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| First name Last name (font size 14) |
| TITLE OF THE THESIS (FONT SIZE 22) |
| Possible subtitle (e.g. Case, font size 14) |
| Thesis instructions accepted 11.5.2016  Thesis instructions updated 22.2.2017 |

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| Unit (e.g. Business Economics, Health Care and Social Services, Technology and Communication, font size 14)  2016 |
|  |

VAASAN AMMATTIKORKEAKOULU (koko 12)

Koulutusohjelman nimi (koko 12)

**TIIVISTELMÄ (koko 14)**

Tekijä Paula Hakala, Margit Mannila ja Vesa Verkkonen

Opinnäytetyön nimi Oppimisen tehostaminen ammattikorkeakoulussa

Vuosi 2016

Kieli suomi

Sivumäärä 30 + 3 liitettä

Ohjaaja Raimo Koivisto

Tiivistelmässä käytetään rivinväliä 1. Tiivistelmä kirjoitetaan täydellisinä lauseina. Sähketyyliä ei käytetä, ei liioin alleviivauksia, kursivointeja tai harvennuksia. Tiivistelmän pituus on 75 - 200 sanaa. Teksti on hyvä jakaa kappaleisiin luettavuuden takia, esimerkiksi seuraavan kaavan mukaan:

Ensimmäisessä kappaleessa kuvaillaan lyhyesti tutkimuksen taustaa ja tutkimusongelmaa sekä tutkimuksen tehtävää.

Toisessa kappaleessa kuvaillaan lyhyesti tutkimuksen teoreettista viitekehystä, keskeisiä käsitteitä sekä tutkimuksessa käytettyjä menetelmiä ja tutkimusaineistoa.

Kolmannessa kappaleessa esitetään lyhyesti tutkimuksen keskeisiä havaintoja ja tuloksia sekä keskeisiä johtopäätöksiä ja tulkintoja.

Avainsanat oppiminen, tehokkuus, opetusmenetelmät

VAASAN AMMATTIKORKEAKOULU

UNIVERSITY OF APPLIED SCIENCES (font size 12)

Name of the Degree Programme (font size 12)

**ABSTRACT (font size 14)**

Author Paula Hakala, Margit Mannila and Vesa Verkkonen

Title Stimulating Learning at the Applied Science University

Year 2016

Language Finnish

Pages 30 + 3 Appendices

Name of Supervisor Raimo Koivisto

The abstract is written here using single spacing. In short the abstract answers to “what was done, why, where, when, how” as well as explains the main results of the study and the understanding gained. In other words, the abstract states the background, aim, material and methods, as well as the main results and conclusions of the thesis. This is done in three to four paragraphs and 75 to 200 words.

The first paragraph of the abstract explains the background of the study, the problem studied and the aims/objectives of the study.

The second paragraph discusses the theoretical frame of reference of the study (the theory), the key concepts of the study, the methods used and material or target group studied.

The third paragraph examines the central findings of the study as well as the main results and conclusions of the study.

The English language abstract is written in the past tense, e.g. “The thesis studied…” or “ The results showed that..”. Also, the passive is used to emphasize what was done (not who did) e.g. “The study was carried out…”

Note: Always use the official name of your degree programme (the official name in degree programmes instructed in Finnish is in Finnish)

Keywords Learning, stimulation, teaching methods

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OBJECTIVES OF THESIS AND THE RESPONSIBILITIES OF THE STUDENT

These guidelines for writing a final thesis are used in all the schools of VAMK, University of Applied Sciences, both on Bachelor’s and Master’s level. The thesis is a research project or a project carried out by the student which consists of setting up the study objective/s, becoming familiar with the topic area, finding the answers for the set study questions and writing a thesis report on that. The following instructions are written using the same layout and format as must be used in the thesis, so the this report can be used for writing the report to make sure that the final layout is correct.

In addition, the thesis process includes individual guidance, group guidance, and participation in the required seminars. As a rule, the thesis work is done alone. If the entirety or the scope of the thesis so requires, the thesis can be assigned to a group of several students. In case of a group project, each student’s work will have to be clearly indicated and assessable. Each student also has to take part in the presentation seminar.

The written report starts with an *introduction.* The introduction includes background information and an explanation why the topic was chosen as the topic of study, i.e. why the topic is important to study. In addition, the introduction explains the content of the work on a general level as well as how the study process is organized.

*The objective* of the thesis is to encourage the student to critical thinking, creativity, problem solving and to the development of one’s own work and understanding the field of the study. With the thesis the student demonstrates that s/he is able to act as a specialist or a supervisor in his/her future career. S/he demonstrates that s/he is able to draw up a research or a project plan, keep to a schedule, keep up contacts with several parties, write reports, acquire information independently, analyse and deal with acquired information and material, document one’s work and see to the language and outward appearance of the documents and the thesis. (Table 1.)

The thesis done at VAMK University of Applied Sciences always includes *theoretical* study of the topic and its *empirical* application either using scientific methods or e.g. a result of a project.

**Table 1.** Responsibilities related to thesis.

|  |  |  |
| --- | --- | --- |
| **Student** | **Supervising teacher** | **Employer/client** |
| * Has sufficient informational, methodological etc. skills to start doing the thesis * Is responsible for his/her own thesis * Looks for the topic of the thesis actively and discusses it with the supervisor * Makes sure that co-operation with the client is fluent * Signs for his/her part agreements related to the thesis and follows the conditions and practices agreed * Acquires research permissions, if needed * Draws up a research or project plan which includes the implementation schedule and reports regularly to the supervisor of the advancement of the thesis * Participates in the guidance and the seminars and presents the thesis in various phases and acts as an opponent to another student * Implements the thesis as planned and is in contact with supervisor in various phases of the thesis * Writes a research or project report following the instructions for thesis * Submits the thesis to the Urkund checking * Submits the finished report in electronic form to Theseus and a written version of the thesis with covers to the client and to the supervisor. | * Supervises, within allocated resources, theses assigned to him/her * Assists and supports students in finding a thesis topic * Tells the students in his/her supervision clearly when s/he is available for guidance * Makes sure that the requirements set for the thesis are met * Arranges the seminars and other meetings related to the thesis * Complies with the conditions and practices agreed in the contract on completing the thesis for a company/organisation * Follows up the advancement of the thesis and assesses the thesis * Writes the assessment statement * Draws up the maturity tests and sees to the necessary arrangements concerning the maturity test * Submits the grades of the thesis and the maturity test to be entered into the study records * Makes sure that the student submits the reports to the parties involved | * Appoints a supervisor for the student in the company/organisation * Signs as a client all contracts related to the thesis and complies with the conditions and practices mentioned in them * Contacts the supervising teacher if necessary * Provides the prerequisites for completing the thesis |

