

Thesis Guidebook (1 September 2023)

Master's Degree

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Appendix 1. Evaluation criteria

Appendix 2. Responsibilities and obligations of thesis actors

1 Introduction

The guidelines in this guidebook apply to master's degrees at LAB University of Applied Sciences (LAB). The master's studies aim to provide the graduates with:

- 1) extensive and in-depth knowledge, together with an essential theory base, which is required to develop working life practices in demanding expert and managerial duties
- 2) a profound understanding of their profession, its role in working life and significance in society, and preparedness to keep abreast of and analyse the progress of research data and practices in their profession
- 3) preparedness for life-long learning and continuous developing of professional expertise
- 4) good communication and language skills as required in their profession and in international activities and cooperation (Government Decree on Universities of Applied Sciences 546/2013, 7a §).

A master's degree includes an independent thesis of 30 credits. Thesis work carries a major role in reaching the objectives of a Master's degree because the thesis accounts for a third (a degree of 90 credits) or a half (a degree of 60 credits) of the entire scope of the degree. The thesis process supports the development of the student's professional competence from the start of the studies.

The thesis guidelines of LAB University of Applied Sciences are based on national quality recommendations and good practices. In addition to the guidelines stated here, each field of study may have its own and more detailed guidelines. Each field of study is responsible for any further instructions on thesis work and giving information about the instructions.

The guidelines were updated in August 2023 and are based on the degree regulations of LAB University of Applied Sciences, which entered into force on 1 August 2023.

2 Thesis and thesis objectives

2.1 Master's thesis and its objectives at LAB University of Applied Sciences

Doing a master's thesis (30 credits) pursues to develop working life. The aim is to apply research data, RDI (research, development and innovation expertise) skills and professional experience to develop working life practices and solve problems. Thesis work usually takes the form of a research-based development project, an applied research project, a production, or a research and development diary. Generally, the work is commissioned by a working life or project partner. The thesis process gives students versatile skills to work as specialists, developers, or managers in RDI activities.

LAB University of Applied Sciences has the main responsibility for instructing and evaluating thesis work. Working life or project partners give guidance according to their specific expertise and competence. The thesis evaluation criteria (see Appendix 1) are made available to the student at the beginning of the thesis process.

The thesis process always includes a written, published thesis report. In addition to the published thesis report, the new knowledge, product, service, or artwork created during the process can also be documented and published in other ways. The thesis report can be written either in Finnish or in English.

2.2 Learning outcomes for thesis work

During the thesis process, the student demonstrates preparedness to work in independent and demanding expert duties. After completing the thesis work, the student can

- apply research data and produce new information to develop working life
- apply research, development and innovation expertise to develop working life and new operational practices
- describe and present, in an illustrative manner, the results of the thesis work as well as their usability and significance in working-life development
- report on the thesis work orally and in writing observing the thesis guidelines of LAB University of Applied Sciences
- assess various approaches to development of operations and activities in a critical and reflective manner
- assess their own activities and expertise critically
- write a blog post, a press release, or an article.

2.3 Responsibilities and obligations of thesis actors

The thesis process includes several actors with responsibilities related to thesis work and guidance. The actors include the student, thesis supervisor, working life partner, possible peer reviewer, language instructor and possible second reviewer. The responsibilities and obligations of the actors are described in Appendix 2.

3 Implementation of the thesis

3.1 Stages of the thesis process

At the beginning of the thesis process, the student familiarises themselves with LAB's general thesis guidelines, guidelines specific to the student's field of study, LAB's degree regulations, and the act and decree on theses. The thesis process is divided into two courses (Table 1).

Table 1. Courses and learning outcomes of the thesis process

Course	Learning outcomes
Thesis planning 10 ECTS credits	The student can <ul style="list-style-type: none"> • describe the objectives and core contents of their thesis • plan and describe the stages of the thesis process • take into account the possible research permit and copyright issues.
Thesis research and reporting 20 ECTS credits	The student can <ul style="list-style-type: none"> • implement the thesis on the basis of an approved thesis plan • present the results or output of their thesis • report on their thesis in writing in accordance with the thesis guidelines of LAB University of Applied Sciences • as a maturity test, write a blog post, a press release or an article.

Figure 1 below describes what is included in each stage of the thesis process in practice. Each field of study at LAB has more detailed guidelines describing how the thesis process is implemented in the specific field. Instructions and forms related to the different stages of the thesis process can be found on the eLAB website and on LAB's intranet.

LAB, thesis process, Master's degree

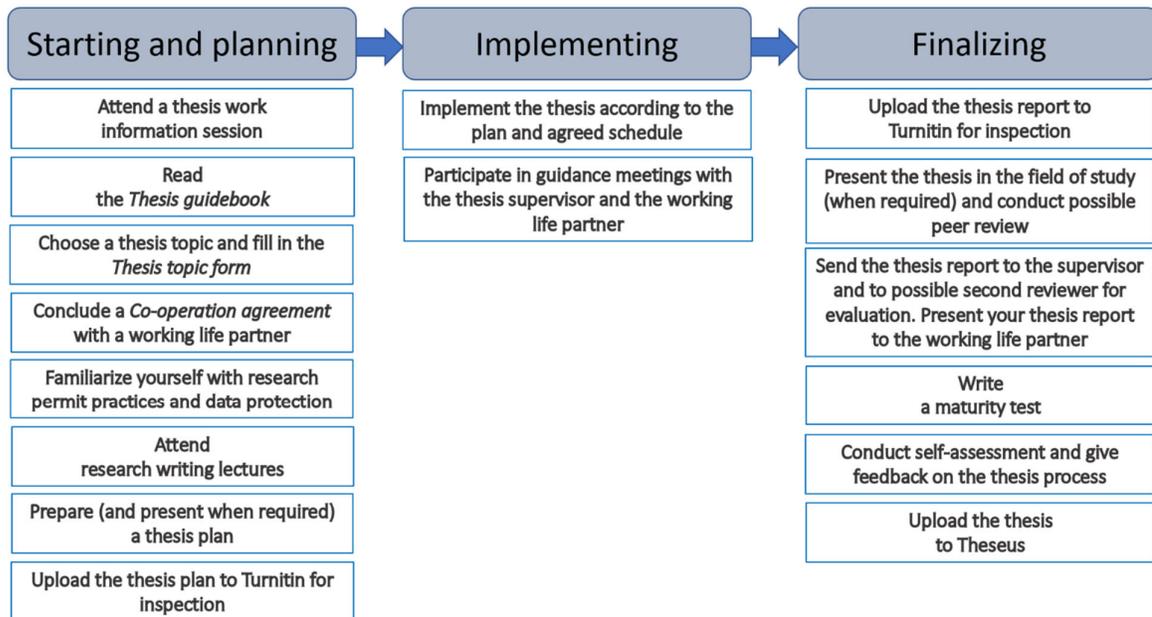


Figure 1. Stages of the thesis process

3.2 Starting and planning thesis work

Thesis work can commence at the start of the master's studies. The thesis project can be commissioned by the student's workplace, another organization or a project. The topic can also relate to research, development and innovation activities conducted by the university. When needed, the student can discuss the topic choice with the master's degree coordinator or tutor teacher in the student's field of study.

Thesis work requires sufficient competence in research and development methods, or the ability to acquire such competence. The student participates in research and development method studies according to the specific degree programme. The student also participates in thesis writing lectures.

The student attends a thesis work information session and registers for the thesis process by returning the *Thesis topic* form according to the guidelines in the specific field of study. After the student's thesis topic has been approved and the student has been appointed a thesis supervisor, the student contacts the supervisor to start thesis work. The thesis supervisor gives the student more information on thesis work guidelines and practices to be observed in the specific field of study.

When the student does thesis work commissioned by a working life or project partner, the student enters into a co-operation agreement with the partner at the beginning of the thesis process. The co-operation agreement is an agreement between the partner and the student

on co-operation during the thesis process. The signed *Co-operation agreement* is sent to the thesis supervisor for information.

