

First name Surname font size 16

**TITLE ON ONE OR MORE LINES  
FONT SIZE 24**

Subtitle if necessary font size 20

Bachelor's / Master's thesis  
Degree programme font size 16

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Tero Tietäväinen		
<p><b>Abstract</b></p> <p>This page is a model for the English thesis abstract. Its length should not exceed one page, and therefore, it may be written with single spacing. The font is Arial, font size 12, and the text typically has 3 to 5 paragraphs, each preceded by an empty line.</p> <p>The page begins with identification data in the correct fields, as presented in this template: author's name, official name of Degree, month and year of approval, supervisors' names with the official job titles (supervising teacher, the company name or the company's representative, if the study was commissioned), number of pages from the title page to the end of the list of references / list of figures or tables, and the number of appendices. The first word in the title has capital initial. Otherwise, the title has lower-case initial letters, except for words that are capitalized for grammatical reasons.</p> <p>The abstract is a concise, independent account of the thesis content. It has about 200–250 words that summarize the main content. The text introduces the purpose, methods and key results and conclusions. Background information is not included, unless it is especially relevant for fully understanding the text without reading any other parts of the thesis. The text should not refer to any pages of the study, nor figures, tables or equations.</p> <p>The abstract is written in past tense, and passive voice (<i>x was studied</i>) and third person (<i>this study examined</i>) should be preferred over personal pronouns (I, we): First, the text introduces the aim of the study (<i>The objective of the thesis was to...</i>). Second, it explains the research method in general terms. (<i>Qualitative methods were used to...</i>). Finally, the text ends with the key results and conclusions (<i>The study showed that...</i>). This part can also discuss whether the thesis succeeded in achieving the goals set.</p> <p>The page ends with a field for 3 to 5 keywords accurately describing the thesis content. Students writing the thesis in Finnish are advised to use the terms of the Finto service. This service includes some terms in English, but only for few fields of study at <a href="http://finto.fi/en/">http://finto.fi/en/</a>. Keywords in English can also be found in field-specific thesauruses, or students can choose the words by themselves after considering the topic thoroughly.</p>		
<b>Keywords</b>		
documentation, model, thesis, report writing		

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## **1 INTRODUCTION**

This template for writing bachelor's and master's theses at Xamk was last updated on 16 August 2017. The template has been optimised for full, downloadable version of Microsoft Word – not for wordprocessing applications such as Office 365 operating in the cloud.

## **2 LAYOUT**

This chapter introduces the layout of text produced with the template. Appendix 1 provides more information on the technical details of this template.

### **2.1 Title page, table of contents, margins, indentation, fonts, font sizes and page numbers**

The layout of the title page, abstract and the table of contents and list of references do not require students' own work. The example information of the template can simply be replaced by the details of each bachelor's or master's thesis. Automatic hyphenation can be disabled in the title of the title page.

The title page follows the layout of the title page in this document. The title page includes the student's own name, the title of the bachelor's or master's thesis and the name of the student's degree programme. There is no page number on the title page.

The heading of the table of contents is CONTENTS, and page 2 of this document shows an example. The table of contents introduces the overall outline of the study and makes it easier to read. Therefore, the table of contents has different heading levels to indicate heading hierarchy. It shows the heading words together with the number of the page where the text under each heading starts. The numbering and headings in the table of contents are identical to the ones used in the main body of the text. If the table of contents is generated with the wordprocessor's function, this tool automatically updates the changes made in the text into the table of contents. Appendix 1 provides instructions for using these update functions. Page 3 of this template gives an example, how the table

of contents also includes the heading REFERENCES, and the headings LIST OF FIGURES or LIST OF TABLES and APPENDICES, if necessary. These headings, however, are not numbered, and the table of contents does not show their page numbers.

