To Carry-Out One’s Masters Work

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1.0 Study Handbook

In the study handbook it says among other things to read:

“… In the masters work the student shall show the ability to apply concepts learned in his/her studies. The problem and its solution shall be treated and presented in a scientific manner. The masters work shall include an in-depth study of or new creations in the area. … The audience for the report are technologists near their engineering degree exam.”

Remaining general information about the masters work is mostly practical. In addition one finds one or two sentences about what a master thesis means for every department.

2.0 Interpretation

2.1 Introduction

This document contains the demands and expectations that the college places on the masters work. You can hand this paper to your supervisor in industry so that there is no misunderstanding of what is the college aim and what the college demands for your work to be approved as masters work. It is hoped that you will not be squeezed between the aim of the college and the eventual interest of the industry.

The ambition with this document is that it shall be applicable for all master theses written in the department, which means that it is important that the text below is interpreted with the thesis and the problem faced as a starting point.

2.2 Masters Work Common

A master thesis is written by one or two students at a department or a company in which case it is supervised by both the department and company. The supervisor at the department is always responsible for approving the thesis. Therefore it is important that the supervisor from the department is given the opportunity to continuously follow the work.

The thesis is part of the student’s education and shall not be confused with an internship. This means that there are certain educational requirements that must be fulfilled for the work to be approved as a thesis. The overall goal is that the student shall carry out a relatively big and independent work with the support of a supervisor. A normal master thesis examines or answers a specific problem, which means that the implementation of a beforehand made design is not considered appropriate. The thesis shall have the characteristics of an examination, which may
lead to an implementation, and it shall be performed in a systematical way. This means the student shall show that he/she can work in an engineering way.

2.3 Work Process

The following three major elements can be identified in the work:

1. Reading
   The student is expected to read up on the subject and be able to present the subject in such a way that fellow students can understand it.

2. Evaluation
   The student shall evaluate the given problem, presenting alternative solutions and present pros and cons with the different solutions.

3. Implementation
   When having decided a solution the student shall prove that the solution can be used. This can be done in several ways: implementation, description of a method or by describing an example.

2.4 Report

The target group for the report is fellow students. This means that the thesis shall not be written for the supervisor. It is important that the report is written throughout the project to make the supervision work better. The supervisor must be given opportunities to comment on the work in progress.

If there are quotes in the text the source of the quote shall be properly stated. To get the thesis approved the student may not plagiarize text from other authors. Another important aspect is when something is claimed there must be evidence that this is true, either by proving it or by referencing to a proof.

The report can be divided into six parts:

1. Introduction
   The summary shall be described with the students own words and there shall be references to the literature that was read to obtain knowledge about the subject. The student shall formulate the problem and motivate the work.
   Educational goal: The student shall show that he/she can profit from technical literature and has the ability to summarize this information.

2. Available methods
   The student shall show that he/she can identify and describe different solutions to the problem.
   Educational goal: The student shall show that he/she has the ability to design different solutions to the problem and can argue why a specific solution is the best.
3. Solution
   The solution that was considered best shall be described. It can be a method, an algorithm, an implementation, etc.
   Educational goal: The student shall show that the suggested solution is correct and viable.

4. Conclusions and future work
   Finally, the student shall be able to summarize the work and point out the most important aspects of the project. It is also valuable if the student can present appropriate future work or problems that are still to be solved within the area.
   Educational goal: The student shall be able to summarize the work done.

5. References
   The report shall contain references to the literature that underlies the work done. The thesis shall contain references to literature in the bibliography. This means that the bibliography shall only contain books and articles used in the text.
   Educational goal: The student shall show that he/she has used available literature in a scientific and engineering way.

6. Appendix
   The purpose of appendix is to be a complementary reference material to the main thesis. For example the thesis can refer to a complete user’s manual in an appendix. This allows the reader to control and study details of the work if he has the time and interest.

   The profits of writing a thesis in the industry are obvious, but the thesis is still approved by the department. It is important that both the student and the company respect the different roles, responsibilities and objectives and that the company that specifies the thesis is aware of the above.

   When writing the thesis at the department it is suitable that the work is done together with the assigned supervisor.