3.3 Implementing thesis work

Doing the thesis can be conducted as individual or pair work. The implementation stage requires the student to commit to the thesis process and to individual or group guidance. The dialogue between students and supervisors is realised at its best in the guidance process. Guidance meetings are used to agree on guidance practices and schedule. The student follows the general thesis guidelines of LAB University of Applied Sciences and instructions specific to each field of study. During the implementation stage, the student applies research and development competence and conducts thesis work according to the agreed schedule.

3.4 Finalising thesis work

The student finalises and reports on the conducted thesis work in accordance with the practices of the field of study. The final stage of the thesis process includes uploading the thesis report file to Turnitin for plagiarism check, attending a seminar if required, conducting peer preview if required, writing a blog post, a press release or an article, conducting self-assessment, and publishing the completed thesis report on the Theseus platform.

4 Openness, ethicality and publication of theses

4.1 Openness and research permits

LAB University of Applied Sciences complies with the objectives and principles of the Open Science and Research Initiative (ATT). The purpose of the Initiative is to promote science and research by making them more open and to increase their social impact by improving the management and use of research-generated information. The goal is the smooth dissemination of information throughout society. (Ministry of Education and Culture 2014.)

The objective of openness concerns the results and outputs of research, which should be disseminated as widely as possible. Openness also applies to research data and methods, which strengthens the transparency and reliability of research.

As regards theses completed at universities of applied sciences, the objective of openness is to make the knowledge and results produced in the theses widely visible and thus make it possible to utilise them as a basis for innovations and commercialisation. This is done in accordance with research ethics and legal requirements. In thesis work at LAB, openness means the following:

- Thesis reports are published on the Theseus online platform (published versions of theses including business secrets are also produced. See section 4.3 for further details).
- The key results of thesis work can be published as blog postings in LAB's online channels.
- Students are encouraged to publish research articles based on their thesis work in open access publications.

Good scientific practice

The task of the Finnish National Board on Research Integrity (TENK) is to initiate and promote discussion on research ethics and provide information on research activities in Finland.

The Finnish National Board on Research Integrity's guide, *Good scientific practice and handling of suspected violations in Finland*, promotes good scientific practice. It aims to ensure that suspected violations can be examined fairly and dealt with expertise and as quickly as possible. (Finnish National Board on Research Integrity 2012.)

The research ethics guidelines prepared by the Finnish National Board on Research Integrity aim to define good scientific practice and its violations from a multidisciplinary

perspective. Their aim is to promote good scientific practice and to prevent scientific dishonesty in all research organisations, such as universities, research institutes and universities of applied sciences. (Finnish National Board on Research Integrity 2012.)

Informing information providers, consents

When preparing the thesis and collecting the material, legislation related to the processing of personal data must be complied with. The most significant law on the processing of personal data is the EU's General Data Protection Regulation (EU 2016/679). Particular attention must be paid to the processing of personal data if the collected research material includes any personal data (the material has been collected by interviews, surveys or observations, for example) or the student has access to databases storing personal data. (LAB 2020; Finnish Social Science Data Archive.)

All informants or other information providers must be informed in advance of the purpose of the work, the author, and the processing methods of the collected research material. Collecting any personal data always requires written consent from the informants or other information providers. If any personal data is collected, for example, through the Webropol system, the informants or other information providers may give their consent by checking the item indicating consent to collect the personal data. (LAB 2020.)

When collecting personal data, a data protection notice must always be drawn up and the notice must be communicated to the participants of the study (see the data protection notice template). The data protection notice must be presented when conducting interview surveys, or it must be attached to a questionnaire conducted through the Webropol system. (LAB 2020.)

Research permits for LAB students' theses work

For theses work concerning LAB's personnel or students, the research permit is granted by the head of the unit whose students or staff the work concerns. If the thesis concerns students or staff from more than one unit, the research permit is granted by the head of the unit where the thesis author is studying. LAB University of Applied Sciences does not disclose information on the personnel or students for research purposes, but it may forward the request to the persons in question. The author of the thesis must follow good scientific practices published by the Finnish National Board on Research Integrity. Thesis work commissioned by working life and project partners external to LAB University of Applied Sciences must comply with the statutes and permit procedure of the organisation in question.

When the thesis work concerns LAB personnel and/or students and is carried out at LAB, the student applies for a *thesis research permit*. A thesis plan approved by the thesis supervisor is to be attached. A plan approved by the thesis supervisor is attached to the application for a permit. The research permit decision is sent to the student for information.

4.2 Turnitin plagiarism check of a thesis report

LAB University of Applied Sciences uses the Turnitin system for checking the originality of thesis reports. Fields of study provide instructions on how to upload a thesis plan and a completed thesis report to Turnitin.

The student and thesis supervisor receive an analysis report from Turnitin showing possible similarities between the uploaded thesis report and sources in the system's database. Each uploaded thesis report is also saved in Turnitin's database to protect it from plagiarism by others.

4.3 Publishing and archiving a thesis report

The thesis is a part of a higher education degree that must be open to assessment. Approved theses are public, based on Act on the Openness of Government Activities (621/1999). Publishing thesis reports guarantees their objective and fair assessment.

In exceptional cases, certain types of content, such as business secrets, may render the thesis report partially confidential. If possible, the report will be published in its entirety without the name of the client, which will be referred to as Company/Organisation X in the thesis report. In this case, the student must ensure that the client is not identifiable based on the content of the thesis report.

Confidential information can, if necessary, be presented in an appendix that is not published and is available only to the client. In this case, the thesis report must be prepared in such a way that a version of the report that does not contain confidential information is published in Theseus, and the thesis report does not refer to the confidential appendices. Empty sections or orphan headings are not allowed in the thesis report in case the text in some sections must be deleted or included in a confidential appendix. In addition, the thesis report must not mention that something has been omitted, and no text can be covered, leaving blank spaces in the report text. The thesis supervisor and the student have a duty to respect the confidentiality of all confidential information regarding the work. The published version of the thesis report is the version to be assessed. The partner has the right to check the content of the thesis report before its publication.

Uploading a thesis report to Theseus

The student uploads the approved thesis (in PDF format) to the joint publication channel of Finnish universities of applied sciences, the Theseus Open Repository, by accepting the terms of use of the service, selecting the Creative Commons licence if they so wish and going to the thesis saving form. The maximum size of the thesis report file is 512 MB. One PDF file, containing any appendices, is uploaded to Theseus. It is also possible to save MP3 audio files or MP4 video files related to the thesis in Theseus together with the PDF. Instructions for saving the thesis can be found on the Theseus website.

The students' options for storing to Theseus are

1. open collection, i.e., the thesis in the open internet
2. restricted collection, i.e., limited use only in IP addresses specified by your university.

The restricted collection of LAB University of Applied Sciences can be accessed only on a few computers in the university library. In both collections, the thesis metadata and the abstract are publicly available on the internet. Note that a thesis is always a public document, available to all interested readers (Act on the Openness of Government Activities 21.5.1999/621). Universities must guarantee access to a thesis also from outside the university network, regardless of the thesis being stored in the restricted collection.

If the thesis report has two or more authors, the form in the Theseus system has a separate section for each author. The thesis report file is saved only once. When uploading the thesis report to Theseus, the student fills the names of all authors in the form in the same order as the names appear on the title page of the thesis report. When looking for thesis reports in the system, the reports can be found with the name of each author.

A student of LAB University of Applied Sciences uploads the thesis report to Theseus in case the thesis work has been conducted in co-operation with a student from another student from another university of applied sciences. In this case, the thesis report to be saved always has a LAB title page.