In accordance with the

As according to the Government Decree on Universities of Applied Sciences (A 1129/2014) 5 §: “Studies leading to the master’s degree at a UAS provide the student with:

1. broad and advanced knowledge and skills for developing the professional field as well as the theoretical skills for working in demanding expert and leadership positions in the field;
2. profound understanding of the field, its relation to work life and society at large as well as the knowledge and skills needed for following and analysing both theoretical and professional developments in the field
3. capacity for life-long learning and continuous development of one’s own expertise
4. good language and communication skills required in work life
5. knowledge and skills needed to function and communicate in the field internationally.”

The aim of the Master’s Thesis at a university of applied sciences is to encourage end enhance the student’s critical thinking skills, creativity and problem solving skills as well as the ability to engage in development of her/his own work and professional field. The student should demonstrate that s/he is able to draw up a research or project plan, adhere to a time schedule, communicate with different parties, independently retrieve information for the theoretical framework and the empirical material, analyse and process the acquired theory and empirical material, report on the findings and ensure that the layout and language of the documents meet the set standard. The thesis should in all ways comply with research ethical principles. The student should furthermore, through the thesis work, prove that s/he is capable to function in the role of an expert or in managerial tasks within the own field of expertise.

# 2 THESIS PROCESS

Matters dealt with in this chapter are general principles related to various phases of the thesis process. The thesis process includes the starting, planning, implementation and reporting phases. The process is followed by using a **Thesis Passport** (Appendix 1.). The Master’s Thesis involves a development task related to the student’s professional tasks and through which the student demonstrates and deepens her/his own expert knowledge.

## 2.1 Starting Phase – Selecting the Topic

Before starting the thesis the student must complete all those study modules that give the student the readiness to complete the thesis in terms of content and methods. The thesis starts with finding a topic. The topic is discussed with the supervisor and with the possible representative of the client. The aim is that there is a client from working life so that the thesis serves a real need in working life.

For the writer of a Master’s Thesis it is particularly important to choose a topic which addresses a working life problem (preferably something in the writer’s own work place). The topic area should first of all be discussed with the responsible teacher, after which the students draws up a research plan which s/he subsequently submits to the appointed supervisor.

The choice of the topic is in addition to the practical needs of working life, also affected by the topic’s topicality or novelty, and the thesis writer’s interest and motivation for working on the topic. After the topic has been approved by the representative of the degree program, the writer draws up a thesis plan for the topic.

The thesis completed at the University of Applied Sciences is an applied research and the purpose is that the topic comes from the working life. The objective is that all theses are projects for the working life and, thus, the thesis work serves the real needs of working life. With the project the aim is that at least one of the following conditions is met:

1. A contract is made with the client
2. The client’s name and supervisor is written in the thesis passport
3. The student is paid to complete the thesis

## 2.2 Master’s Thesis – a Development Task

In practice the Master’s Thesis consists of a development task which is closely related to the student’s professional tasks. The aim is that the student demonstrates and deepens her/his professional expertise.

The thesis can be carried out as one large project or, alternatively, as of a variety of sub- projects or tasks of different types and sizes which relate to each other in a meaningful way. If, for example, the task consists of system development, data collection is usually required both at the beginning and the end of the project. This type of process usually involves both testing and modifications.

## 2.3 Planning Phase - Planning of the Research or the Project

The thesis starts with becoming familiar with the topic more thoroughly and drawing up the thesis plan. The student looks for related information in previous studies on the topic. This way the student gets an idea of the significance, topicality, novelty and additional value of the thesis from the point of view of the client and the study/project. *The thesis plan* describes the background of the thesis, the research problem or task, the aims and objectives, the most important concepts and/or theory, methodological solutions (such as research angle, data acquisition, analysis methods and/or implementation of the project and/or phases of the development project) and the preliminary schedule for the process.

The research problem in the form of a question tells to which basic question and answer or a solution is looked for. More detailed questions/objectives can be derived from the problem, which support and help in problem solving. There has to be a clear and concise practical problem in the project type thesis as well to which a solution is looked for in the thesis.

The student draws up a thesis plan and presents it in the starting seminar or submits it to the supervisor to be checked and approved. The supervisor then grants a permission to move on to the implementation phase.

## Implementation Phase – Theory and Empirical Section of the Study/ Project

The research process continues after the approval of the thesis plan by writing the theoretical section of the thesis report (theoretical frame of reference). Studying previous studies and projects and other relevant literature and theories in the field gives a good basis for planning and describing the practical work. If the theoretical study is based on a questionnaire, interviews or other measurements the empirical (practical) section of the thesis work explains the target group, research method, criteria for selecting the methods for information acquisition, research data and material analysis.

In the interim seminar the student presents the theoretic background of the research or project and the plan for the implementation of the practical study. The supervisor can also give the student a permission to proceed to the practical study without the interim seminar, if the study is a research or a development project. The implementation phase also includes collecting the research data and its analysis.

## Reporting Phase – Analysis and Publication of the Results

The reporting of the thesis is made up of the reports of both the theory and the practical study. A thesis can be a research study, a project or a development project. The structure of the thesis of the different types of theses are as described in Table 2.

