



Final Project / Thesis Graduation Guide PSTS

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Introduction

This guide intends to identify the steps that students need to complete before graduating. Formal requirements and procedures are mentioned alongside practical tips. In addition, this document aims to guide students through each phase of the final project process and answer the most frequently asked questions.

In case of conflict, no rights can be derived from this guide. For such matters, you need to turn to the *Student Charter, Education and Examination Regulations*, and in particular the PSTS Appendices.

See <http://www.utwente.nl/psts/master/regulations-documents/>

On behalf of the PSTS staff, we wish you success with your final thesis project. If you have any further questions, please do not hesitate to contact your profile co-ordinator.

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You can also download this Final Thesis Project Guide:

<http://www.utwente.nl/psts/master/graduation/>

1 Aim of the final thesis project

During the final semester of the programme the Final Thesis Project is scheduled. Students are expected to write a final thesis, applying – and reflecting on – philosophical, historical and sociological ideas that they have acquired during their PSTS programme.

In this section we list the objectives and final qualifications of the programme, which are central to completion of the final thesis.

NOTE:

IN LINE WITH THE PSTS PROGRAMME GUIDE AND THE EDUCATION AND EXAMINATION REGULATIONS (OER), PLEASE BE AWARE THAT STUDENTS ONLY MAY START THEIR FINAL THESIS PROJECT (READ: MASTERLAB-2) AND OR INTERNSHIP UPON HAVING COMPLETED SUCCESSFULLY 80 EC's OF ALL OTHER PSTS PROGRAMME'S COURSEWORK, WHERE, NEXT TO MASTERLAB-1, ALSO THE YEAR #1 COURSES "TECHNOLAB" (201400575) AND "PHILOLAB" (201400576) IN ANY CASE NEED TO BE COMPLETED.

In addition: Participating in Masterlab-1 is bound to the entry requirement of having completed at least 50 EC's from the year #1 courses, and in any case the courses "Technolab" (201400575) and "Philolab" (201400576).

1.1 Objectives of the MSc programme PSTS

The aim of the programme is to equip students with knowledge and skills in the domain of philosophy of technology, which includes the multidisciplinary subject area of science and technology studies (STS). Graduates who successfully complete the programme are able to conduct philosophical or philosophically-informed multidisciplinary analyses pertaining to the areas of technology, technical sciences and applied physical sciences, technological developments, and the relationship between technology and society. They possess sufficient knowledge and skills to participate in professional practices, for example as scientific researchers, R&D researchers, consultants, policymakers, educators, or designers. They are also able to independently carry out philosophical and/or multidisciplinary STS research and could be considered for a PhD. position.

1.2 Final qualifications of the MSc programme PSTS

Preamble

The PSTS programme has as its domain the philosophy of technology, which is a field that is concerned with the philosophical study of technology and its implications for and interactions with society. In the PSTS programme, the philosophy of technology is understood broadly as a field that includes, next to philosophical approaches, empirical and multidisciplinary approaches from the field of science, technology and innovation studies (STS).

Knowledge

- K1. Extensive knowledge of the philosophy of technology, including its philosophical and STS approaches, and the ability to relate these approaches to each other.
- K2. Good knowledge of the various philosophical subfields, including ethics of technology, social and political philosophy of technology, philosophical anthropology of technology, epistemology and metaphysics of technology, and philosophy and history of (engineering) science and technology.

- K3. Good knowledge of approaches and themes in STS.
- K4. Good knowledge of empirical research methods in STS and philosophical research methods.
- K5. A basic understanding of the relation between the philosophy of technology, including its various subfields, methods and history, to general philosophy, including its various subfields, methods and history.
- K6. Specialist knowledge of a sub-domain or specialised topic within the philosophy of technology (broadly defined).