The author of the thesis is responsible for uploading a publishable PDF file to Theseus, abiding by the thesis guidelines. All theses published in Theseus must comply to the accessibility requirements. The LUT Academic Library checks the metadata and publishes the thesis in the Theseus Open Repository within a few working days. A grade for the thesis will be entered in the study register after the thesis has been uploaded to Theseus.

If the student does not give permission to save their thesis in Theseus, they will be provided with instructions from the library on what to do. For instructions, please e-mail theseus@lab.fi. In this case, the basic data of the thesis is saved in the library's information system, and the thesis is archived. If necessary, anyone can obtain the thesis from the archive for reading.

4.4 Copyright

A thesis is a written or artistic work referred to in the Copyright Act (404/1961) for which its author has copyright. If there are several authors of a thesis, the copyright belongs to all the authors of the thesis in question. Copyright gives the author of the thesis the right to decide on the use of the work by making copies of it and making it available to the public. When making a work available to the public, the author must always be stated in the manner required by good practice. The author has the right to agree on the use of the work and other copyright-related economic rights by a separate agreement.

The Theseus system allows students to choose which rights they will grant to readers of the electronic thesis report. The default is "All rights reserved". This means the rights conferred by normal copyright laws. The student may also distribute copyrights to the user of their thesis by selecting the Creative Commons licence. Information on copyright and CC licences can be found on the Theseus website.

4.5 Inventions based on thesis work

When doing thesis work, an invention that can be protected by a patent or other industrial right may arise. The invention may be a new technical device or method, or an improvement on an existing one, considered to be of industrial or commercial significance.

All parties involved must discuss the innovation together (the student, the thesis supervisors, and the representatives of the client or other partner organisation). If the created invention is to be patented, the patent application must be left before the work is published. Otherwise, the thesis report must be written so that the invention is not revealed.

If the invention has ensued under an employment relationship, the Act on the Right in Employee Inventions (656/1967) applies to the company. If the employment relationship is between the student and a university or higher education institution, the act on the right in employee inventions at higher education institutions (369/2006) applies to the school. When patenting the invention, existing patenting legislation or other legislation on industrial property rights applies unless otherwise agreed by the parties involved in the work (the client, university and student). Further information is available from the common research

and innovation services of LAB University of Applied Sciences and Lappeenranta-Lahti University of Technology LUT (LUT University).

5 Thesis work evaluation and maturity test

5.1 Thesis work evaluation

Evaluating thesis work is based on competence-based assessment. Criteria include the selection of objectives, the selection of the topic, the knowledge base and use of sources, implementation and methods, results and presentation of conclusions, expertise and the thesis process, as well as reporting and language. The criteria are presented in Appendix 1.

The thesis supervisor and a possible second reviewer evaluate the conducted work and the thesis report. The partner's representative may also give feedback on the thesis. The thesis supervisor is responsible for ensuring that the assessment of the thesis is recorded in the study records.

5.2 Maturity test

The master's thesis process includes a compulsory maturity test, which can be a blog post, a press release, or an article. Each student completes a separate individual maturity test, also when the thesis was written in cooperation between two students. The maturity test can be taken once the thesis has been completed and the thesis supervisor gives permission to take the test. The student and the thesis supervisor agree on the type of test. The thesis supervisor evaluates the content and language in the maturity test. The maturity test will be evaluated on the scale of pass/fail.

5.3 Grade correction procedure

A student who is dissatisfied with the evaluation of a thesis may request, orally or in writing, a grade correction from the thesis supervisor who completed the evaluation. By law, the request must be made within 14 days of the date on which the student has had the opportunity to be informed of the assessment and of the application of the assessment criteria. The thesis supervisor must provide the student a written response to the request for a grade correction.

A student who is dissatisfied with the grade correction decision may apply in writing for a correction of the correction decision from the examination board of the university of applied sciences within 14 days of being informed of the correction decision.

A decision made in the procedure may not be appealed.

6 Thesis report's language, style, illustrations, structure and layout

6.1 Good factual style

Thesis reports are written carefully in accurate language and factual style. The language must be easy to read, clear, concrete, and consistent. Spoken-language expressions are not part of good style. It is appropriate to use the professional vocabulary of one's own field.

Clear writing is based on the choice of words and specific sentence structures. A good writer avoids unnecessary compounds and collocations (evaluation is carried out → is evaluated) and phrases with vague meaning (e.g., within the framework of).

Writing must be coherent and consistent in terms of substance, structure and language. A basic prerequisite for consistency is the structuring of the text. The text should progress consistently from one sentence to another and from one paragraph to another. Each chapter must include at least two paragraphs, and each paragraph must include at least two sentences.

Writing a thesis report requires summarising skills as referencing source material is an essential part of academic writing. Paraphrasing shows that the author has understood the content of the summarised text. However, writing a thesis report is not only about referencing; it also about producing information, analysis, and conclusions.

6.2 Illustrations in the thesis report

Tables, figures (diagrams and technical drawings) and images (photos and other illustrations) can be used to improve readability and comprehensibility. Tables, figures, and images are aligned on the left margin, similarly as the body text. They must be numbered consecutively and labelled. The labels (captions) of figures and images are positioned below them, but the labels for tables are positioned above them. The labels are not written as complete sentences. Tables, figures, and images are referred to by their number in the preceding text, for example in brackets (Image 1, Figure 1, Table 1) or in a sentence: The Metropol hotel lobby is shown in Image 1.



Image 1. Metropol hotel lobby (Kivi 2015)

In a thesis report, images can be used according to Sections 22 and 25 of the Copyright Act when the source (original creator) is mentioned. An in-text reference is added:

Image 1. A cat (Radcliff 2020, 36)

The images created by the thesis writer do not need to be referenced, but the student can choose to type their first (given) name and last name (surname) after the label text:

Image 2. A dog (Image: Mary Smith)

In the above case, information on the source, i.e., the creator of the image, is not included in the references list.

When an image, figure, or table is cited from a source where it was used according to the right to cite, the in-text reference is added in the same way as when referring to a secondary source in the text: (Smith 2008, according to Jones 2021, 34). When the student refers to the information content of an image, figure, or table but modifies the layout, the in-text reference must be given in the following manner: (adapted from Nguyen 2018). The sources of images, figures, and tables are included in the references list among all the other sources, no separate reference lists are prepared.

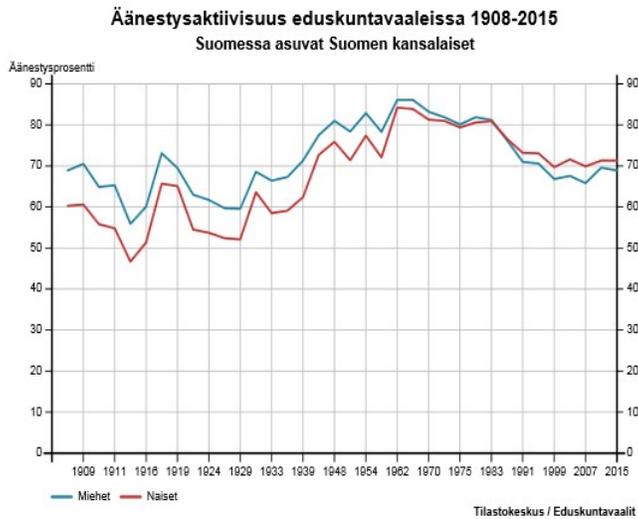


Figure 2. Voting activity in parliamentary elections 1908–2015 (Statistics Finland 2015)

The full information content of a table, figure, or image is not repeated in the text. Instead, the information is analysed and conclusions are drawn. Figures and tables do not need to follow the layout instructions for a thesis report; for example, the font style and line spacing may be different. A figure, image or table should fit on one page, together with the label text. Larger figures, images or tables are usually placed in appendices.

