The Use and Purpose of the Guidelines

At the Faculty of Technology, there are three different guidelines for writing theses: guideline for bachelor’s and master’s degree in business studies, guideline for bachelor’s and master’s degree in technology, and general writing guideline for the Faculty of Technology.

When writing his/her thesis, the student is required to use two of these guidelines, the general writing guideline for the Faculty of Technology and the guideline for the appropriate degree. This guideline is for students studying at Faculty of Technology and writing their master’s thesis for the degree of Master of Science in Technology. In addition, students are required to use the general guideline for the Faculty of Technology.

The purpose of the above guidelines is to ensure that theses at the faculty fulfil the requirements concerning academic writing and have a uniform layout. It is impossible for these guidelines to cover all possible cases. Therefore, if in doubt, the student should ask for advice from his/her thesis supervisor or from the study guidance services at the faculty.
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1 MASTER’S THESIS AND ITS PURPOSE

Master’s thesis in technology is 30 ECTS and a part of the advanced-level studies in the degree Master of Science (Technology). In the thesis, the student is required to demonstrate knowledge of a topic that has professional, academic, economic and societal significance. The student is expected to show proficiency in both scientific methods and academic presentation. In connection to the master’s thesis, the student is also required to give a thesis presentation and write a maturity examination on the topic of the thesis.

The main goal of the master’s thesis is to fill the scientific and quality requirements set for the thesis. In case an outside party is involved, the thesis must also fulfill the requirements concerning content and timetable as specified in an agreement with that party.

The thesis must show familiarity with previous work in the field and must demonstrate ability to use research methods and academic style. The aim of the master’s thesis is to improve the student’s ability for independent research work and its practical application as well as to enable the student to apply different research methods both independently and in groups. Furthermore, master’s thesis must demonstrate the student’s ability to use relevant literature and to present research results as well as show ability for doctoral studies.

Master’s thesis is a personal academic work prepared by the student. The student is advised to start preparing the master’s thesis in the second year of higher degree studies. Supervision for the thesis is provided by the appropriate department and orientation. The thesis cannot be a group work, but it may form part of a larger project. Students must complete their bachelor’s degree or possible complementary studies before applying for a topic for the master’s thesis.
1.1 The Thesis Topic

The topic of the thesis is chosen together by the student and a professor of the appropriate field. The topic may be multi-disciplinary (i.e. it may include topics from both major and minor studies) as agreed with the professor.

The topic, supervisor and instructor of the thesis are approved by the Head of the Degree Programme. If the Head of the Programme is also the supervisor, the topic, supervisor and instructor are approved by the Dean. These must be applied for by a form available at the University of Vaasa website (see Students – Studying – Graduation - Faculty of Technology). For the processing of the topic, the student must request a statement a professor of the major subject. After this, the student must submit the completed application form to the Amanuensis of the Faculty of Technology.

1.2 Supervision and Instruction of the Thesis

A professor in the appropriate field usually supervises the thesis work. By proposal of such professor, the supervisor may also be another professor of the faculty, research professor or, in special cases, a docent of the Faculty of Technology. The thesis work has an instructor, who may also act as the supervisor. In some cases, the instructor may be a person outside the university, for example a representative of a company who has taken a higher university degree. The first examiner is the supervisor, and the second usually the instructor. Both examiners need to have completed at least a higher university degree.

The supervisor and the instructor give general guidance during the writing process and more detailed advice when necessary. The supervisor gives feedback about the thesis and may ask the student to report on the progress of the work.
1.3 Timetable

The acceptance of a thesis topic is valid for one calendar year from the end of the month the topic was originally accepted by the Dean. If the thesis is not left for assessment within the set timetable, the student must apply for extension or new topic for the thesis. Extension may be granted for a valid reason. It must be applied for by a free-form application addressed to the Head of the Programme. The application must state the reasons for the delay and be accompanied by the supervisor’s recommendation. The application is submitted to the amanuensis at the Faculty of Technology.

1.4 Assessment, Approval and Grading

The student must contact the thesis supervisor and instructor for permission to put the thesis in covers. The thesis is assessed by the two examiners assigned by the Dean when the thesis topic was accepted.