**Table 2.** Examples of contents of the thesis.

|  |  |  |
| --- | --- | --- |
| Research | Project | Development project |
| 1. Introduction 2. Background, research problem(s) and purpose of the research 3. Theoretical frame of reference 4. Research methodology 5. Results 6. Conclusions and discussion   –discussing the results  – ethical questions  –reliability of the results  References  Appendices | 1. Introduction 2. Background and purpose of the project 3. Theoretical background 4. Approach and implementation of the project   5. Outcome of the project  6. Conclusions and discussion  – assessment of the phases of the project and resource management  – keeping the schedule, utilising the results of the project and assessment  – continuation of the project and most important new ideas  – conclusions  References  Appendices | 1. Introduction 2. Needs analysis and description of the present state 3. Theoretical background 4. Description of the development process 5. Description of the development operations 6. Description of the results of the development 7. Conclusions and assessment   – reliability  – usability  – transferability  – conclusions  References |

The recommended length of the thesis report is 30 to 60 pages. For a report written by two students the length is 50 to 80 pages. For example designing, programming and other similar work demand much work in those areas, but the length of the report can be shorter. The length of a Master’s Thesis is approximately 60 to 85 pages. If the thesis is written by two students the length is approximately 80 to 100 pages. (See for example Hirsijärvi, Remes & Sajavaara, 2009, 226)

The results of the practical study in a research study or a project are published in their own chapter. In other types of studies, e.g. in case of product development, the theory and the results can be described so that they take turns in the same chapter. When publishing the results the ethical and confidentiality issues should be taken into account both from the point of view of the client and all the other parties involved in the thesis. An honest and objective analysis and description of the results are important in the publication. Attention should be paid to the clarity of the text, tables and graphs.

A thesis completed at the University of Applied Sciences cannot be classified as confidential as all the theses are either saved electronically into the Theseus system (http://www.theseus.fi) or submitted to the university library in a book format. In addition, the student must submit an electronic version of the thesis and/or a paperback copy to the supervisor (see Table 1.).

The client’s copy is submitted to the client as the kind of a version the client prefers. The supplement of the thesis can be classified if the thesis includes confidential information from the client’s point of view, for instance, information on a new device or method under development or strategic information about an organization’s business operations that can give competitors information that would not otherwise be available. The thesis can also be written so that name of the client is not mentioned.

The thesis ends with the chapter *Conclusions and Discussion*, in which the substance and the process of the thesis are assessed. In the conclusions the most important results or the significance of the project outcome and the objectives reached are assessed (finding a solution to the research problems). The discussion should focus on assessing truthfully the approach, the suitability of the used methods and results as well as the reliability and feasibility of the results. Finally, possible suggestions for further study presented.

Ethical principles are followed in every way in the thesis. Vaasa University of Applied Sciences uses the Urkund program to check the origin of the texts both in all theses and other written assignments to prevent plagiarism.

Before completing the thesis the student sends the thesis to Urkund in Word or pdf-format as an email attachment. The email address is [xxx.VAMK@analysis.urkund.com](mailto:xxx.VAMK@analysis.urkund.com). The xxx is replaced by the teacher’s user name. There must not be any copy protection or other protections active in the version that is sent.

# INSTRUCTIONS FOR WRITING

A thesis is a scientific document, which means that certain conventions of that language register must be followed. *Exact expressions* are used instead of using vague ones. “**30 %** of projects taken longer that than the set estimation” is more exact than “A considerable number of the projects take longer than estimated”. (Note: round off the percentages i.e. do not use 30.33%)

When quoting literature or other sources directly or indirectly, the original source has to always be mentioned. In a word-for-word quote “quotation marks” are used. After each paragraph, there is a reference unless the paragraph expresses the writer’s own thinking. A list of references is given at the end of the work in alphabetical order, when using alphabetical referencing and in order of appearance when using numbered reference. In the evaluation of the work also the student’s ability to estimate and evaluate the sources used and his/her ability to analyze and connect the sources used to the topic of study are estimated.

## Appearance

As in this template the margins are: the upper margin 3 cm, the lower margin 3 cm, the left margin 4 cm and the right margin 3 cm. The recommended font is either Times and Times new Roman. The font size in the body text and in lists is 12. The font size can be 14 in headings and 10 in e.g. tables. The captions of figures, photos and tables are written in font size 12.

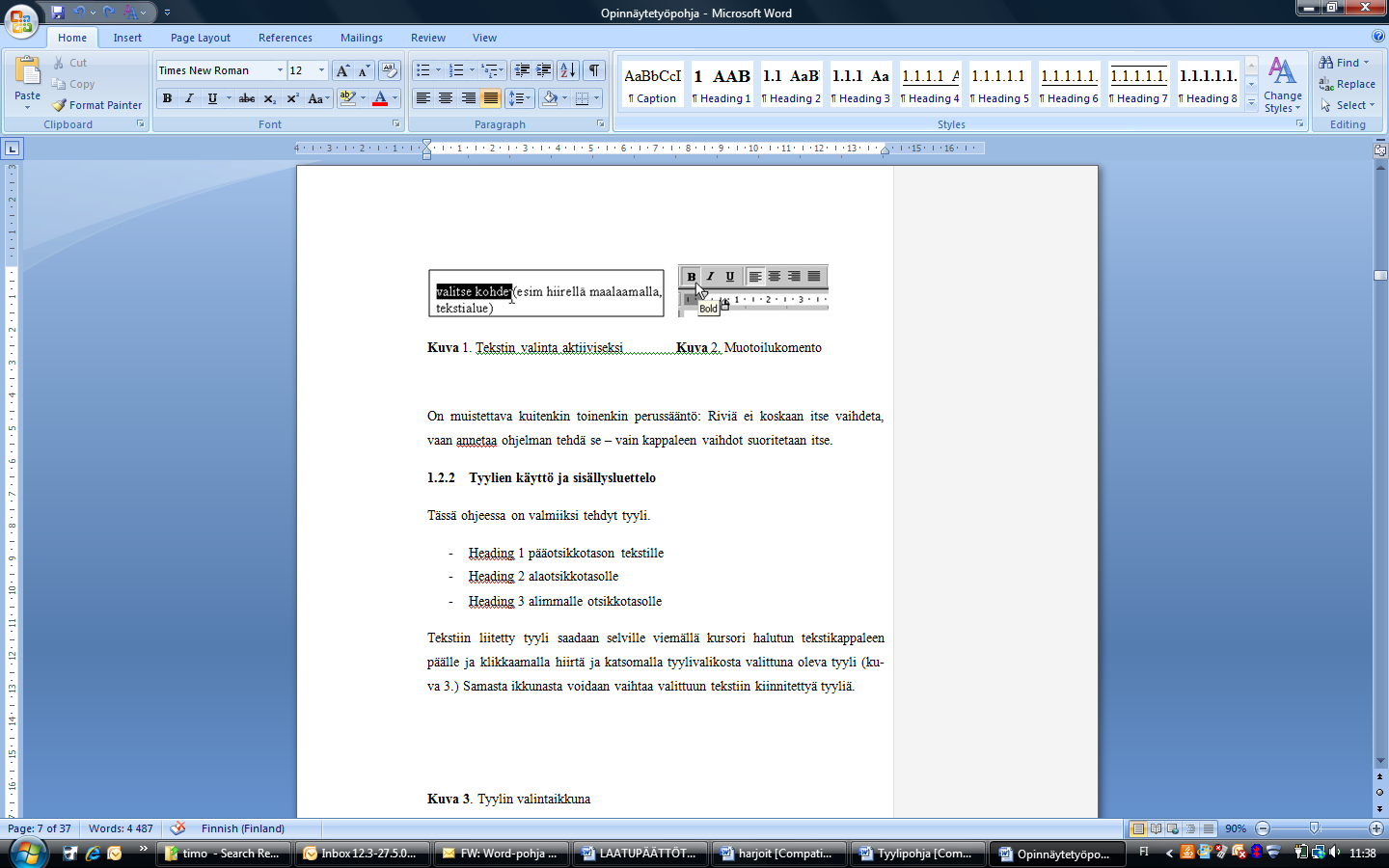
The spacing is 1.5 in the body text. The hyphenation is on and the text is aligned to both the left and right margins. Let the word processor do the row change, press enter only when starting a new paragraph. The spacing between the paragraphs is 12 points (settings: before 0, after 12 pt). A new chapter starts on a new page.