Skills

- S1. Writing and verbal communication skills.
- S2. Skills in reasoning and arguing and in the analysis of arguments.
- S3. Skills in locating, reading and analysing scientific texts from various disciplines in philosophy and STS, as well as professional and popular texts, that reflect on technology, engineering sciences, technological developments, and the relationship between technology and society.
- S4. Skills in the identification and analysis of problems related to the role of technology and science in society, and the ability to formulate a position with regard to these problems from a philosophical and/or STS perspective.
- S5. The ability to perform original scientific research in the field of philosophy of technology, using philosophical and/or STS methods. This includes the ability to arrive at a well-considered problem formulation, the selection and development of appropriate theories and (empirical) methodologies, and the proper execution of a research plan.
- S6. Skills in the comparison of differing scientific approaches or paradigms in a sub-domain or specialised topic, the application of these approaches, and the ability to critically analyse them.
- S7. The ability to generate philosophical and/or STS research results that are relevant for scientific, technological, and/or social practices.
- S8. The capacity to communicate research results and solutions to colleagues, as well as professionals from other subject areas, and the ability to generate learning processes from that interaction.
- S9. Reflective capacity pertaining to one's own work, selecting or altering course, and the ability to translate learning trajectories into the development of more general knowledge and methods.
- S10. Capable to endeavour a career inside or outside of academia wherein philosophical and STS knowledge and skills are required.

2 Fundamentals of the Final Project / Thesis

Test or exercise?

The final thesis project is the programme's final learning experience, as well as the programme's final exam. It is a learning experience in which students develop themselves to the level of young academic researchers in the field of PSTS. This happens in the academic tradition of apprenticeship. Students work as young professionals, independently and courageously, exploiting all that they have learned, but not completely self-reliant or solo. They can rely on their co-ordinators and supervisor, who will guide them and supervise them. Their final product will be evaluated and graded by a graduation committee that is chaired by their supervisor. In this guide students can find detailed information about the final thesis project and the process of completing it.

Education or research?

The educational value of the thesis project is considered more important than the research itself. There is, however, no contradiction here and no choice to be made. Students demonstrate that they have attained the status of young professional academics in the process of their thesis project. Their work is graded on academic values such as comprehension of relevant theories, a sound problem setting, disciplined thinking and analysing, sound conclusions, good writing, initiative, perseverance, communication, presentation, and learning ability (see for details the assessment form in appendix D).

Timeframe

The final thesis should be completed in due period, i.e. the time needed to gain 20 EC's (short final thesis) or 30 EC's (regular final thesis). Both the student and the supervisor are responsible for ensuring that the thesis project progresses as planned, taking into account the quality of the research. Finishing (almost) all other courses before starting with the final thesis is pivotal for finishing the final thesis in due time.

Internal or external?

In most cases students complete their research within the department, but it is possible to do this externally (e.g. at a research facility or company). In such cases, students will need to discuss the possibilities with their profile co-ordinator. A necessary condition is that the external host is qualified for academic supervision and accepts co-supervision (and particularly the grading!) by a staff member from PSTS. Especially if students plan to go abroad, it is wise to start the preparation early, which is at least six months in advance.

Internship possibilities

It might be possible to do a brief internship (10 EC's) (not in the PhD track Ethics and Technology). The internship's objective is to facilitate an orientation on the professional field. The internship also takes place in the second semester of the second year. Preferably (but not obligatory) it is related to the envisaged Master's Thesis project. When the internship is completely integrated in the Master's Thesis project it is considered as an external graduation project.

2.1 Milestones along the road to graduation

The process of final project completion is outlined in the following table, which identifies the different phases and formal procedures. The student's progression is marked by **three milestone forms**, which need to be handed in at the PSTS Educational Affairs Office, located in Ravelijn 3284. Students can find these forms in the appendices A, B and C of this programme guide, and on the website <https://www.utwente.nl/psts/master/graduation/>. In this chapter the different phases will be discussed and some tips and tricks will be given that could help to realise them.