Uncommon characters and symbols, terms, self-made symbols and abbreviations can be listed separately. This list of definitions is placed after the table of contents and before the introduction without a page number. Its heading does not have a number, but it is listed in the table of contents. Standard symbols and abbreviations and common scientific terminology do not require definitions. Characters, terms, symbols and abbreviations can also be explained in the text. In this case, no separate list of definitions is necessary.

**Fonts and font sizes:**

- headings and body text with Arial, font size 12
- captions for figures and tables with Arial, font size 10

**Margins:**

- right margin 2 cm
- left margin 4.3 cm
- top margin 2.25 cm
- bottom margin 1.25 cm
- body text with line spacing 1.5
- abstract, captions for figures/tables and appendices with line spacing 1

Both headings and text lines start at the left margin without indentation. The style selected for writing body text is Normal. This ensures that the text is automatically indented correctly and that line spacing remains at 1.5. There should be an empty line before each paragraph. The key used for starting a new paragraph is Enter, and this key is not used for line breaks. If a manual line break is necessary, it is done with the key combination Shift+Enter.

The text is written with automatic hyphenation and aligned left. There is no need for alignment on the right. The text should not have incomplete pages between chapters, but proceeds in an uninterrupted flow of chapters and sections.

However, an isolated heading at the end of a page should be moved on to the following page.

The automatic numbering function is used for page numbers. They are placed at the top centre approximately 1 cm from the top of the paper. The page number count begins from the title page, but page numbers are only displayed from the introduction chapter onwards.

Appendices do not necessarily have a running page number. Instead, they are numbered by adding the word *Appendix*, together with the relevant ordinal number, in the right top corner of the page, as shown in Appendix 1, for example. There is no full stop after the ordinal number. Appendices with multiple pages are introduced for instance with *Appendix 1/2*, where the first number indicates the number of the appendix and the second the page number. In other words, *Appendix 1/2* refers to the second page of the first appendix. (See Appendices 1/1 and 1/2.)

## **2.2 Headings and the table of contents**

The recommendation is to update the headings and table of contents of this template by using the update functions of Word. Appendix 1 provides instructions for updating the table of contents and for creating new headings.

There is an empty line before and after all headings and they have numbers as well. These same numbers also automatically appear in the table of contents when using the Styles tool of Word. The type of heading determines which heading style of Word to select: Heading 1 is used for main headings and Heading 2 for subheadings. Heading 3 is used for further subheadings, if necessary. This three-step heading hierarchy is usually sufficient. Too detailed hierarchy could result in too short and list-like passages of text. In addition, isolated, numbered subheadings should be avoided: If the text has subheading 7.2.1, there should also be 7.2.2.

## 2.3 Figures and tables

Figures and tables can be used to illustrate some of the data introduced in the text. The words used in referring to these are **Figure** and **Table**. Other possible words, such as graph, chart or illustration should not be used. Figures and tables should include explanations for all the symbols used in them.

The term Figure refers to graphs, charts, photographs, drawings, screen shots and graphical presentations. All figures and tables must be informative and technically accurate. They are incorporated in the body text, if they essentially relate to the text and are not very large in size or number. Large figures or tables and series of figures or tables with many items are placed in the appendices. Tables provide exact illustration, while figures are more expressive. Drawings should be produced by following the field-specific instructions and standards. In case of large volume of figures or tables, it is typical to introduce them in separate lists of figures or tables placed between the list of references and appendices. Appendix 3 provides instructions for drawing up a list of figures or tables. To ensure that the size of the bachelor's or master's thesis files remains reasonable, figures should be compressed. Information on compression is available in Appendix 1.

Tables are used to present series of numbers and large quantities on data. Their columns have headings and sufficient commentary to make the tables understandable independent of the text. Readers should be able to interpret the tables reading only the row and column texts, together with the captions.