Table 2. Buildings and summer cottages (Statistics Finland 2016)

	1980	1990	2000	2010	2011	2012	2013	2014
	1,000							
Residential buildings	840	1,005	1,111	1,235	1,246	1,258	1,266	1,278
Detached single-family houses	773	908	993	1,102	1,111	1,122	1,128	1,139
Terraced and semi-detached houses	23	53	66	76	77	78	79	79
Apartment blocks	44	45	52	57	57	58	58	59
Other buildings	92	158	189	211	214	217	218	220
Summer cottages	252	368	451	489	493	496	499	500
Saunas ¹⁾	548	932	1,212	1,502	1,529	1,555	1,581	1,591
1) Only individual saunas. The total number of saunas at the end of 2014 is estimated to exceed 2,000,000.								

Formulas are numbered consecutively and referred to in the text in the same way as tables, figures and images. A formula editor is used for formulas. A formula is indented, and the number of the formula is placed on the right side of the formula, in brackets.

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \quad (1)$$

Lists as part of text

A thesis report must consist of paragraphs with complete sentences. Where the use of lists is justified, the following rules apply.

A list consists of an introductory (partial) sentence and bullet points. Commas are not added after each bullet point. Each bullet point must be grammatically accurate to match the introductory (partial) sentence. An entire chapter cannot consist of lists only. The style to use in lists is LAB Bullet list, which is provided in the LAB thesis template.

ECG monitoring provides information on

- heart rhythm
- conduction path functions
- myocardium oxygen deficiency, its extent and location
- cardiomyopathy
- electrolytical balance
- structure of myocardium muscle wall (Ilola et al. 2014, 44-45).

According to Ilola et al. (2014, 44-45), ECG monitoring provides information on

- heart rhythm
- conduction path functions
- myocardium oxygen deficiency, its extent and location
- cardiomyopathy
- electrolytical balance
- structure of myocardium muscle wall.

If a list is introduced by a full sentence, the sentence is followed by a colon. A colon is added also when the introductory phrase does not include a predicate verb.

ECG monitoring provides information on the following:

- heart rhythm
- conduction path functions
- myocardium oxygen deficiency, its extent and location
- cardiomyopathy
- electrolytical balance
- structure of myocardium muscle wall (Ilola et al. 2014, 44-45).

ECG monitoring provides information on the following (Ilola et al. 2014, 44-45):

- heart rhythm
- conduction path functions
- myocardium oxygen deficiency, its extent and location
- cardiomyopathy
- electrolytical balance
- structure of myocardium muscle wall.

If the bullet points are not full sentences, as in the above examples, each bullet point starts with a lowercase letter. A full stop is added only after the last bullet point. If, on the contrary, the bullet points are full sentences, each bullet point begins with a capital letter and ends with a full stop. In this case, the bullet points can comprise more than one sentence.

The following stages take place in forming groups:

- First, group members who do not know each other are overly courteous.
- Next, there will be conflicts in the group and the group members will test each other.
- In the last stage, the situation will stabilise. Only then will the group be ready to work productively.

6.3 Thesis report structure

The thesis contains the following sections:

- title page
- abstract
- contents
- list of abbreviations/concepts/terms (only if applicable)
- introduction
- main body of the thesis (several chapters)
- summary and discussion
- references
- appendices (only if necessary).

Title page

The title page is typed on the thesis report template that has the LAB University of Applied Sciences logo. The following information is entered on the title page:

- thesis title
- LAB University of Applied Sciences
- degree, e.g., Master of Engineering; Master of Business Administration
- year of completion (e.g., 2023)
- author's name (first = given name(s) and last = family name/surname).

Abstract

The abstract is provided without a page number, before the table of contents. Its purpose is to explain the core content of the work. The abstract answers the following questions:

- What was done and why?
- How was it done and what kind of methods were used?
- What are the key findings and conclusions?

The abstract is one page long and it is written with single line spacing, using the LAB Abstract text style, which is provided in the LAB thesis template. Special attention must be paid to produce grammatically accurate writing and to use correct terms. When describing the background and work done, the simple past tense should be used; for example: The thesis work studied the following - - -. Conclusions are written in the present tense. Abstracts use impersonal language, for example the passive voice or phrases such as 'The paper investigates' (not: we investigated). The abstract is an independent text and does not refer to the thesis report using the pronoun 'this' (do not write: In this work, - - -).

The essential keywords describing the work are indicated at the end of the abstract. There are three to seven keywords.

Contents

The table of contents is placed after the abstract. Its title is Contents. The table of contents is created automatically using the styles LAB Heading 1, LAB Heading 2, and LAB Heading 3, which are provided in the LAB thesis template.

The table of contents gives an idea of the structure of the thesis and the relationships between elements. If subsections are used, there must be at least two subsections on the same section level. For example, if there is subsection 3.1, subsection 3.2 is also required. In general, three levels of headings are sufficient for structuring (3, 3.1 and 3.1.1). The heading number does not end with a full stop.

The appendices are listed below the table of contents field; for example: Appendix 1. Questionnaire.

List of abbreviations/Concepts/Terms (only if applicable)

If the thesis report contains many abbreviations or terms in a special field, it is recommended to create a separate list of abbreviations or a glossary. This is included after the table of contents before the actual text section. The glossary is sorted alphabetically.

Introduction

The introduction familiarises the reader with the topic of the work and arouses interest. The introduction of a research-based thesis gives background information on the topic and describes the objectives, delimitations, and research questions. The methods can be

described in the Introduction chapter or in the research implementation section. The introduction of a practice-based thesis describes the background, the commissioner, and the development or commission work task, its objectives and delimitations. The introduction of a diary-based thesis describes the background, the student's links to the sector and tasks, also the current role. The style to use in body texts is LAB Normal, which is provided in the LAB thesis template.

Main body of the thesis (several chapters)

The first subheading of a specific section (for example 3.1) follows directly after the main heading (for example, 3). There is no text paragraph between the main heading and the first subheading/subsection. However, the heading of the second subsection must always be followed by at least one text paragraph before the third subheading/subsection.

Text can also be divided inside chapters by using unnumbered subheadings. These are separated from the body text by adding an empty line above and below. Unnumbered subheadings are boldfaced, but they are not included in the table of contents. The style to use is LAB Non-numbered subtitle (bolded), which is provided in the LAB thesis template. This chapter 6.3 of the thesis guidebook shows examples of unnumbered subheadings: Title page, Abstract, Contents, and so on.

Summary and discussion

The summary and discussion chapter must be compatible with the introduction. This final chapter summarises the purpose, core content and the main results of the conducted work. Conclusions are drawn from the results. This final chapter of the thesis also provides an opportunity to assess the generalisability of the thesis results and to consider ideas for further research or actions.

References

Instructions for compiling a references list are given in Chapter 7. The heading is References, and the style to use in the heading is LAB Non-numbered heading, which is provided in the LAB thesis template.

Appendices (only if necessary)

All material that does not need to be included in the text but is referred to in the text is to be included in the appendices. These can, for example, include questionnaires and technical drawings. Appendices may also include material that the client does not want to be in the public domain. Such a confidential appendix is not included in or referred to in the published

version of the thesis report. An appendix may include a full document separate from the actual thesis report. For example, this can be an instructional manual or a plan created for the client. Such documents do not need to observe the style and layout of the thesis report. The page numbering in the report does not continue to appendices. Each appendix that comprises more than one page has its own page numbering.

The appendices are numbered and labelled, for example Appendix 1. The appendices are placed at the end of the thesis report, after the references list. All appendices must be referred to in an appropriate context in the report. The text refers to appendices using the appendix number in brackets (Appendix 1) or in a sentence such as this one: The questionnaire is in Appendix 1.

As the page numbering of the thesis report does not continue in the appendices, the appendices are written below the table of contents field as follows:

Appendix 1. Title

Appendix 2. Title

6.4 Thesis report layout

The thesis report is written on the available template of LAB University of Applied Sciences, which includes, for example, margins, text styles and spacing. The thesis reports written by design and media students do not need to comply with the LAB thesis layout instructions if the visual content of the thesis so requires.