Period	Activity	Result	Milestone
Year #1			
End of Year 1	<ul style="list-style-type: none"> Explore specialisation tracks in the 2nd year 	<ul style="list-style-type: none"> Choose a profile 	<ul style="list-style-type: none"> Deadline for choice profile: ultimately June 1 Hand in Milestone 1 (Appendix A)
Year #2			
Semester 1 General structure: <ul style="list-style-type: none"> 3 profile courses 2 electives MasterLab 1 	<ul style="list-style-type: none"> Explore thesis subjects Meet potential supervisors Literature research and analysis Write thesis proposal Plan the final thesis process 	<ul style="list-style-type: none"> Approved thesis proposal Supervisor Graduation Committee 	<ul style="list-style-type: none"> Hand in Milestone 2 (Appendix B) Deadline Final Project Contract and Study Plan: February 1
Semester 2 General structure: <ul style="list-style-type: none"> MasterLab 2 Regular meetings with supervisor Green light meeting Graduation 	<ul style="list-style-type: none"> Literature research and analysis and/or empirical work and analysis. Work on thesis: writing and rewriting Be aware of the assessment criteria (Appendix D) 	<ul style="list-style-type: none"> Approved thesis Oral examination Public defence of final thesis 	<ul style="list-style-type: none"> Hand in Milestone 3 (Appendix C): Deadline graduation request: at least 15 working days before envisaged graduation

2.2 Before the final thesis project

Choosing a profile

Starting the final project is only possible if students have completed all their first year courses and (almost) all their second year courses. The topic of the final project should fit the selected profile. The curriculum in the second year prepares students for their final thesis by enabling them to specialise within a particular profile.

Study abroad

Students may do part of their programme at a university in another country. Depending on the profile they choose, students might be able to study in one of our associated universities (i.e. Erasmus partners). It is possible to take courses at another university and also to complete the final project there. However, going abroad requires a lot of planning. Besides personal arrangements such as visa,

housing and finances, it is also important that there is someone available that is willing and capable to supervise students at the university of their choice, and that the courses, in terms of contents and level, comply with the PSTS standards and requirements (to be assessed by the Examination Board).

If you would like to go abroad, it is required to discuss your ambitions timely with the programme's study counsellor as well as with the appropriate profile co-ordinator. Timely means: in the fourth quarter of the first year (that is before the summer holidays!). As said, students need approval from the Examination Board to incorporate courses that are not standard in their programme.

After the Examination Board has granted permission and the courses abroad have been completed, students should ensure to supply the University of Twente with an official transcript of records (ToR) that states the course code and title of the course(s), the study load in EC's; grades or marks (preferably according to ECTS standards) and the signature of the local examiner or institution stamp. The ToR should be submitted at the PSTS Educational Affairs Office (EAO).

Attending Colloquia

PSTS students have to attend colloquia at the departments of Philosophy and/or STePS, as well as PSTS graduation colloquia, as part of their academic training. This is compulsory throughout the whole programme. Students have to attend at least four colloquia in the first year and four in the second year. Attendance is monitored and registered. Students have to sign the attendance form at the colloquium. **Students need to make sure that they can prove attendance.** They can obtain registration/attendance forms at the PSTS EAO (Ravelijn 3284).

Note: the PSTS-EAO will track record of the attendance at colloquia.

2.3 Preparing the final project

Normally students have to make sure that they have completed (almost) all their courses of the first and second year (at least 80EC's, including TechnoLab, PhiloLab, and MasterLab 1) in order to start their final project. In exceptional situations students could be allowed to start their final project before they have finished all their second year courses. This is dependent on planning and progression conditions and can only be allowed by the profile co-ordinator in consultation with the programme director and the final project supervisor.

The profile co-ordinator has insight in the range of possible graduation topics within a profile and he/she can suggest possible supervisors who could assist the students in finding an appropriate topic. It is also important to use the context of the courses in the profile and MasterLab 1 to explore options, subjects and methods.

Choice of subject and supervisor

In this phase students are expected to be active and take initiative. Although in MasterLab 1 students will be assisted in exploring possible graduation fields, they can, for example, arrange an additional meeting with a profile co-ordinator to discuss their interests and possible supervisors. It is also possible that a lecturer is working on research that fits their interests and might be able to suggest relevant themes.

How to find a thesis topic?

- Students built on the courses that they have been taken in combination with their particular interests, and find a suitable topic.
- Lecturers do their research within the framework of the research programme of their departments. A student can ask them to help them find a (specific) assignment that is part of those research activities.

- Students can try to relate their final project close to their own professional background and setting (if applicable). This option needs to be discussed with the profile co-ordinator and supervisor.
- Students inquire at the programme staff or lecturers about possibilities of doing their final assignment within a relevant (research) institute.