The thesis must be submitted to the official assessment in three (3) or four (4) bound copies. If the student gives permission to publish the thesis online in the Tritonia database, three copies must be submitted. Two of these will go to the examiners and one to the university library archives (not for loaning).

If the student does not give permission to the electronic availability of the thesis outside the Tritonia library and appropriate department user-ids, four copies must be submitted. Two of these will go to the examiners and two to the university library. One hard copy will be available for loaning and the other an archive copy. None of the bound copies will be returned to the student.

Moreover, the student must upload the thesis to Moodle for the electronic plagiarism detection, see Chapter 5 Electronic plagiarism detection.
In addition, an electronic copy of the whole thesis and an abstract must be saved to Tritonia’s database at [http://www.tritonia.fi/?d=140&l=1](http://www.tritonia.fi/?d=140&l=1) before the thesis is submitted for the official assessment. The thesis cannot be approved unless the work is successfully submitted to Tritonia. In addition, an abstract without a page number must be submitted to the Amanuensis of the Faculty of Technology. The student should submit only the abstract which is written in the language used in the thesis.

The assessment time for a Master’s thesis is 30 days. This means that the thesis has to be left for assessment to the examiners and the Amanuensis approximately 5 weeks before the expected acceptance date. If the Master’s thesis is the last study attainment of the student, it should be available for the Dean’s decision at least 10 days before the deadline for submitting the application for a degree certificate (which is 28 days before the graduation day). The Dean usually processes theses twice each month. Students should check the schedule for graduation well beforehand from the university website (See Students - Studying – Graduation - Faculty of Technology). The schedule of the Dean’s thesis processing is available from the Amanuensis, if needed.

Two examiners must give a statement with explanation and a suggestion for the grade of the thesis within 30 days of the day the thesis is submitted for assessment. The student is reserved the right to see the statements and a suggestion for the grading before the work is taken to the Dean for approval. The Dean decides on the approval of the work and the grade based on the statements and suggestions of the examiners. After the Dean’s decision has been made, the student will receive a notification about the grade of the thesis and a copy of the examiners’ statement by mail.

The grading scale for master’s thesis is sufficient, satisfactory, good, very good, and excellent. A student dissatisfied with the thesis assessment may appeal to the Degree Committee of the University of Vaasa in writing for rectification of the assessment of the master's thesis within 14 days of the day when the decision was served (Universities Act 558/2009, Section 82, and the University of Vaasa Degree Regulations, Section 17). The student cannot appeal against the Degree Committee’s decision concerning rectification.
1.5 Master’s Thesis Seminar and Maturity Examination

In connection to the master’s thesis, the student is required to give a seminar presentation (or equivalent) and write a maturity examination. The nature of the seminar presentation is determined by the appropriate study subject. The student and the supervisor agree on the details of the seminar and maturity examination.

The student is required to write a maturity examination as a part of the degree. In the maturity examination, the student is expected to demonstrate both proficiency in the appropriate field of study and fluency in the student’s native language in a supervised examination situation. Usually the maturity examination is written in the language in which the student has received elementary education. A completed maturity examination in the language of elementary education gives the student excellent language proficiency in the appropriate language. (Decree 481/2003)

In case the student has already completed a maturity examination for a bachelor’s degree in the same language, the maturity examination for the higher degree concerns only content, not language proficiency (Decree 794/2004, Section 16). The same applies in all cases where the student has already completed a maturity examination for another higher education degree; the maturity examination concerns only content. When registering for the maturity examination, the student should notify the supervisor if s/he has previously completed a maturity examination that has been checked for language proficiency.

Students who have completed their elementary education in a language other than Finnish or Swedish or have received elementary education outside Finland are not required to prove their language proficiency in the maturity examination. Also in these cases the language of the maturity examination is determined by the faculty.

International students who have not received their elementary education in Finnish or Swedish but have obtained sufficient language proficiency in Finnish or Swedish may complete their maturity examination in Finnish or Swedish. In this case, language
proficiency is assessed according to the criteria used for Finnish students. A successfully completed maturity examination gives the student good language proficiency in Finnish or Swedish in compliance with Decree A 481/2003. A mention of this will be included in the final degree certificate.

The maturity examination can be completed on any of the general examination days. Registration must be made with a registration envelope available at the Student Services office. The student may register for the maturity examination only after master’s thesis has been left for assessment in its final form. The examination date for maturity examination must be agreed on with the thesis supervisor and should be at least 7 days after the thesis has been left for assessment.