There are separate numbers for tables and figures (Table 1, Table 2, Figure 1, Figure 2 etc.) running throughout the text. A caption is added for each of them, and this also applies to formulas, as shown in Appendix 2. Captions can be like headings or consist of one or more sentences. The figure caption is placed below the figure, whereas a table caption is placed above the table. The first word in the caption is written with a capital initial. After that lower-case letters are used, unless grammatical reasons require capital initials, as with proper nouns and adjectives referring to nationalities and languages, for example. Captions are

written with Arial and font size 10, and the line spacing for captions with multiple lines is 1. Word functions should be used for inserting the numbers and figure and table captions, and there are instructions for this in Appendix 1.

The text should include references to all tables and figures with their appropriate numbers. Other types of references, such as *the following figure, on the previous page*, should be avoided. Figure 1 below shows two possible techniques for referring to figures and tables.

**Reference can be incorporated in the sentence structure:**

*"Figure 1 illustrates the thesis process from idea to publication. The process has been divided into phases of 5 ECTS credits and it is supported by reporting and feedback."*

**Reference can be introduced in brackets:**

*"The thesis process can be divided into five phases, including idea, planning, implementation, assessment and publication (Figure 1)."*

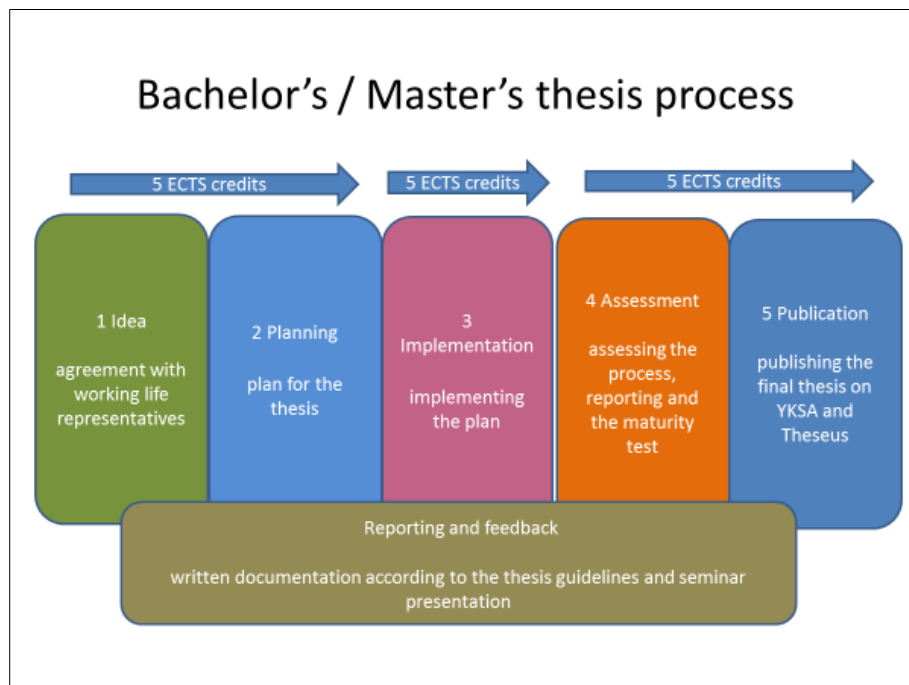


Figure 1. Bachelor's / Master's thesis process (Heikkinen et al. 2013)



Reference alone is not enough, but the body text should also explain the figures and tables, so that readers can understand their main message based on the text. The symbols used must follow the standards and be consistent with the ones used in the text. If the date presented in a figure or table has been taken from another source, the caption must mention that source according to Xamk's Referencing guidelines available at the Student intranet. Figure 1 above includes this kind of reference.

As already mentioned, figures and tables must always be discussed in the body text. They can never start a chapter, but should always be preceded by an introduction in the text. For example, a figure is preceded by an explanation and followed by an interpretation. If the same figure is mentioned later in the text, the reference can include the page number for the figure as follows (Figure 8, p. 24). No figure or table can form a chapter, nor end it.