## Use of Styles and Contents Page

These instructions have the following styles included:

* Heading 1 for main headings, font size 14 and bolded in capital letters
* Heading 2 for subheadings, font size 12 , bolded
* Heading 3 for the lower level of subheadings, font size 12, bolded
* Normal for body text, font size 12
* Abstract, font size 12

The style attached with the text can be determined by taking the mouse onto the text and right-clicking the mouse. The style chosen can be seen in the style menu (Figure 1). On the same window, you can change the style.



**Figure 1.** Style menu window.

When the heading has been formatted using the styles, the contents page can be updated by clicking on the contents page and choosing ”update field” and then by choosing ”update entire table”. The pre-entered heading styles are not used in the abstract and on the contents page or the list of appendices page (heading size 14), the body text on these pages uses style Abstract (font size 12, line spacing 1, paragraph spacing 12 points after).

## References (Referencing and the List of References)

Depending on the field of study either alphabetical or numbered referencing (citation) is used. Alphabetical referencing is used in the School of Business and Economics and The School of Health Care and Social Services and The School of Technology uses numbered referencing. Each source referred to in the text must be mentioned in the list of references.

**3.3.1 Alphabetical References**

In the text the source is referred to by marking in parentheses the *family name* of the author and the year of printing followed by a *comma and the page or pages* used. When referring to a written work as a whole page numbers are not given (Hall 2012). When referring to specific pages the pages are given (Hall 2012, 120-121, 132).

*An electronic source* is referred to in *the same* way as a traditional source. The web address of the source is not given in the text; it is given in full in the list of references. The reference looks as (Hall & Hill 2014).

If one and the same source has *several authors* (three or more), *all* authors are mentioned in the reference on the first time. *Later* on, only *the first* name is mentioned, then *et al*., year of the publishing and pages referred to. For example, the reference on the first time would be (LaGrega, Buckingham & Evans 2009, 34), later on when referring to the same source (LaGrega et al. 2009, 56–58).

If the text is compiled from *many sources*, the sources are written in the same brackets e.g. in the ascending order of the year of publication but also the order of importance or the year of publishing can be used. The references are separated with a semicolon, e.g. (Morrill 2010; Winter 2011, 36)

The writings by the same author are separated with the help of the year of publication and are written in the order of publishing. Writings by the same author in the same year are separated with small (lower key) letters, e.g. (Smith 2008a, 2008b, 2010).

If the source does not have an actual author, the text is referred to using the first words that appear in the list of references, e.g. (Quarterly Review 2014).

It has to become apparent from the reference how much of the text is based on the sources. If *the contents of a whole paragraph* are cited, the reference is written at the end of the paragraph *after* the full stop. The reference ends with a full stop *before* the close bracket, e.g. ...end of the text. (Hall 2012, 120–121.)

If the reference applies *to a short part* of the text or one sentence, the reference is written within the sentence *before* the full stop.

A direct quote of several sentences is separated from the rest of the text by writing the quote within quotation marks and using indention and spacing 1.

**3.3.2 Numbered References**

In numbered referencing the sources used are numbered and marked with numbers in the text like this: /3/.

The numbered reference is placed inside the sentence *before t*he full stop, if the reference is for *that sentence only*. If the reference covers *several sentences*, the reference is placed at the end of the last sentence the reference applies to, *after* the full stop marking the end of that sentence. Usually page numbers are not given in the reference, but in pages numbers can be given in situations where certain pages are emphasized. Then the reference is written like this: /1, 120-121/.

## Examples of List of References

The different types of sources are not grouped separately but in the alphabetic reference system the sources are listed in alphabetical order by the name. In the numbered reference system the used sources are listed in the order of appearance. This chapter presents examples for how different sources are referenced in the list of references. In the basic pattern for a source reference there are four different parts: Who. What. When. Where. Who refers to the author, when to the time when the text was produced, what to the title and where to the publication outlet or the publisher.

### Printed Books

Last name of the author, Initial(s) of the first name(s). Year of publication. Name or title of the book. Edition. Place of Publication. Publisher.

Best, R.J. Market-Based Management: Strategies for Growing Customer Value and Profitability. 4th ed. Upper Saddle River, NJ. Pearson Prentice Hall.

Saunders, M. & Lewis, P. 2012. Doing Research in Business and Management: An Essential Guide to Planning your Project. Harlow. Financial Times Prentice Hall.

### Printed Articles (e.g. in Periodicals or Compilations)

Last name of the author, Initial(s) of the first name(s). Year of publication. Name of the article. Name of the publication. Number of volume, number of issue, number of the first page – number of the last page.