The maturity examination can also be completed electronically if the thesis supervisor uses the electronic examination service. Further information about the electronic maturity examination is available in the Electronic Exam Service section on the university website.

In the maturity examination, the student is given two or three questions on the topic of the student’s master’s thesis. The student is required to answer one of the questions by an essay. The essay should be written for a reader that is familiar with the appropriate field but has not studied the specific research topic of the master’s thesis. In other words, the maturity examination should comprise an independent text and the student should not assume that the reader is familiar with the master’s thesis.

In addition to academic content, the essay must also demonstrate good language proficiency and comprise a logical, well-structured whole. It must present the topic by writing, not by graphical presentations like tables or charts. The essay must also have a heading (otherwise the examiner evaluating the language of the thesis will not be able to see whether the essay really answers the question). The essay must have an introduction and a conclusion. Suggested length of the essay is approximately one examination sheet (four pages). It should be written on each line of the paper with empty lines separating chapters.
After the first draft, it is advisable to rewrite the maturity examination, with special emphasis on clear handwriting. Words should be clearly separate and the difference between capital and lower case letters should be clearly shown. The essay must show knowledge of the basics of grammar and punctuation. Excessive use of abbreviations should be avoided. Sentences and clauses must be clearly connected, and they should be logical and show variation. Incorrect reference relationships must be avoided. Word order must be unambiguous and fit the structure of the presented information. The essay must be written in a matter-of-fact style. Instructions for writing the maturity examination are available in the Studying section on the university website.

The result of the maturity examination must be given within 30 days from the date of examination, as is with all examinations. The grading scale for maturity examination is pass/fail (no other grade). In case the maturity examination is failed on the basis of its content, the student must meet with the thesis supervisor in order to receive feedback before registering for a retake. If the reason for failing is related to problems in the language, the student must contact the examiner responsible for evaluating the language of the essay.

1.6 Publicity

All theses are public documents. According to the Act on the Openness of Government Activities (621/1999), official documents shall be in the public domain, unless specifically otherwise provided by the law. A master’s thesis becomes public when it has been officially approved.

With commissioned theses, the commissioner may demand a thesis or parts of it to remain non-public in order to protect business or professional secrets. In this case, those parts of the work that contain such secrets are not integrated into the master’s thesis, but annexed to the thesis as background material. The background material must conform to the general guidelines on writing master’s thesis and must be left for assessment at the same time and in as many copies as the master’s thesis. The background material is not
bound together with the master’s thesis but submitted separately with its own title page and titled BACKGROUND MATERIAL. However, general, non-specific information from the background material should be incorporated in the text of the master’s thesis whenever possible. The minimum requirements for the actual master’s thesis are that it specifies the theoretical framework, research methods, material and its analysis, and has a list of references. It must comprise an independent, readable whole. Background material is evaluated together with the actual master’s thesis but is not made public. After the assessment, the background material is archived and kept in a secure place at the department. The use of background material as the main source must be agreed upon with the thesis supervisor beforehand.

1.7 Further Details

For information on layout and other technical details of master’s thesis, see the Faculty of Technology’s writing guidelines. Further advice is given by the academic services of the faculty, departments, and study programmes.
2 MASTERS THESES IN FOREIGN LANGUAGES

The student may write the master's thesis also in languages other than Finnish or Swedish. For practical reasons, this language is usually English as the examiners of the thesis have to master the language in order to be able to evaluate the academic quality of the thesis. Using a language other than Finnish or Swedish must always be discussed with the thesis supervisor in advance.

International students are advised to consult the thesis supervisor and amanuensis of the faculty about their thesis and maturity examination before they start preparing their master's thesis.

The student is personally responsible for expenses resulting from for example use of language consultant etc.

Appendix 1 shows the names of the faculty, departments, study subjects, study programmes and orientations in Swedish and English.
3 THE STRUCTURE OF THE MASTER’S THESIS

Master’s thesis can be structured as follows:

Title page
(Foreword)
Table of contents
(Symbols and abbreviations)
(Pictures)
(Tables)
Abstract
Introduction
Main body text (methods, discussion, results)
Conclusions
List of references
Appendices

Parts in parentheses are not compulsory.