Where possible, the left sides of figures and tables are aligned with the text. Text is not written around figures and tables, but is always placed above or below them. If there are a lot of figures or tables, the thesis can include separate lists of figures or tables (see Appendix 3).

## 2.4 Emphasising

There are a number ways to emphasise specific ideas in the text, but emphasising must not be an end in itself. For example, the following emphasising effects can be used sparingly and consistently:

A particularly important idea can be either underlined or presented in **bold print** or *in italics*. The text can also be further indented or written with a smaller font size or single spacing.

In addition, parts of text can be emphasised with bulleted lists, but they must not start, nor end a paragraph. Bulleted lists are preceded by introduction sentence and their parts are symmetrical. For example, if the first bulleted item includes a predicate, all other items should have one, too. In other words, the other items cannot be separate words or incomplete sentences.

## REFERENCES

*You can start writing your own list of references here. The list of references always starts a new page. The example list of references below bases on the Harvard system. The referencing style used at Xamk is introduced in Referencing guidelines where the examples for the titles of sources have capital initial letter only for the first word of the title. After that, lower-case letters are used, unless grammatical reasons require capital initials, as with proper nouns and adjectives referring to nationalities and languages, for example.*

Council Directive 98/83/EC 3 November 1998. The quality of water intended for human consumption. WWW document. Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31998L0083&from=EN> [Accessed 5 February 2017].

Fishman, R. 2005. The rise and fall of suburbia. Ebook. Chester: Castle Press. Available at: [http://libweb\(anglia.ac.uk\)](http://libweb(anglia.ac.uk)) [Accessed 12 May 2010].

Jensen, K. L., Toftum, J. & Friis-Hansen, P. 2009. A Bayesian network approach to the evaluation of building design and its consequences for employee performance and operational costs. *Building and Environment* 44, 456–462.

Waters, D. (ed.) 2016. Global logistics. New directions in supply chain management. 5th edition. London: Kogan Pane.

## TEMPLATE FUNCTIONS AND RECOMMENDED STYLES

- Line spacing 1.5 for the text and list of references
- Line spacing 1 for the abstract, captions, and if necessary, appendices
- Right margin 2 cm and left margin 4.3 cm
- Arial, font size 12 (Arial, font size 10 for the figure and table captions)
- Body text with the style Normal
- Enter key for separating paragraphs, larger space preceding a new paragraph
- Automatic hyphenation

### Headings and updating the table of contents

When adding new headings to your bachelor's or master's thesis, the table of contents is not automatically updated. Update the table of contents by right-clicking on it and selecting *Update Field* (Figure 2), and finally, *Update entire table* (Figure 3). Updating the table of contents as shown in Figure 2 requires that new headings have been created by using the correct heading style.

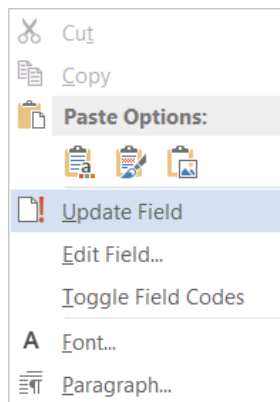


Figure 2. Updating the table of contents, stage 1

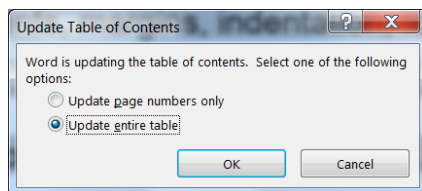


Figure 3. Updating the table of contents, stage 2

Updating the table of contents, as shown in Figure 3, takes into account headings added to the text. Always write a heading on a new line and press Enter. Do not write heading numbers, but use heading style that are already available in this template. This way Word will automatically number the headings. Click the cursor on the heading line or highlight the heading. After that, select a heading style from the style group on the Home tab. Select the appropriate style in accordance with the type of the heading: for main headings, use Heading 1. For subheadings, use Heading 2. If further subheadings are necessary, select Heading 3.