Naaranoja, M., Haapalainen, P. & Lonka H. 2007. Strategic management tools in projects - case construction project. International Journal of Project Management 25, 7, 695–669.

Name of the author, Initial(s) of the first name(s). Year of publication. Name of the article. In: Name of compilation, pages. Editor(s) of the compilation. Place of publication. Publisher.

Lawrence, J. A. &  Dodds, A. E. 2003. Goal-directed activities and life-span development. In Handbook of Developmental Psychology*,* 517-533. Valsiner, J. & Connolly, K. (Eds.) London. Sage Publications.

### 2.4.3 Electronic Publications (e.g. Online Articles, Web Pages and Sites, DVDs and CDs)

Name of the author, Initial(s) of the first name(s). Year of publication. Name of the article. Date of access. In: Name of the compilation. Type of media. Editor of the compilation. Place of publication. Publisher. Location in the compilation.

Hyphens are not used to divide the URL-reference, nor should the reference be divided to different lines where there is a hyphen in the URL. If the URL has to be divided into two lines, it is done at the stroke so that the slash starts the new line.

Bailey, C. D., Hermanson, D.R. & Louwers, T.J. 2008. An examination of the peer review process in accounting journals. Journal of Accounting Education 26, 2, 55-72. doi:10.1016/j.jaccedu.2008.04.001

Ministry of Education and Culture 2016. Education lies at the Heart of Society. Accessed 1.8.2016. http://www.minedu.fi/export/sites/default/OPM/

Julkaisut/2016/liitteet/Education.pdf?lang=en

McConnell, W.H. 1993. Constitutional history. The Canadian Encyclopedia. CD-ROM. Macintosh version 1.1. Toronto. McClelland & Steward.

National Action Plan on Fundamental and Human Rights 2012-2013. Reports and Guidelines 20/2012. Helsinki. Ministry of Justice. http://oikeusministerio.fi/material/attachments/om/julkaisut/el7vSVubn

Statistics Finland 2009. Report on Service Industry Development. Accessed 22.2.2011. http://www.stat.fi/artikkelit/2010/art\_2010-03-26\_004.html

Russell Publishing 2016. Urban rail development. Eurotransport Online Magazine 3, 4, 16-18. Accessed 22.8.2016. http://www.eurotransportmagazine.com/20268/past-issues/issue-4-2016/issue-4-2016-digital-version/

Tamura, S., Sheehan, J., Matinez, C. & Kergroach, S. 2005. Promoting Innovation in Services. Paris. Organisation for Economic Cooperation and Development (OECD). Accessed 1.6.2016. http://www.oecd.org/dataoecd/21/55/ 35509923.pdf

Torkko, S. 2010. The Report on Internal Audit. Accessed 1.6.2015. http://intra.puv.fi/attachment/e865047a81b0a6b2a94c639db22554bb/b80b02ccb/ 925a401f2423b229584d/Raportti+sis.audit\_2010.doc

### 2.4.4 Interviews

Ilomäki, R. 2016. Rector. Lahti University of Applied Sciences. Interview 25. February 2016*.*

### 2.4.5 Conference Presentations

Diong, B. Tippens, S. Francis, T. & Herndon, M. 2015. A New Photovoltaic Module Design Paradigm: Cell Strands that Track the Sun. ASME 2015 9th International Conference on Energy Sustainability June 28-July 2, 2015. San Francisco.

### 2.4.6 Sources that Start with an Official Abbreviation (e.g. Laws)

L 30.12.1997/1336. Accounting Act. Act in the Finlex database. Accessed 9.11.2010. http://www.finlex.fi/fi/laki/ajantasa/1997/19971336

### 2.4.7 Other Sources (e.g. Minutes, User Instructions and Statistics)

VAMK University of Applied Sciences IT Basics. Accessed 22.2.2011. http://www.puv.fi/en/study/atk-aapinen/

Unpublished sources (e.g. research reports or study material handouts that have no ISSN or ISBN number) are marked like this:

Merker, G. 2007. Profitability in Business. Heinmann University.

### 2.4.8 E-mail

Givens, B. 2003. Research and Development Activities in SMEs. Email bgivens@hereitis.com. 20.2.2013. Printed 23.2.2013.

### 2.4.9 Standards

The standard code and number. The name of the standard. Edition. Place of publishing: Publisher. Year of publication. Number of pages.

### 2.4.10 Patents

Country of Publication. Year of Publication. Name of the patent. Holder of the patent, domicile. (Patent inventor) Application number, application date. Date of publishing. Number of pages.

### Numbered References

The list formulated as above but the sources are in numerical order:

/1/ Hendrickson, C. 2008. What is Construction Project Management. Accessed 5.1.2010. http://www.pmhut.com/ construction-project-management

/2/ Couch, A., Besser, W. & Malier, V. 2013a. Sustainable housing. Journal of Urban Health 17, 3, 44–57.

/3/ Couch, A., Besser, W. & Malier, V. 2013b. Shaping neighbourhoods. Journal of Environmental Management 8, 1, 61-77.

/4/ Markel, M. 2004. Technical Communication. Boston. Bedford St Martins.

# APPEARANCE

Note the following in the appearance of the text:

1. **Figures,** drawings and photos are numbered with a running number. The word ”Figure” and the number are bolded (e.g. **Figure 1.)** but *not* the caption i.e. the text that names and explain the figure.. The caption text *ends in a full stop* and it is placed *under* the figure. The figures are separated with a blank line before and after from the text. The figures have to be referred to in the text before.
2. **Tables** are separated with a blank line before and after the table. The word ”Table” and the number are bolded (e.g. **Table 1.)** but not the caption. The caption of a table ends in a full stop and it is written above the table.
3. **Formulas** are numbered with a running number. The number of the formula is written inside brackets on the right edge of the text and the beginning of the formula is placed so that all formulas begin at the same spot. An example:

E = mc2 ()

1. **Appendices** are placed after the list of references. All figures, tables and lists that demonstrate the contents of the thesis but are too big in size or lesser in importance to be integrated in the text are marked as appendices. The questionnaires or interview questions used are also placed in the appendices. They are numbered with a running number (e.g. APPENDIX 1). If there are many appendices, a list is drawn up and placed after the contents page.
2. **A new chapter** is startedon a new page.Each chapter should have at least two subtitles. In addition, each chapter should contain at least two paragraphs and a paragraph should contain at least three sentences.
3. **To emphasize** the text **bolding**, *italics* etc. can be used but sparingly and consistently. Underlining is not recommended.
4. **Dash (**–**)** is used between limits expressed either in numbers or in words. E.g. between 1941–1944, items 4–7, September – October, pages 12–15. In Word, the dash is produced with the combination [ctrl] [minus].