3.1 Title

The title of the master’s thesis should be short, clear and expressive of the content (field and orientation). The student may use a subtitle in order to add focus to the title. No abbreviations should be used in the title.

3.2 Covers

The master’s thesis must be A4 in size and bound in black hard covers.
Lettering on the front cover should appear in the colour Gold and font Times New Roman or equivalent:

- MASTER’S THESIS. Centred, bottom margin 200mm (font size 34pt)
- Author’s name (bottom right corner with 30–35 mm margins from bottom and right, font size 20 pt)

Lettering on the spine of the thesis should appear in the colour Gold and font as above:

- Author’s name (on the left of the spine with 40mm margin on left)
- Year of publication (on the right of the spine with 30mm margin on right)

3.3 General Notes on Printing and Editing

The student should pay attention to the printing quality of the master’s thesis. Hard copy of the master’s thesis should be printed out with a laser printer or equivalent. When attaching images, tables or appendices, care should be taken so that the final thesis is free of smudges and extra marks.

The thesis must be printed, single-sided, on standard A4 paper.

3.4 Title Page

The title page must follow the format requirements shown in appendices 2 and 3. The title page must state the following:

- University of Vaasa, Faculty of Technology, study programme (bolded)
- Author’s name
- Title of the thesis (bolded)
- Date of leaving the thesis for assessment. For example: Master’s thesis for the degree of Master of Science in Technology; left for assessment on 1 Jan. 2016 in Vaasa
- Name of the supervisor
- Name of the instructor
- Name(s) of the examiner(s) if other than the supervisor or instructor

Title page should not be numbered. The margins of the title page are the same as the master’s thesis’ (see Faculty of Technology’s General Writing Guideline). The line spacing should be 1. The name of the university is written on line 1, the name of the faculty on line 2, the study programme on line 5. The student’s name is written on line 13, the main title on line 16 and the possible subtitle on line 18. The name of the supervisor is written on line 30 and the name of the instructor on line 31. The text starts from the top of the page and is aligned left.

3.5 Foreword and Abstract

The master’s thesis may include a foreword on its own, one-sided page. The master’s thesis must include a one-page abstract in English. The abstract page is numbered and bound after the list of symbols and abbreviations or, in case there is no list of symbols and abbreviations, after table of contents, before introduction. When the thesis is left for assessment, the student must also submit one separate, unnumbered abstract page. The separate abstract page must be submitted in the language in which the thesis is written, and it is needed for the approval of the thesis.

The abstract page must state the research problem, material, research methods and main results of the thesis. The abstract should be understandable without having to consult the thesis itself. In the abstract, the student should use established terminology. References or quotations are not to be used. The title of the master’s thesis on the abstract page must be identical with the title on the title page. See examples of abstract in appendices 4 and 5. The abstract should be written in the past tense. However, the present tense is preferable in the first paragraph where for example the research problem is presented.
Fill out all parts of the abstract page and take into consideration the margins of the page. The student must give 1-5 keywords. The first keyword should state, as specifically as possible, the field of study. It is followed by the other keywords which further specify the topic of the thesis. You may discuss the keywords with your supervisor, if necessary. Keywords can also be searched from the VESA subject thesaurus of the library of the University of Helsinki.
4 EDITING THE MASTER’S THESIS

Master’s thesis consists of an introduction, main body text, and a conclusions chapter. The specific content, approach and emphasis of the thesis are chosen by the student and revised according to the supervisor’s comments. There are many different ways to prepare a (good) master’s thesis on the same topic. The only general rule is that the first chapter of the thesis is an introduction and the last presents the conclusions.

4.1 Introduction

The introduction should capture the reader’s interest. It gives the background for the choice of topic and presents the goals of the thesis. It limits the topic and gives a general outline of the approach to the research problem. Furthermore, the introduction should place the thesis in context by referring to other previous or contemporary academic studies on the topic. It also outlines the content and structure of the thesis. In case the thesis is a part of a larger project, the introduction must clearly define the author’s contribution to the project.

The introduction does not give any details of the theory, methods or results of the thesis. The typical length of the introduction is 2–3 pages.