### **Adding figures**

When adding figures, you should leave a blank line above and below the figure. After the figure has been inserted and its size adjusted, activate it by clicking on it so that the drag handles become visible.

To prevent the file from becoming too large, you should always compress the figures in it as follows: Activate the figure, and select *Compress Pictures* on the Picture Tools tab. In the window that opens, select *Delete cropped areas of pictures* and the *E-mail* option

### **Writing figure and table captions**

The caption is placed below the figure and the selected style must be *Caption Style*, available in this ready-made template. Press Enter after you have inserted the figure and write a caption for it. Once the caption is complete, press enter and continue writing the body text. Make sure that the style now is Normal.

Tables are processed in the same way as figures with the exception that their captions are placed above the table. Insert a new table in a new paragraph, that is, press Enter and insert the table on a blank line. When you move the cursor over the table, a drag handle appears at the top left corner. Move the cursor onto the handle, right-click and select *Insert Caption*. In the opening window, open the *Label* menu and select *Table*. In the dialogue box, open the *Position* menu and select *Above selected items*. Click OK, and the caption appears above the table. Finally, highlight the caption and select *Caption Style* from the Styles group on the Home Tab. Do not choose the default style of Word.

### **Numbering appendices**

The word *Appendix*, together with its number, should be visible on line 1, column 6 of the appendix page. There is no running page numbering on the appendix pages.

## FORMULAS

Equations are inserted in the middle of the text area. The number of the equation is added to the right, as in Example (1):

The pressure loss of fluid flow can be defined through Equation 1.

$$\Delta p = \left( \lambda \frac{l}{d} + \Sigma \xi \right) \cdot \frac{1}{2} \rho w^2 \quad (1)$$

where	$\Delta p$	pressure loss	[Pa]
	$\lambda$	friction factor	[-]
	$l$	pipe length	[m]
	$d$	inner diameter of the pipe	[m]
	$\Sigma \xi$	sum of local loss coefficients	[-]
	$\rho$	fluid density	[kg/m <sup>3</sup> ]
	$w$	fluid velocity	[m/s]

If the equation is a part of a sentence, it should be written normally, similar to other text.

Quantity names are listed in the order that they appear in the equation, and their symbols are written in italics. If the equation includes a quantity that does not have a unit, this should be indicated by a hyphen in square brackets.

In the body text, for example, the unit for density is kg/m<sup>3</sup>. The units must be visible in the figure.

Multiplication is denoted by a middle dot. The multiplication sign is used between the letters in an equation, if necessary for clarity.

If an equation has been derived from another equation presented earlier, the derived equation should be numbered with a new number.

If the thesis contains a large number of formulas, there should be a list of symbols at the beginning of the thesis.

## LISTS OF FIGURES OR TABLES

When Bachelor's or Master's theses include a lot of picture material and/or tables, it is a common practise to compile separate lists of their data as lists of figures and lists of tables. They are placed after the list of references, before appendices. They usually start a new page and have running page numbers. The heading for the page is LIST OF FIGURES or LIST OF TABLES, and the positioning is similar to that of a list of references. These lists include the following information: number of the figure or table, caption exactly as in the text, source information or the name of the photographer and the date taken, if it is available, for example as follows:

Figure 1. Bachelor's / Master's thesis process. Heikkinen, M., Karttunen, M., Mäkelä, M., Mäkelä-Marttinen, L., Söderqvist, M. & Wass, H. 2013. Bachelor's / Master's thesis process. PowerPoint presentation 11 October 2013. Kymenlaakso University of Applied Sciences.

Figure 2. Summarising and directly quoting a source. Karttunen, M. 26 August 2014.

Figure 3. Current facade of an office building. Julma-Ryytönen, V. 1 September 2014.

Figure 4. Screenshot of homepage of a company intranet. Oy Yritys Ab. 2014. Available at: <https://oyyritysab.fi/intra/main> [Accessed 1 September 2014].