Subheadings are spelled so that important words are written with a capital initial. Prepositions and articles are written in small case. The title of the thesis in the abstract is spelled the same way, e.g. This is What a Good Title Looks Like.

# ENDING PHASE – ASSESSMENT OF THE THESIS AND MATURITY TEST

Framework (EQF) is made up of two levels with which the learning results the education learning results are described. The EQF levels describe the depth knowledge, skills, and competence of a learner. EQF has been developed to make it easier to compare different qualifications in the EU. National Qualification Framework (NQF) is used nationally (see European Commission 2016).

The evaluation of the thesis is based on EQF standards. See Table 3 (Appendix 2) of the evaluation criteria in use at VAMK. The emphasis of evaluation is on the student’s input, the novelty value and of the work and its applicability to practice and the documentation of the work.

The assessment of the thesis is based on the EQF standard. The criteria used at VAMK can be viewed in Table 3 (Appendix 2). The student’s input, the value of use, and how well the documentation is done all affect the evaluation.

## The Presentation Time of the Thesis

The time for the presentation of the thesis is agreed with the supervisor and the supervisor will appoint an opponent for the presentation. A written thesis report is submitted to the supervisor and the opponent at least two weeks prior to the presentation.

In the *presentation seminar* the student presents his/her completed thesis orally to the audience in the language of the degree programme. The written report is submitted to the supervisors and to the opponent two weeks prior to the presentation. The students act as opponents in turns. The opponent’s task is to ask questions and assess the thesis and the presentations critically but in an appropriate manner. The aim is to bring up the strengths and weaknesses of the thesis and the opponent’s reasoned opinions on the thesis. The opponent fills the in Opponent’s Assessment Form and submits it to the supervisor of the thesis at the presentation occasion. The presentation seminar is public.

## Maturity Test, Bachelor’s Degree

For the bachelor’s degree the student must write a maturity test on the field of the thesis which shows knowledge in the field and good language skills.

If the student's language of primary and/or secondary education is other than Finnish or Swedish, the student writes the maturity test in the language of the degree programme (English) or the language of the maturity test can be agreed with the Dean.

The students studying in English-medium degree programmes who have received their primary and /or secondary education in Finnish or Swedish, write the maturity test in Finnish or Swedish.

The student agrees with the supervisor on the writing of the maturity test. *The objective* of the maturity test is to show that the student masters *the topic* of the thesis and *the language*. The maturity test is written in a *supervised t*est situation without any source material. The supervisor gives two topics of which the student chooses one. The topic can be a heading or phrasing of the heading can be left to the student.

The standard length of the maturity test is approximately four pages with writing on each line, if the paper in questions is large-checked and writing on every other line if the paper is small-checked, approximately 450-600 words. Three hours is given for writing the maturity test. The assessment is pass or fail. Both the supervisor and language teacher assess the maturity test. Students with dyslexia have the right for special arrangements, provided that they have an expert’s statement on dyslexia.

Requirements for an approved maturity test:

1. The contents of the maturity test and that of the thesis have to correspond each other.

2. The text is readable, and it is easy to tell the capital letters and small letters and words apart.

3. The writing has *a headline*. The headline and the contents have to

correspond with each other.

4. The text is divided into *paragraphs.*

5. The spelling and use of *punctuation* is correct.

6. The relation between the sentences and clauses are clearly stated.

7. The word order is unambiguous and in harmony with the information given.

8. The style of the writing is *formal*.

9. The text is based on language, **not** e.g. on diagrams, charts or figures.

10. The writing is a well-structured and a unified entity.

11. The reader has to be able to understand the text as its own entity. The writ-er must not presume that the reader is familiar with the thesis.

The maturity test can be failed if there are severe or *reoccurring errors* or defects in the contents or language. The student can register for a retake, having looked into the checked maturity test and having received guidance on the writing. The language of the maturity test is stated in the diploma.

## The Maturity Test for the Master’s Thesis is a Thesis Press Release

The student who completes a Master’s Thesis at VAMK has two options regarding the maturity test, one is to write a thesis press release and the other one is to write a traditional maturity test on one of the two headlines given by the supervisor.

A maturity test written as a press release is written in a formal style and in an interesting way. The test is written in student’s language of schooling. The press release is typed in font size 12 and using single line spacing.

The most important information of the press release is placed at the beginning of the text and other, supplementary, information is subsequently added towards the end of the document. The main points are highlighted in the heading and the lead paragraph. In other words, the aim is that headline captures the essence of the research. The headline is followed by a lead paragraph, which complements the headline by presenting the central content of the research. The body text of the press release subsequently presents the research through concise description, justification and illustration of the results.

It is assumed that the reader of the press release is interested in the topic area. The press release answers the questions: what was researched, who did the research, where did the research take place, when, how (methods), why was the research of importance, who did it and who supervised it.

The text must be linguistically concise, understandable, written in clear formal language and according to Finnish, Swedish or English language standards. Use short phrases and divide the text into paragraphs. As the press release is written for the so called general public, avoid complicated professional terminology. If it is still necessary to use some professional terms, remember to explain them. At the end of the press release, under the heading “Additional information” (“Lisätietoja”, “Tilläggsinformation”) the name of the person who can give additional information on the topic is given. In practice, this is the name and contact details of the writer of the thesis.

After the approval of the press release, the student can freely use it for her/his own purposes. The supervisor of the thesis forwards the press release to the communications department of VAMK and they can use it as a press release if they wish. A maturity test written as a thesis press release can be failed if there are inadequacies or deficiencies in contents or language.