4.2 Theory and Background Information

In the chapter after the introduction, the student should give the technical, theoretical and other background information needed in order to understand the solutions and methods used in the later chapters. The theory part should focus only on things that are relevant to the thesis. However, it should not waste time on things that are self-evident to the reader (in other words, there is no need for a textbook-type presentation of the basics in the field). The student’s own new methods are not presented in this section but given later in the thesis.
The ‘ideal reader’ for the thesis could be defined as a person who is a professional in the field but unfamiliar with the particular topic. Thus all terms and symbols are to be explained when they are introduced but not later in the work. If several theories are used, it is advisable to present them in separate chapters.

In addition to theory, the background information may include for example a company’s old products, a system that is about to be replaced, important standards, internal policies of a company, and possible other parts of a project (in case the thesis forms part of a larger project). These elements are to be explained in as much detail as is relevant for understanding the solutions in and the overall significance of the thesis. Whether this should be placed in the theory part of the work is case-specific and depends on the amount of background information of the thesis. The background information could also be integrated in the general outline of the thesis or be given in a separate chapter or appendix.

A more detailed structuring and titles of the chapters (including the main title) are planned and executed on the basis of the work itself. It is highly important that the theoretical part of the work is closely connected to the later description and analysis of the work. In some clearly constructive work, the theory part may be relatively short. The length, however, is not the mere objective, but emphasis should be put on the contents.

4.3 Main Topic of the Thesis

After theory and background information, the student should focus on the main topic of the thesis and apply the theory to a specific research problem. The structure, headings and analysis in this section depend on the topic and on the approach chosen by the student (and approved by the supervisor). There is no one correct way to approach the main topic of the thesis.
In case the thesis includes scientific data (such as measurements etc.), the appropriate study or experiment must be explained in such detail that the reader can understand all steps of the process. Methods must be presented in a manner that enables replication. For example the mathematical leads of new findings must be presented in such detail that the reader does not have to make extensive calculations in order to follow the process. In case of generally known methods, a short description or reference is sufficient. Less known methods, especially those developed by the author of the thesis are to be described in much more detail. There should always be a clear connection between the theory and the application sections of the thesis.

4.4 Discussion and Results

The last section of the thesis (before conclusions) consists of a ‘Results’ chapter or of two separate chapters with headings ‘Discussion’ and ‘Results’. In ‘Discussions’ the student may make comparisons between theory and (for example) measurement results as well as suggest lines of further research or application. ‘Results’ chapter should focus primarily on the final results of the study, what the student found out and how it relates to the literature. The results should also be placed in the context of the possible earlier studies on the topic.

4.5 Conclusions

Conclusions chapter briefly summarises the whole thesis from start to finish. Aspects of the work that were discussed in the introduction are revisited in the conclusions chapter in order to find out whether initial plans were followed and initial goals achieved.

At the end of the conclusions chapter, the student may discuss possible future research on the topic. If this requires more extensive discussion, it can be placed in a separate chapter at the end. The conclusions chapter should be no more than 3 pages long and should not introduce any new ideas or include references to source materials.
5 ELECTRONIC PLAGIARISM DETECTION

As of 1 August 2014, all the theses written at the University of Vaasa undergo a plagiarism check based on an electronic plagiarism detection software before the theses are accepted. The plagiarism detection software is a part of the University's quality system of education and research. The use of the software is one of the methods of instruction and aims to prevent fraudulent actions.

All theses submitted for grading are checked for originality using Turnitin. A thesis must be checked using the software before the student is given a permission to print the thesis.

Submit your thesis (as a PDF) for the Turnitin check-up when you are about turn it in for final assessment at the latest. “A course” has been created on the Moodle platform for the students to submit their theses:”Teknillisen tiedekunnan diplomityöt & pro gradu –tutkielmat / Faculty of Technology, Master’s Theses”. When you have uploaded your thesis, notify your thesis supervisor so that s/he can check the thesis using Turnitin.

According to the guidelines of the University of Vaasa, the master’s thesis entered to the software will be saved to the University of Vaasa database as reference material.