7 Data collection and referencing mechanics

7.1 Thesis data collection

A thesis must always give background information on the examined topic. Suitable sources of information for a master's thesis include research literature (scientific articles and research reports) and information derived from practice (e.g., official and unofficial documents from a workplace organization or recent professional discussions in field-specific interest groups).

Looking for sources should be started by accessing the LAB Primo databases. Using LAB Primo allows the student to look for printed and digital materials. Tips for planning and implementing data collection as well as locating, evaluating and using information can be found in the information retrieval guide of the academic library. The student should study the guidelines of the study field to look for information sources most suitable for the specific field and thesis topic.

The student also receives personal guidance on key information materials in the field, assessment of information sources or, for example, citing sources. An appointment for personal guidance can be made using the online form on the home page of the academic library. Quick help with data collection problems can be obtained via chat on the library's website or by sending an e-mail.

Remote service helps when the required material cannot be found in the academic library's own collection in Lahti or Lappeenranta. If necessary, three long-distance loans can be ordered for a thesis free of charge. The remote service request is made using an online form on the home page of the academic library.

7.2 Citing and referencing

The thesis report must differentiate the author's own text and opinions and the material originating from sources. The same applies when using tables, figures or images copied from sources. Interviews that are used for source material related to the theoretical part are marked as sources and listed in references. However, interviews that are used to collect data for the empirical part are not marked as sources or listed in references.

LAB University of Applied Sciences uses a referencing system with an in-text reference and the corresponding publication details (i.e., bibliographic information) in the references list. Sections 7.3 and 7.4 give detailed instructions.

7.3 In-text references

Where sources are cited directly or indirectly, the original source must always be mentioned. In-text references are required both for direct quotations and paraphrased (often summarised) information.

Printed sources

When the source is a book, the in-text reference includes the author's surname, year of publication and page number(s).

(Chang 2013, 23.)

Information on the use of a full stop before the closing bracket is found in chapter 7.3.1 In-text reference range and examples.

When there are two authors, an ampersand sign (&) appears between the authors' surnames.

(Chang & Nguyen 2011, 13.)

When there are three or more authors, only the name of the first-mentioned author and "et al." are entered in the in-text reference.

(Jones et al. 2009, 43–45.)

When referring to an article in a magazine, newspaper or compilation, the author of the article, the year of publication of the work and the page(s) must be entered in the in-text reference. The in-text reference looks the same as when referring to a book.

(Myers 2016, 32.)

Publications by the same author from the same year are identified with lowercase letters in both the in-text reference and the references list.

(Nguyen 2016a, 23; Nguyen 2016b, 35.)

If no author is found for the source, the title of the publication is used.

(Merriam-Webster Dictionary 2012, 14.)

Oral sources

Oral sources (e.g., lectures, TV programmes or interviews conducted to obtain background information) are referenced by entering the name of the source and the year. No page

number is used. Interviews conducted to gather the empirical research data are not referenced as sources.

(Obama 2014.)

Electronic sources

Information obtained from the Internet or other electronic sources is also indicated according to the author and year. Also page numbers are entered for e-books and PDF files.

(Romanov 2016, 23.)

If no author is mentioned in the source, the name of the authoring organisation and the year are entered in the in-text reference. If no year of publication is available in the source, no year is entered in the in-text reference.

(Microsoft 2016.)

(The Ministry of Education and Culture.)

Sources by the same author or organisation from the same year are identified with lowercase letters in both the in-text reference and the references list.

(Samsung 2020a.)

(Samsung 2020b.)

If no publication year is available, lowercase letters are added as follows:

(The Ministry of Education and Culture a.)

(The Ministry of Education and Culture b.)

Ebooks and audiobooks are referenced in the same way as printed books:

(Gates 2018.)

(Banaji & Greenwald 2014.)

(Singh et al. 2020.)

If the online document has page numbers, the in-text reference includes also the page number(s) where the information was found:

(Ratu C2-0454 2017, 3.)

Acts, decrees, regulations

When referring to acts, decrees, regulations and other similar documents, the name of the act, decree or regulation or its official abbreviation, the year and the section(s) to which the information relates are entered in the in-text reference.

(Biobank Act 688/2012, Section 2.)

(Government decree on the control of narcotic substances 548/2008, Section 11.)

Secondary sources

As a rule, primary sources are used. If a primary source is not found, the author must indicate that the information originates from a secondary source:

Robson (1995) divides traditional research strategies into three groups: tests, survey and case study (Hirsjärvi et al. 2009, 134).

or

Traditional research strategies are divided into three groups: tests, survey and case study (Robson 1995, according to Hirsjärvi et al. 2009, 134).

Only the secondary source is entered as the source in the references list. In the above example, the source is Hirsjärvi et al.

7.3.1 In-text reference range and examples

A full stop after an in-text reference indicates the range of the reference. When an in-text reference covers only one sentence, the reference is placed inside the sentence. In other words, a full stop is placed outside the closing bracket.

Good personnel management can help all employees demonstrate and develop their competence (Ekholm & Salmenkangas 2015, 35–36).

If an in-text reference covers several sentences, even an entire paragraph, the in-text reference is placed after the last sentence. In this case, the in-text reference is its own entity and a full stop must be entered inside the brackets, before the closing bracket.

Value-added tax included in representation costs is not deductible. Representation expenses are expenses that aim to create new business relationships, retain or improve existing ones or otherwise promote business. (Tuomi-Sorjonen 2013, 53.)

If an in-text reference includes two or more sources, the sources are listed in chronological order and separated by a semicolon.

The tasks of the information officer in the company or organisation have been discussed in several works (Siukosaari 2015, 205; Ojanen 2016, 18; Kuutti 2017, 102).

The name(s) of the cited author(s) can be made part of a sentence, for example as the subject of a sentence. In this case, the in-text reference in brackets is placed immediately after the author's name/authors' names, and it includes the publication year and cited page(s). Such an in-text reference covers the entire paragraph, unless otherwise indicated in the text.

Myers and Kassing (2009, 72) claim that supervisors' communicative skills is a major factor promoting subordinates' organizational identification. Their study involved 135 undergraduate college students who reported on their summer job experience. The results indicated clearly that employees who formed a strong relationship with the workplace viewed their supervisors as competent and active communicators. The results from this thesis work also support Myers and Kassing's observations.

Myers and Kassing's (2009, 72) study confirms that supervisors' communicative skills - - -

According to Myers and Kassing (2009, 72), supervisors' communication skills are a major factor - - -

Singh et al. (2020) emphasize that - - -

The very key legal provision is the provision in Section 6 of the Registered Designs Act (221/1971), which deals with...

Both referencing methods should be used to create variation in the thesis text.

7.3.2 Direct quotation

Using direct quotations should be avoided unless referring to, for example, laws or decrees. A direct quotation must be word for word, character by character in the same format as the original text. The source is clearly mentioned either in the preceding text or immediately after the quotation. The style to use in quotations is LAB Citation, which is provided in the LAB thesis template and which instructs that a direct quotation is entered as a separate paragraph, indented to the next tab stop, and typed in italics. However, the accompanying

in-text reference is not typed in italics. A blank line is left before and after the direct quotation.

Every person who is permanently resident in Finland is without discrimination entitled to health and medical care required by his state of health within the resources available to health care at the time in question (Act on the Status and Rights of Patients 785/1992, Section 3).

Every person who is permanently resident in Finland is without discrimination entitled to health and medical care required by his state of health within the resources available to health care at the time in question. Concerning the right to treatment of persons who are staying in Finland temporarily, what has specially been provided for or what has been agreed upon between states reciprocally shall apply. Provisions on the obligation of municipalities and the state to provide health care services are laid down, in addition, in the Act on Primary Health Care, the Specialized Medical Care Act, the Health Care Act (1326/2010). (Act on the Status and Rights of Patients 785/1992, Section 3.)