**Additional information**

Opiskelija, O. 2017. Vientikaupan haasteet ulkomaan kauppaa aloittelevassa yrityksessä. Opinnäytetyö. Koulutusala, tutkinto-ohjelma. Vaasa: Vaasan ammattikorkeakoulu.

Oili Opiskelija, YAMK, Liiketoimintaosaaminen, Vaasan ammattikorkeakoulu [oili.opiskelija@edu.vamk.fi](mailto:oili.opiskelija@edu.vamk.fi), GSM 040 123 4567.

Opinnäytetyö on tallennettu Theseus-tietokantaan osoitteessa <https://publications.theseus.fi/>.

The supervisor’s / supervisors’ name(s) are added at the end.

If the student chooses the traditional maturity test, or s/he has not earlier, in a previous educational programme, written a maturity test, the supervisor gives two alternative headings for topics that the student can choose between. The supervisor can either give a headline for the topic or it can be left to the student to formulate an exact headline for the topic given.

The length of the maturity test is approximately four exam paper pages and the text is written on every line if the square size of the graph paper is of the larger type (7 mm) and on every second line if the square size is smaller (5 mm), altogether around 450-600 words. The time for writing is 2 h and 15 min (135 min). The maturity test is assessed by the supervisor and the language proofreader and the grading scale employed is pass/fail. A person with a dyslexia is entitled to special exam arrangements provided that a certificate issued by an authorized person is presented and that the supervisor is informed in advance.

For passing, a maturity test must meet the following requirements:

1. The content of the maturity test must correspond to the topic of the thesis.
2. The text is readable; it is easy to tell capital letters and lower case letters and words apart.
3. The text has a headline. The content must reflect the headline.
4. The text is divided into paragraphs.
5. The spelling and use of punctuation is correct.
6. The relation between clauses and sentence is clear.
7. The word order is unambiguous and resonates with the presented information.
8. The language is formal and academic in style.
9. The text is based on language, not on charts, formulas or figures.
10. The text well-organized and a coherent entity.
11. The reader understands the text as a whole. The writer cannot assume that the reader is familiar with the thesis.

The maturity test can be failed if there are remarkable and reoccurring deficiencies or mistakes in content, language or layout. The student can sign up for a retake of the maturity test after having seen the corrected test and after receiving additional guidance. A note on the language of the maturity test is included in the graduation certificate.

Instructions for Publication

After the supervisor has approved the final version of the thesis the student is to

1. Primarily enter the thesis in Theseus- electronic library in pdf-format, before applying for the graduation. The thesis can be converted to pdf-format in the word processor by choosing Save as and then by choosing pdf as file format. The thesis is saved at the address [www.theseus.fi](http://www.theseus.fi). While saving, you will be inquired if you wish your thesis to be dealt with like a book (all rights reserved) or do you want a so called creative commons licence for your thesis, which means that other people may use your thesis without your permission. You will also have to give an email address to which information of the saved thesis is sent, as well as your student number and password. Possible large attachments can be saved separately. The thesis will not show immediately in Theseus but the library staff will first check the saved information and publish the thesis after that. If the thesis has more than one author, only one of them saves the thesis in Theseus. Additional information can be found at <http://www.theseus.fi/web/guest/ohjeita>. The supervisor sends the thesis in e-form for archiving to [arkisto@vamk.fi](mailto:arkisto@vamk.fi) with a mention if the thesis is significant and the grade is 5.
2. If the student does not give a permission to publish the thesis in Theseus, s/he will submit a hardbound version of the thesis to the supervisor at his/her own expense. The hardbound version goes to the library. In addition, the abstract is to be submitted in electronic form to the supervisor for the library. The hardbound version can be ordered from copy shops.

The publication of the thesis is a requirement for the graduation. A completed thesis has to include all the data needed to assess the objectives of the thesis, the reliability of the process, conclusions and their generalisation. If the thesis is a unique work, a presentation or an exhibition, it has to be documented in pictures or video so that one can get a good idea of the thesis without seeing the original production.

## Thesis Assessment, Bachelor’s Thesis

The assessment of the thesis is done by the thesis supervisor. Also the view of the language teacher who reads the work on the language of the thesis report as well as the views of the possible client of the thesis work about the level of the work and its usability are taken into account. When the thesis supervisor has given the student the permission to publish the work, the student turns in the thesis passport.

The theses are assessed on the scale from 1 to 5 and attention is paid to the management of the research or project process, theoretical background, implementation, results and reporting. In an excellent thesis (grade 5) the topic is significant with regard to the development of the field and the theory and practical part of the research or project together form clear and logical entirety. In an excellent thesis, the reliability of the results and suitability of the methods (validity) have been dealt with. Qualitative and/or quantitative methods have been used well, taking into account qualitative and/or statistical assessment. In an excellent project, commendable expertise has been shown, and methods used and results have been assessed. The EQF level 6 criteria have been taken into account in the assessment criteria. If the supervisor suggests either grade 1 (pass) or 5 (excellent), another examiner will have to read the thesis as well.

In an excellent thesis (5) the topic of the thesis develops the professional field and it is of importance for the field. The theory of the thesis or the project and the practical application form a clear unified, and logical entity. An excellent thesis also discusses the reliability of the work and the results as well as the validity of the used study methods. In an excellent research based thesis qualitative and/or quantitative research methods have been used very well paying attention to evaluating the used qualitative/ quantitative method. In an excellent project a high level of professional understanding and skill and is shown and in addition the used methods and the reached results have been estimated.

**Thesis Assessment, Master’s Thesis**

The thesis can be assessed when the thesis supervisor has given permission for publication. The supervisor in charge of the assessment. In the assessment, the feedback given by the language teacher, as well as by possible clients’ points of view on the quality and usability of the development task, are taken into account.

The thesis is assessed on the scale from 1 to 5 and attention is paid to the selection of topic, management of the research or project process, theoretical background, implementation, results and reporting. In a Master’s Thesis the assessment criteria are based on the EQF 7 level criteria. In an excellent thesis (grade 5) the topic is significant with regard to the development of the field and the theory and practical part of the research or project together form a clear and logical entirety. In an excellent thesis, the reliability of the results and suitability of the methods (validity) have been dealt with. In an excellent project, commendable expertise has been shown, and methods used and results have been assessed.