The master’s thesis supervisor submits the report of the completed check together with the official assessment of the thesis. The student receives a copy of the report together with the copy of the official assessment. The result of the detection is marked on final transcript of records. The student is contacted if there are some issues with the thesis.
APPENDICES

APPENDIX 1. Glossary

Faculty, departments, study subjects, study programmes and orientations in Swedish and English

Teknillinen tiedekunta
- Tekniska fakulteten
- Faculty of Technology

Matemaattiset tieteet
- Institutionen för matematik och statistik
- Department of Mathematics and Statistics

Sähkö- ja energiatekniikka
- Institutionen för elektro- och energiteknik
- Department of Electrical Engineering and Energy Technology

Tieto- ja tietoliikennetekniikka
- Institutionen för datavetenskap
- Department of Computer Science

Tuotantotalous
- Institutionen för produktion
- Department of Production

Study subjects:

<table>
<thead>
<tr>
<th>automationsteknikka</th>
<th>energiteknik</th>
</tr>
</thead>
<tbody>
<tr>
<td>automaatiotekniikka</td>
<td>energiatekniikka</td>
</tr>
</tbody>
</table>
Automation Technology

Energy Technology

fysikka
fysik
Physics

matematiikka
matematik
Mathematics

sähkötekniikka
elektroteknik
Electrical Engineering

talousmatematiikka
ekonomisk matematik
Business Mathematics

tietoliikennetekniikka
telekommunikationsteknik
Telecommunications Engineering

tietotekniikka
datavetenskap
Computer Science

tilastotiede
statistik
Statistics

tuotantotalous
produktionsekonomi
industrial management

Study programmes and orientations:

Master’s Programme in Industrial Management

Teknisen viestinnän maisteriohjelma

Tietotekniikan ja tuotantotalouden tutkinto-ohjelma

- Tietotekniikka
- Tuotantotalous

Tietotekniikan tutkinto-ohjelma

- Tietotekniikka
Tietotekniikan koulutusohjelma
- ohjelmistotekniikka
- tietoliikennetekniikka

Utbildningsprogrammet för datateknik
- programmeringsteknik
- telekommunikationsteknik

Degree Programme in Information Technology
- Software Engineering
- Telecommunications Engineering

Sähkö- ja energiatekniikan koulutusohjelma
- automaatiotekniikka
- sähkötekniikka
- energiatekniikka

Utbildningsprogrammet för elektro- och energiteknik
- automationsteknik
- elektroteknik
- energiteknik

Degree Programme in Electrical and Energy Engineering
- Automation
- Electrical Engineering
- Energy Technology

Energia- ja informaatiotekniikan ohjelma
- Sähkö- ja energiatekniikka
- Informaatiotekniikka

Communications and Systems Engineering
APPENDIX 2. Title Page of the Master’s Thesis in Finnish

VAASAN YLIOPISTO

TEKNILLINEN TIEDEKUNTA

SUUNTA (esim. SÄHKÖTEKNIKKA)

Tekijän nimi

DIPLOMITYÖN NIMI

Mahdollinen alaotsikko

Diplomityö, joka on jätetty tarkastettavaksi diplomi-insinöörin tutkintoa varten paikka (esim. Vaasassa) aika (esim. 1.10.2010).

Työn valvoja Työn valvojan nimi

Työn ohjaaja Työn ohjaajan nimi
APPENDIX 3. Title Page of the Master’s Thesis in English

UNIVERSITY OF VAASA

FACULTY OF TECHNOLOGY

OPTION (e.g. ELECTRICAL ENGINEERING)

Author

NAME OF THE THESIS

(Subtitle)

Master’s thesis for the degree of Master of Science in Technology submitted for assessment, place (e.g. Vaasa), date (e.g. 1 October), year (e.g. 2010).

Supervisor

Name of the Supervisor

Instructor

Name of the Instructor
APPENDIX 4. Abstract in Finnish

<table>
<thead>
<tr>
<th>VAASAN YLIOPISTO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teknillinen tiedekunta</td>
</tr>
<tr>
<td>Tekijä: Etunimi Sukunimi</td>
</tr>
<tr>
<td>Diplomityön nimi: Pääotsikko: mahdollinen alaotsikko</td>
</tr>
<tr>
<td>Valvoja: Etunimi Sukunimi</td>
</tr>
<tr>
<td>Ohjaaja: Etunimi Sukunimi</td>
</tr>
<tr>
<td>Tutkinto: Diplomi-insinööri</td>
</tr>
<tr>
<td>Kouluutusohjelma: (esimerkiksi Sähkö- ja energiatekniikan koulutusohjelma)</td>
</tr>
<tr>
<td>Suunta: (esimerkiksi Sähkötekniikka)</td>
</tr>
<tr>
<td>Opintojen aloitusvuosi: 20xx</td>
</tr>
<tr>
<td>Diplomityön valmistumisvuosi: 20xx</td>
</tr>
</tbody>
</table>

