author's declaration and supervisor's resolution

The author's declaration is mandatory part of a graduation thesis that comes after the title page and comprises the following text: "Hereby I declare that I have written this thesis independently and the thesis has not previously been submitted for defence. All works and major viewpoints of the other authors, data from sources of literature and elsewhere used for writing this paper have been referenced." The supervisor's resolution comprises the following text: "The thesis complies with the requirements for Bachelor's and Master's theses." The author's declaration and the supervisor's resolution shall be signed.

3.3.4 Table of contents of the thesis

The table of contents of a thesis includes headings of the subdivisions with page numbers starting from the introduction and ending with appendices, incl. the introduction, summary and references. The table of contents must include all appendices with headings.

3.3.8 Annotation

An annotation provides the reader an overview of the objectives of the thesis, the key issues discussed and the key findings and conclusions. An annotation is a brief introduction, which provides no explanations or arguments but reflects adequately the content of the thesis. An annotation must be half to one A4 page long and written in the language of the graduation thesis, which must be accompanied by an Abstract in English if the thesis written in Estonian. If the thesis is written in a foreign language an annotation in Estonian must be included (excluding in the case of a thesis of degree curricula taught in English). Annotations written in different languages must be placed on separate pages – the heading of an annotation is the first-level heading, which starts on a new page.

3.3.3 Glossary of abbreviations and terms

Abbreviations must be listed in alphabetical order. The glossary of abbreviations and terms includes new as well as well-known terms having several meanings that are used in the body text. The meaning of an abbreviation must explained in the body text on its first use, regardless of whether the

abbreviation is included in the list. If necessary, the explanations of abbreviations can be provided also on their first use in the body text.

3.3.5 Introduction

An introduction shall outline the problem (1-2 page(s)) and the reasons for selecting the topic, the problem analysed and the goal of the thesis. The topicality and novelty of the topic must be pointed out.

3.3.6 Body text of the thesis divided into chapters

The structure depends on the topic and nature of the thesis. The chapters and their parts must be substantially and logically interlinked and form a whole.

3.3.7 Summary

A summary must cover the key findings and conclusions, analysis of fulfilment of the goals set out in the thesis, proposals for further elaboration of the thesis and further research in the field; length up to 1 page. A summary must not contain viewpoints and solutions not discussed in the body text.

3.3.9 Acknowledgements

Acknowledgements to supervisors, contributors, financiers, etc. Acknowledgements shall be presented at the end of the text before the list of references in a separate paragraph. In this part, contribution of all other persons to the thesis (incl. proofreading, if any) must be pointed out.

3.3.10 References

The references chapter shall list references to the publications (books, articles and other sources) used in writing the thesis. All the listed materials must be referred to in other parts of the thesis. References shall comply with the requirements approved in professional literature. The terms of reference of each discipline shall be based on the traditions and specificity of the discipline.

3.3.11 Appendices

Appendices may include tables, figures, articles, etc. that are related to and supplement the body text and they shall be appended at the end of the thesis.

4. Format and formatting requirements for graduation theses

A graduation thesis shall be submitted in A4 format. The left margin (text-free edge) shall be 30 mm and the bottom, top and right margins must be 25 mm. The text of the thesis shall be written in a single column. A graduation thesis shall be aligned on both sides (justify) with the spacing 11 pt after paragraphs. No indentation should be used.

The text font of a graduation thesis shall be Calibri (or a similar sans serif font type) 11 pt, i.e. upright font with 1.15 -1.25 line spacing. The font size of footnotes must be 9 pt.

Headings and subheadings shall be aligned left. Headings 16pt and subheadings 14pt, lowercase letters in bold. First-level headings shall start on a new page. A lower level division shall be continued from the page where the previous subdivision ends. No abbreviations are used in headings and there is no full stop at the end of headings. Where the heading consists of several sentences, every sentence ends with a full stop, except the last sentence. No hyphenation is used in headings.

Page numbers have to be centered at the bottom of the page. All the pages of the thesis shall be numbered consecutively throughout the thesis, excluding the title page and its reverse side. Footnotes shall be separated from the body text by a line.

Tables and figures shall be linked to the text through references and numbered consecutively throughout the whole thesis. Tables shall be titled and figures shall be supplied with a caption.

Appendices shall be presented at the end of a written paper. Appendices start with the first-level heading "Appendices", which may be placed on the same page with the first appendix. Each appendix must be started on a new page. Appendices shall be numbered in the order they are referred to and shall be supplied with second-level headings.