A short direct quotation can also occur inside a sentence. In this case, too, the quoted text must be typographically highlighted from the rest of the sentence by typing it in italics. For example:

The Act on the Status and Rights of Patients (785/1992, Section 3) provides that *every person who is permanently resident in Finland is without discrimination entitled to health and medical care required by his state of health.*

A quotation from a source that was written and published in another language than the language of the thesis report is usually translated into the language of the thesis report, English. Such a translated quotation is not a direct quotation and it is not typed in italics. In this case, the in-text reference is given as follows: (Hang 2020, author's translation). However, generally the student cites non-English sources by summarizing the information from the source and writing in English. Then no mention of the author's translation is included in the in-text reference.

7.4 References list

The heading is References. The style to use is LAB Non-numbered heading, which is provided in the LAB thesis template.

All sources used must be included in the references list. Each entry must correspond to a source used. Entries referring to unused sources are not permitted.

The names of authors are given in the following order: surname, initial(s) of first name(s) ending with a full stop. In the case of a source with several authors, all the authors are given in the same order as they are provided in the source itself. All authors must be named. The use of 'et al.' is prohibited.

The references must be in alphabetical order, A to Z..

If any sources are cited in an appendix, they are not entered in the references list of the thesis report. If necessary, a separate references list is made for the appendix.

7.4.1 Printed sources

For a **book**, the following information is entered in the reference list:

- author's name / names of all authors
- year of publication
- title of the book
- publication series if the work was published in a series
- place of publication (place of residence of the publisher)
- publisher.

Brynjolfsson, E. & McAfee, A. 2014. *The Second Machine Age: Work, Progress, And Prosperity in a Time of Brilliant Technologies*. First Edition. New York: W. W. Norton.

Ratu C2-0454. 2017. *Construction site planning*. E-book. Rakennustieto.

Sources by one author are listed in the order in which they were published, the oldest first. When sources by one author from the same year are referenced, they are differentiated using lowercase letters (a, b, c, and so on).

Taylor, R. 2017a. *Kielhofner's Model of Human Occupation*. Philadelphia: Lippincott Williams and Wilkins.

Taylor, R. 2020b. *The Intentional Relationship*. Pennsylvania: F.A. Davis Company.

If a piece of information, for example the author's name, publication year or publisher's location, is not available, it cannot be included.

Magazine, journal and newspaper article:

- author's name / names of all authors

- year of publication
- title of the article
- name of the magazine, journal or newspaper
- pages where the article appears.

Lepore, J. 2020. All the King's Data: Computer forecasting in the 1960 Presidential election. *The New Yorker*, August 3 & 10/2020, 18–24.

Pierik, J. 2020. Cricketers on notice for COVID protocols. *The Age* 18 August 2020, 38.

Article in an edited compilation:

- author's name / names of all authors
- year of publication
- title of the article
- editor of the compilation
- title of the article compilation
- place of publication (place of residence of publisher)
- publisher
- pages.

Ashkanasy, N. M. 2009. The Australian Enigma. Chhokar, J. S. & House, R. J. (Eds.). *Culture and Leadership Across the World. The GLOBE Book of In-Depth Studies of 25 Societies*. New York: Psychology Press, 299-334.

Acts, decrees, regulations and committee reports:

- name
- code number
- year.

Biobank Act 688/2012.

Government decree on the control of narcotic substances 548/2008.

Standards:

- standard ID and number
- year of publication
- name
- place of publication

- publisher.

SFS 5831. 1998. Reference to electronic documents or parts thereof. Helsinki: Finnish Standards Association.

7.4.2 Electronic sources

Electronic sources are referenced as precisely as printed sources. In addition, the date when the source was retrieved must be given. No full stop is added at the end of a web address.

Normally, the author and publication details of the source are indicated as follows:

- author / all authors
- year of publication (if not available, no year is mentioned)
- title
- publisher
- retrieval date
- availability and web address or permanent DOI link.

Zhivotov, D. & Tilinin, Y. 2020. Experimental studies of the strength of nodal joints of geodesic domes made of wood and fiberglass made on a 3D printer for the Arctic and Northern territories. Publication Series of LAB University of Applied Sciences, part 2. Retrieved on 10 July 2020. Available at https://www.theseus.fi/bitstream/handle/10024/335985/LAB_2020_02.pdf?sequence=5&isAllowed=y

If no author is found for a web page, the name of the organisation responsible for maintaining the website, or the page title, is used in the in-text reference and the references list. In the following example, the website does not have a year of publication:

Finnish Association of Public Health Nurses. Public Health Nurse – Expert in Health Promotion. Retrieved on 12 August 2020. Available at https://www.terveydenhoitajaliitto.fi/in_english

If a webpage has only limited availability, such as only for registered users or for those who paid a charge, the text 'Limited availability' is added before the web address.

Financial Statement Report 2021. LAB intra. Retrieved on 15 April 2022. Limited availability at <https://lut.sharepoint.com/sites/intra-lab/SitePages/Tilin.asp>

In the above example, 2021 is part of the name of the publication. The publication year has not been indicated in the source and thus cannot be included.

Online trade and professional journals:

- author / all authors
- year
- title of the article
- name of the journal
- journal issue or volume, page(s)
- date when the source was referenced
- availability and web address or permanent DOI link.

Nilsson, L. & Fifield, B. 2020. How hybrid events can be used to transfer limitations into inclusiveness. LAB Pro. Retrieved on 28 July 2020. Available at <https://www.labopen.fi/en/lab-pro/how-hybrid-events-can-be-used-to-transfer-limitations-into-inclusiveness/>

Loxton, M., Truskett, R., Scarf, B., Sindone, L., Baldry, G. & Zhao, Y. 2020. Consumer Behaviour during Crises: Preliminary Research on How Coronavirus Has Manifested Consumer Panic Buying, Herd Mentality, Changing Discretionary Spending and the Role of the Media in Influencing Behaviour. Journal of Risk and Financial Management, Vol. 13 (8), 166. Retrieved on 1 June 2021. Available at DOI: [10.3390/jrfm13080166](https://doi.org/10.3390/jrfm13080166)

In the above Loxton et al. example, 166 is the article number, not the page number.

Online documents:

- author / all authors (if available)
- year of publication
- document name/title
- publisher
- type of communication medium (e.g., thesis, conference paper, blog, video, intranet, tweet, email)
- date when retrieved (not necessarily required for permanent materials such as acts)
- availability and web address.

Harjunpää, A. 2022. Yksintyöskentelyn tiedonhallinnan ja tietojohdamisen kehittäminen osaksi organisaation toimintastrategiaa. LAB University of

Applied Sciences. Thesis (Master's degree). Retrieved on 2 May 2022.
Available at <https://urn.fi/URN:NBN:fi:amk-202204195388>

Seimenis, I., Sakas, D. & Konstantopoulos, N. 2009. A Strategic Model for the Business Communication Field Training Decision in the Commercial Enterprises. AIP Conference Proceedings 8 (13), 897–900. Retrieved on 10 February 2022. Available at DOI [10.1063/1.3225463](https://doi.org/10.1063/1.3225463)

Martikka, O. 2020. Problem with Construction and Demolition Waste Reject? Not for long! LAB Focus blog on 25 June 2020. Retrieved on 1 August 2022. Available at <https://blogit.lab.fi/labfocus/en/problem-with-construction-and-demolition-waste-reject-not-for-long/>

Gould, G. 2018. Piano Concerto No. 1 in D Minor, Op. 15: II. Adagio (Live). Youtube video. Retrieved on 4 February 2022. Available at <https://www.youtube.com/watch?v=5qtr9izO8xs>

Lahti Region Educational Consortium. 2018. Property project report. Retrieved on 4 February 2022. Limited availability at <http://info.phkk.fi/kiinteisto/hankeselvitys.html>

@Kotus_tiedotus. 2017. Institute for the Languages of Finland. Tweet 25 January 2017. Twitter microblog service. Retrieved on 4 February 2022. Available at https://twitter.com/Kotus_tiedotus/status/824231906967453696

Suomalainen, M. 2019. Thesis guidebook for your information. E-mail message. Recipient Popov, A. Sent on 27 February 2022.