**TIIVISTELMÄ:**

**AVAINSANAT:**
APPENDIX 5. Abstract in English

UNIVERSITY OF VAASA
Faculty of Technology
Author: First name Last name
Topic of the Thesis: Name of the thesis (subtitle)
Supervisor: First name Last name
Instructor: First name Last name
Degree: Master of Science in Technology
Degree Programme: (e.g Degree Programme in Electrical and Energy Engineering)
Major: (e.g. Electrical Engineering)
Year of Entering the University: 20xx
Year of Completing the Thesis: 20xx Pages: xxx

ABSTRACT:

KEYWORDS:
### APPENDIX 6. Assessment Criteria for Master’s Theses and Licentiate Theses

<table>
<thead>
<tr>
<th>Grade</th>
<th>General</th>
<th>Theoretical knowledge, literature and sources</th>
<th>Research problem</th>
<th>Research method and empirical part</th>
<th>Text, structure, language and layout</th>
<th>Thesis process</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Original; shows independent thinking; results are interesting and make a contribution to knowledge of the subject with which it deals</td>
<td>Strong theoretical knowledge; excellent use of source materials; criticism of source materials is well-grounded</td>
<td>Interesting and well-defined research problem; challenging questions; mature research strategy and approach</td>
<td>Methodologically justified; empirically thorough and systematic</td>
<td>Textually fluent and stylistically excellent; technical documentation is excellent; clear and logical structure; layout is flawless</td>
<td>Excellent thesis process; the student is motivated; agreements were kept; the student took responsibility and shows outstanding ability for independent research</td>
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<td>4</td>
<td>Original; shows familiarity with and understanding of the subject. Results are interesting.</td>
<td>Strong theoretical knowledge; very good use of source materials; demonstrates the student’s familiarity with the subject</td>
<td>Clear and well-grounded research problem; questions are well-formulated; good research strategy and approach</td>
<td>Methodologically correct; empirically correct</td>
<td>Textually fluent; language and layout are flawless; very good technical documentation; clear and logical structure</td>
<td>Excellent thesis process; the student is motivated; agreements were kept; the student took responsibility and shows good ability for independent research</td>
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<td>3</td>
<td>No significant flaws in dealing with the subject; study produces clear results</td>
<td>Good theoretical knowledge; no significant flaws in use of source materials</td>
<td>Good research problem; clearly formulated questions; fairly successful solution to research problem</td>
<td>No significant mistakes; empirical part prepared rather well</td>
<td>Textually good; good technical documentation; no serious weaknesses; very few mistakes; layout fairly flawless</td>
<td>Good thesis process; the student is mostly motivated; agreements were mostly kept</td>
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<td></td>
<td>Inconsistencies or clear mistakes; results are difficult to interpret</td>
<td>Satisfactory theoretical knowledge; use of source materials is rather limited; flaws in criticism of source materials</td>
<td>Not clearly formulated or bears some inconsistencies; goal not quite achieved</td>
<td>Clear methodological and empirical flaws</td>
<td>Textually rather clumsy; incomplete technical documentation; grammatical errors; some weaknesses in structure; layout problems</td>
<td>Flawed thesis process; the student needed extra guidance; occasional lack of motivation and responsibility</td>
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<tr>
<td>2</td>
<td>Confusing and difficult to follow; several inconsistencies and mistakes; results are questionable</td>
<td>Sufficient familiarity with the subject; theoretical knowledge is limited; number of source materials is limited (often mainly Finnish sources)</td>
<td>Wrongly or confusingly formulated; academic approach is lacking; goals not achieved</td>
<td>Methodologically weak; serious empirical flaws</td>
<td>Textually clumsy; technical documentation is weak and unpolished; grammatical errors; flawed structure; weak layout</td>
<td>The student’s motivation is rather weak; the student needed extra guidance; lack of responsibility; the process was prolonged</td>
</tr>
</tbody>
</table>