If the supervisor suggests either grade 1 (pass) or 5 (excellent), another examiner will have to read the thesis as well. The assessment criteria for a Master’s Thesis can be found in the appendix (Appendix 3) and on VAMK’s webpages under Thesis/Master’s Thesis assessment criteria.

# references

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Digh, P. 2009. One pedagogical style does not fit all. Education Magazine 47, 11, 79-81. Accessed 22.10.2016. http://proquest.umi.com/pqdweb?index=1

European Commission 2016. Learning Opportunities and Qualifications in Europe. Accessed 22.10.2016. https://ec.europa.eu/ploteus/search/site?f%5B0%5D=im\_field\_entity\_type%3A97

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**Thesis passport** (to be given to the supervisor for filing after the thesis is finished).

Name of student \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Group \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Contact information\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Topic of thesis \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Client \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

At latest Date Signature

1. Introduction to thesis and related assignments completed

\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Approval of topic \_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Thesis plan approved \_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Interim seminar presentation held \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Contents of thesis approved \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Layout and language approved \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Abstract in foreign language accepted \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. Thesis submitted to the opponent \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. Participation in presentation seminars

- excluding acting as an opponent and own presentation

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Presentation of own thesis held \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Acting as an opponent (title/student)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Maturity test accepted \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Written version of the thesis submitted to the supervisor \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. I hereby assure that I saved my thesis in electronic form into the Theseus at the address

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Address Signature of the student

Table 3. Thesis Assessment Criteria

|  | **Excellent (5) - Very good (4)** | **Good (3)** | **Satisfactory (2) - Passable (1)** | **Fail 0** |
| --- | --- | --- | --- | --- |
| **Choice of topic** | The topic is significant and current with regard to  developing the field of study. The topic meets the need of the client from the working life. With respect to the choice of topic, the student is able to question and justify the development needs in his/her field of study. The topic is, from the point of view student's professional knowledge, skills and qualifications, innovative and opens up new perspectives in working life. | The topic meets the needs of the client. With respect to the choice of topic, the student has an understanding of the development needs in his/her field of study and is able to analyse them and present them in logically. The topic develops the student's professional knowledge, skills and qualifications and is challenging | With respect to the choice of topic, the student recognises the development needs in the field. The topic corresponds to the student's professional knowledge, skills and qualifications. The topic develops the student's knowledge and skills, and the student is able to justify in what way | The choice of the topic is not based on the proven needs of the working life nor to the development of the field of study. The minimum requirements of Polytechnic Degree (EQF 6) are not me |
| **Knowledge basis** | The student has built up the knowledge basis of selected diverse sources that are relevant to the topic. S/he is able to make syntheses and draw conclusions logically based on the material. The student uses and defines the concepts in a diverse way and with the thesis creates new usable theory in the field. | The student recognises the phenomenon/topic showing expertise in the field. The use and definition of concepts is analytical and justified. The student has built up a wide knowledge basis using reliable sources. The student defines the phenomena critically, diversely and creating new perspectives. | The student's acquaintance with the topic is good but narrow. A more wide approach would be needed in the understanding and definition of concepts. The knowledge basis is narrow. The use of sources is wide but making syntheses and analyses and drawing conclusions based on the sources has proved out to be difficult. | The knowledge basis is incomplete, narrow and invalid. The minimum requirements of Polytechnic Degree (EQF 6) are not met. |
| **Implementation** | The student finds the essential questions of the topic/problem in a creative way and restricts the problems in a justified and logical way. The student has found the appropriate methods to approach the topic and manages them well. The student's expertise can be seen in the process as well as the sharing of the expertise with the co- operation partners. The student assesses his/her work process analytically and shows a capability to develop. | The student recognises the essential questions regarding the topic and restricts the problem successfully with regard to the topic and the requirements of the thesis. The student uses methods appropriate to the topic and shows that s/he manages them. The student works autonomously but is also able to do constructive co-operation with other parties. The schedule and work process is managed. The student's approach to the thesis shows initiative, development ability and reflection. | The student recognises relevant questions regarding the topic/problem but the restriction of the problem is vague. The methods applied are conventional and their management according to the given model. Keeping the schedule and following the plan is difficult. The student finishes the thesis in accordance with the objectives and showing expertise. | The approach is clearly insufficient and the thesis is not finished in the agreed schedule or at all in spite of instructions and guidance. The knowledge basis, methods and implementation do not have valid connection. The minimum requirements of Polytechnic Degree (EQF 6) are not met. |
| **Analysis and discussion of results** | The results show expertise that is interesting from the viewpoint of the development in the field. The student is able to analyse complex problems, utilising the knowledge basis, in a new way and make a feasible application out of the results serving the working life (new perspective, innovation, advancement of the field). The student is able to form a clear opinion and a model of further action and development needs in the field and to justify them. | The student is able to apply wide knowledge basis successfully in solving the problem in the field of specialisation. The student is able to critically view the results, theories and methods used. The student is able to apply the results and suggest further action relevant to the working life and the field. S/he is able to define the development needs concerning knowledge and skills in the field. | The results of the thesis meet the objectives on most parts. The student is able to view the results critically and assess his/her own skills and expertise with respect to the objectives but superficially. The student is able to suggest further action and development, meeting the basic requirements regarding the skills and knowledge in the field. | The results do not have any relation to the problem, theory or methods. The results cannot be applied to develop professional practices. The critical assessment of the results is insufficient.  The minimum requirements of Polytechnic Degree (EQF 6) are not met. |
| **Reporting** | The report shows interesting expertise with regard to the development of the field. The report shows excellent mastery of the language and it conveys the student's thinking clearly and in a logical and illustrative way. The language is flawless and business style. The oral presentation is convincing and brings up the student's expertise well. | The student is able to present the results and conclusions analytically, illustratively and with good reasoning. S/he can communicate the results successfully to various interest groups showing critical thinking developing expertise. The language is flawless and business style. The oral presentation is illustrative and directed to the target group | The student follows the reposting instruction issued by the UAS. The report is structured and the language fairly good business style. The oral presentation is structured and concentrates on the presentation of the contents. | The reporting instructions have not been followed. There are flaws in the language and structure. Plagiarism can be detected in the report. The minimum requirements of Polytechnic Degree (EQF 6) are not met |