Ebook and audiobook:

- author / all authors
 - year of publication
 - title of the book
 - type of communication medium (e-book or audiobook)
-
- publisher
 - trade venue (e.g., Elsevier), library search service (e.g., Primo) or a similar collection of materials.

Mann, M. E. 2021. The New Climate War: The Fight to Take Back Our Planet. Audiobook. PublicAffairs. Amazon.

Marshall, T. 2021. The Power of Geography: Ten Maps that Reveal the Future of Our World. Audiobook. New York, USA: Simon & Schuster Audio. Libro.fm.

Ratu C2-0454. 2017. Construction site planning. E-document. Rakennustieto.

Smith, A. 2008. The Wealth of Nations. E-book. Heritage Illustrated Publishing. Amazon.

7.4.3 Oral sources

The following information is to be entered for **interviews**:

- name of the interviewee
- year
- title or position of the interviewee
- organisation (in case of an organisation representative)
- an indication that it is an interview and the date of the interview.

Green, M. 2022. Managing Director. DuraPipes Ltd. Interview on 5 February 2022.

Interviews conducted to gather the empirical research data are not included in the references list.

Lectures, radio and TV programmes, podcasts:

- author/reporter
- year
- title
- situation or programme name
- date.

Connor, M. R. 2022. Image of the nurse. Lecture recording at Victoria University Science Day on 12 April 2022.

Lynch, C. (reporter) 2022. US election 2020: Method Americans use to vote could become the story of the year. Sky News on 19 August 2022.

The Shadow Club #12: The Elephant in the Room. 2021. Easy Stories in English podcast October 2021. Spotify. Retrieved on 9 June 2022. Available at <https://open.spotify.com/episode/6mUyLCJKWNI6fbc8rruQ69>

7.4.4 Other sources

Enter the following information for **unpublished sources**, such as brochures:

- author
- year (if known)
- name or title
- nature of work
- storage location (if known).

Lahten seutu – Lahti Region Oy. 2020. Lahti region. Brochure.

Sources must also be indicated for **images**. The following information is indicated for images from a webpage:

- author
- year (if not known, no year is entered)
- image name
- date when referenced
- availability.

Nagy, R. R. 2015. Datamancer's Steampunk Laptop. Retrieved on 10 February 2020. Available at <http://www.datamancer.net/steampunklaptop/steampunklaptop.htm>

Image references are listed in the same reference list and in the same manner as other references.

References

Copyright Act 404/1961. Retrieved on 20 May 2022. Available at <http://www.finlex.fi/fi/laki/ajantasa/1961/19610404?search%5Btype%5D=pika&search%5Bpika%5D=Te+kij%C3%A4noikeuslaki%20>

Finnish National Board on Research Integrity. 2012. Hyvä tieteellinen käytäntö ja sen loukkausepäilyjen käsitteleminen Suomessa. Retrieved on 23 May 2022. Available at https://tenk.fi/sites/tenk.fi/files/HTK_ohje_2012.pdf

Finnish Social Science Data Archive. Informointi henkilötietojen käsittelystä. Retrieved on 23 May 2022. Available at <https://www.fsd.tuni.fi/fi/palvelut/aineistonhallinta/tutkittavien-informointi/>

Government Decree on Universities of Applied Sciences 1129/2014. Retrieved on 19 May 2022. Available at <http://www.finlex.fi/fi/laki/ajantasa/2014/20141129?search%5Btype%5D=pika&search%5Bpika%5D=Valtioneuvoston%20asetus%20ammattikorkeakouluista%20>

LAB University of Applied Sciences (LAB). 2020. Tietosuojaohjeistus opiskelijoille. Retrieved on 1 April 2022. Available at <https://elab.lab.fi/sites/default/files/category-page/2021-02/Tietosuojaohjeistus%20opiskelijoille.pdf>

Ministry of Education and Culture. 2014. Tutkimuksen avoimuudella yllättäviä löytöjä ja luovaa oivaltamista. Avoimen tieteen ja tutkimuksen tiekartta 2014–2017. Retrieved on 23 May 2022. Available at <http://urn.fi/URN:ISBN:978-952-263-317-0>

Appendix 1. Evaluation criteria

Master's thesis evaluation criteria at LAB University of Applied Sciences

Object of assessment	Excellent 5	Very good 4	Good 3	Satisfactory 2	Passable 1	Fail 0
Topic selection and objectives	<p>The student can</p> <ul style="list-style-type: none"> - select a current, innovative and demanding topic in the field - justify and define the topic logically and clearly, based on up-to-date information, research or development needs in the field - reflect on the topic in depth and from many angles relating to the field - critically set clear and logical goals. 	<p>The student can</p> <ul style="list-style-type: none"> - select a current and significant topic in the field - justify and define the topic logically and clearly, taking into account existing research data or development needs in the field - reflect on the topic in depth and from many angles relating to the field - set clear and logical goals. 	<p>The student can</p> <ul style="list-style-type: none"> - select a topic that suits the field well - justify and define the topic logically and clearly - position the topic in relation to the specific field - set clear goals. 	<p>The student can</p> <ul style="list-style-type: none"> - select a topic related to the field - justify and define the topic to some extent - set suitable goals for the topic. 	<p>The student can</p> <ul style="list-style-type: none"> - select a topic related to the field - define the topic to some extent - describe the objectives. 	<p>The student has not attained the skills and goals of a passing grade.</p>
Knowledge base and use of sources	The student can	The student can	The student can	The student can	The student can	The student has not attained the skills and

	<ul style="list-style-type: none"> - prepare a versatile, extensive and topical knowledge base in relation to the thesis topic, objectives and methods, demonstrating expert knowledge of the topic - critically and analytically apply and combine diverse information sources - systematically seek, use and apply relevant national and international research, the most recent research data and other expert information sources in a critical and diverse way - use and combine concepts comprehensively 	<ul style="list-style-type: none"> - prepare a versatile and topical knowledge base for the thesis, demonstrating knowledge of the topic - critically and analytically combine diverse information sources - systematically seek, use and apply relevant national and international research, the most recent research data and other expert information sources - use and combine concepts consistently, presenting the interconnections between concepts clearly and with justifications. 	<ul style="list-style-type: none"> - prepare an appropriate knowledge base for the thesis, demonstrating knowledge of the topic - combine diverse information sources - seek, use and apply relevant national and international research and other expert information sources - use concepts consistently, presenting interconnections between concepts. 	<ul style="list-style-type: none"> - prepare a knowledge base for the thesis - search for, use and combine relevant information sources - use concepts that are essential for the topic. 	<ul style="list-style-type: none"> - prepare a knowledge base for the thesis - search for and use information sources - use concepts related to the topic. 	<p>goals of a passing grade.</p>
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	and consistently, presenting the interconnections between concepts clearly and with justifications.					
Implementation and methods	<p>The student can</p> <ul style="list-style-type: none"> - use an approach and/ a research/development method suitable for the thesis objective and critically justify the choices based on literature or other information sources in the field - assess the applicability of the chosen method clearly and with justifications - justifiably collect or produce comprehensive material in relation to the thesis objective 	<p>The student can</p> <ul style="list-style-type: none"> - apply an approach and/or a research/development method suitable for the thesis objective and justify the choices based on literature or other information sources in the field - assess the applicability of the chosen method clearly and with justifications - justifiably collect or produce comprehensive material in relation to the thesis objective 	<p>The student can</p> <ul style="list-style-type: none"> - use the chosen approach and/or research/development method and justify the choices - assess the applicability of the chosen method - collect or produce material suitable for the thesis objective - complete the thesis work according to the plan and independently - analyse the material with justifications 	<p>The student can</p> <ul style="list-style-type: none"> - describe the chosen approach and/or research/development method - collect or produce the material - complete the thesis work according to the plan - analyse the material - identify reliability factors. 	<p>The student can</p> <ul style="list-style-type: none"> - describe the chosen method - collect or produce material - complete thesis work - analyse the material to some extent. 	<p>The student has not attained the skills and goals of a passing grade.</p>

	<ul style="list-style-type: none"> - complete the thesis work according to the plan, independently, innovatively and critically - analyse the material justifiably and diversely. - assess the reliability of the material, analysis and results with justifications and in a critical manner. 	<ul style="list-style-type: none"> - complete the thesis work according to the plan, independently and critically - analyse the material in a justifiably and diversely. - assess the reliability of the material, analysis and results with justifications. 	<ul style="list-style-type: none"> - assess the reliability of the material, analysis and results. 			
Results, conclusions and their presentation	<p>The student can</p> <ul style="list-style-type: none"> - present the results and conclusions in a justified, clear and illustrative manner - assess the results and conclusions critically and justifiably in relation to the 	<p>The student can</p> <ul style="list-style-type: none"> - present the results and conclusions in a justified and illustrative manner - assess the results and conclusions justifiably in relation to the objectives and 	<p>The student can</p> <ul style="list-style-type: none"> - present the results and conclusions with justifications based on working life phenomena and the material - combine the results and conclusions with the thesis objectives 	<p>The student can</p> <ul style="list-style-type: none"> - present the results and conclusions - combine results from the thesis work with objectives - propose further actions. 	<p>The student can</p> <ul style="list-style-type: none"> - present results and conclusions - propose further actions. 	<p>The student has not attained the skills and goals of a passing grade.</p>

	<p>objectives and theory base of the thesis work, as well as assess the connections between the results and the development and innovation activities in working life</p> <ul style="list-style-type: none"> - present justified proposals for development and further research that benefit the sector. 	<p>theory base of the thesis work</p> <ul style="list-style-type: none"> - present proposals for development and/or further research that benefit the sector. 	<ul style="list-style-type: none"> - propose development and/or further research. 			
Expertise and thesis process	<p>The student can</p> <ul style="list-style-type: none"> - assess the thesis process critically, profoundly, justifiably and diversely - systematically and justifiably take ethical aspects into account in the various stages of the thesis process 	<p>The student can</p> <ul style="list-style-type: none"> - assess the thesis process justifiably and diversely - justifiably take ethical aspects into account in the various stages of the thesis process - work in a goal-oriented, systematic and 	<p>The student can</p> <ul style="list-style-type: none"> - assess the thesis process justifiably - take ethical aspects into account in the various stages of the thesis process - work in a goal-oriented and independent manner 	<p>The student can</p> <ul style="list-style-type: none"> - assess the thesis process - take into account ethical aspects related to the thesis process - work towards goals under guidance - act with those participating in the thesis 	<p>The student can</p> <ul style="list-style-type: none"> - express their views on the thesis process - identifies ethical aspects related to the thesis process - work under guidance - act with those participating in 	<p>The student has not attained the skills and goals of a passing grade.</p>

	<ul style="list-style-type: none"> - work in a goal-oriented, systematic, determined and independent manner - act smoothly and constructively with those participating in the thesis process and communicate the progress of the thesis process clearly. 	<p>independent manner</p> <ul style="list-style-type: none"> - act smoothly and constructively with those participating in the thesis process and communicate the progress of the thesis process. 	<ul style="list-style-type: none"> - act smoothly with those participating in the thesis process. 	<p>process in an appropriate manner.</p>	<p>the thesis process.</p>	
Reporting and language	<p>The student can</p> <ul style="list-style-type: none"> - write a thesis report with a consistent and balanced structure - write very fluent, cohesive, and factual-style text - write accurate text with almost no linguistic errors 	<p>The student can</p> <ul style="list-style-type: none"> - write a thesis report with a consistent structure - write fluent, cohesive, and factual-style text - write text mostly without linguistic errors 	<p>The student can</p> <ul style="list-style-type: none"> - write a thesis report with a mostly consistent structure - mostly write fluent, cohesive, and factual-style text - mostly write linguistically good text 	<p>The student can</p> <ul style="list-style-type: none"> - write a thesis report with a structure that has consistent elements - write factual-style text but the style may be faltering and cohesion elements may be lacking - write text that conveys the 	<p>The student can</p> <ul style="list-style-type: none"> - write a thesis report but the structure is imperfect or not logical - write text but the style is faltering and there are plentiful linguistic errors - write text that conveys the message despite 	<p>The student has not attained the skills and goals of a passing grade.</p>

	<ul style="list-style-type: none"> - indicate sources and references without errors and refer to sources diversely using both the author- and subject-oriented styles - elucidate the report visually: if the report contains images, figures or tables, they are appropriate and finalised, also referred to and elaborated on in the text. 	<ul style="list-style-type: none"> - indicate sources and references with almost no errors and refer to sources quite diversely using both the author- and subject-oriented styles elucidate the report visually: if the report contains images, figures or tables, they are appropriate and clear, also referred to and elaborated on in the text. 	<ul style="list-style-type: none"> - indicate sources and references with almost no errors - elucidate the report visually: if the report contains images, figures or tables, they are appropriate, clear and referred to in the text. 	<p>message despite the errors</p> <ul style="list-style-type: none"> - indicate sources and references, but there are some shortcomings in them <p>elucidate the report visually: if the report contains images, figures or tables, they are appropriate and mostly referred to in the text. The captions are mostly logical.</p>	<p>the plentiful errors</p> <ul style="list-style-type: none"> - indicate sources and references, but there are shortcomings in them <p>elucidate the report visually: if the report contains images, figures or tables, they remain disconnected. The captions are not logical.</p>	
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Appendix 2. Responsibilities and obligations of thesis actors

Student

- familiarises themselves with the thesis instructions of the university of applied sciences and instructions specific to their own field of study
- selects the thesis topic and applies for topic approval
- draws up a co-operation agreement
- finds out about research permit and data protection issues that may be related to the thesis
- makes use of guidance and feedback
- keeps in regular contact with the supervisor and partner
- uploads the thesis **plan** to Turnitin for inspection
- participates in seminars in accordance with the practices and schedule of their field of study
- discusses possible changes with thesis supervisors
- implements and documents the thesis work in accordance with the guidelines of LAB University of Applied Sciences
- finds out what to do if the thesis contains confidential material
- as a maturity test, writes a blog post, a press release or an article
- submits the thesis report to Turnitin for inspection
- uploads the thesis report to Theseus
- conducts self-assessment and gives feedback on the thesis process as instructed by their field of study.

Thesis supervisor

- has familiarised themselves with the thesis instructions and principles guiding thesis work as well as the study-field-specific instructions of the university of applied sciences
- ensures that the topic and objectives of the thesis meet the criteria set for thesis work
- approves the thesis plan and the completed thesis
- commits to instructing the work, helps in problem areas and guides the student in ethical choices during the thesis process
- assesses the content and language in the blog post, press release or article

- assesses the thesis report
- reviews the Turnitin analysis report
- checks that the thesis report has been uploaded to the Theseus Open Repository before registering the thesis grade to the Peppi system
- encourages the student to publish research articles based on the thesis in Open Access publications.

Partner

- signs the co-operation agreement
- participates in guidance as an expert on content
- may provide written feedback on the thesis.

Possible peer reviewer

- provides feedback on the thesis plan or the thesis report.

Language instructor

- teaches research writing to students
- when needed, guides students in writing the thesis report.

Possible second reviewer

- if necessary, assesses the completed thesis report.