The meetings with the supervisors should also be used to discuss a realistic planning. For both the student and the supervisor it is important to know in advance what they can expect from each other. If the student, for example has a part-time job, this should be taken into account in the time frame.

Students need to choose a supervisor, but sometimes s/he might not be able to supervise them. It is possible that the supervisor feels that s/he does not have enough knowledge about that specific subject to guide you. Perhaps the time schedules are so different that it is difficult to plan meetings. It is also possible that the lecturer is already supervising several students and does not have the time to supervise yet another student. The supervisor can, therefore, choose to refuse a project.

After one or more discussions with a profile co-ordinator and lecturers, students should be able to pick a final project topic and a suitable lecturer can then become a supervisor. If any doubts remain, students can schedule a new meeting with the profile co-ordinator or a lecturer. After students have chosen a supervisor, they will need to inform the other possible supervisors they have approached about their decision.

Subsequently students will need to compose a final project programme and time frame. This includes literature study, writing a thesis proposal, further research and actual writing of the thesis. The formalisation of the final project process is done by filling in the appropriate form (*Milestone 2, appendix B*) and letting the concerned profile co-ordinator sign the form before the end of the second quarter in the context of MasterLab 1. The student is responsible to submit the filled-in and signed form before the end of MasterLab 1 at the PSTS Educational Affairs Office.

Second reader/examiner

Together with their supervisor, students discuss the choice for a second reader. The second reader is assigned before students start their final thesis project. The second reader has a different status than the supervisor. The supervisor is responsible for the 'daily supervision' and comments on every aspect of the thesis. The second reader is in collaboration with the supervisor involved in the thesis project in three moments: 1) s/he has to co-approve the research question of the thesis; 2) s/he has to co-evaluate if the thesis is good enough for green light; 3) s/he has to co-grade the final thesis. The second reader is not a supervisor but a neutral and independent assessor.

Tips for choosing an assignment and supervisor

1. Keep in touch with your potential supervisors.

When you have talked to one or more lecturers about a possible assignment, it is important to keep in touch regularly and to make clear which lecturer you would like to have as a supervisor. If you encounter delay and you would like to start your project at a later stage, you need to inform your supervisor about the new timeframe of the project.

2. Choose an assignment that you would like to work on over a longer period.

Every day for half a year, you have to work on your final project. To keep-up your motivation it will help if you have chosen a subject that is appealing very much.

3. Choose a supervisor that you can get along with.

First and foremost it is important that your supervisor can is able and willing to supervise your envisaged project. The topic should therefore fit his/her expertise. In addition, it is important to choose a supervisor who you can relate to. Since styles of supervision may differ, you could ask lecturers about their personal styles of supervision.

4. Choose a supervisor who has time for you and relates to your subject.

*It is sensible to discuss your supervisor's availability and the preferred frequency of contact. **A supervisor typically may spend max. 40 hours on a 30 EC's final project; the 2nd reader/examiner max. 10 hours. For a shortened (20 EC's) final project, the supervisor may spend max. 25 hours, and the 2nd reader/examiner max. 7 hours.** Freedom of choice in subject is also important, but you have to realise that sometimes it might be difficult to find a suitable supervisor for your particular interests. In such cases you need to discuss your options with your profile co-ordinator.*

Assessment of the ethical permissibility of the proposed research

In case a Final Project involves the usage of human test subjects the student has to submit the research proposal to the Faculty's Ethics Committee.

The student has to discuss and decide in close collaboration with the project's supervisor whether this is the case.

Full information on the (web-based!) procedure can be obtained from the following webpages:

- <http://www.utwente.nl/organisatie/structuur/faculteiten/bms/onderzoek/ethiek/>
(in Dutch), and
- <http://www.utwente.nl/en/organization/structure/faculties/bms/research/ethics/>
(in English)

On that website you will find all rules and regulations in this regard.

In any case, this seeking for approval (if applicable) has to be done prior to the actual start of the Final Project.

Publication and confidentiality of thesis

According to standard procedures the student will upload the thesis for non-confidential publication after graduation. In case the organisation where the student conducts the final project insists on deviating from this public archiving of the thesis, the student must mark this on Appendix B-Milestone 2 and submit a request for changing this public status into "confidential" to the Examination Board.

Note: it may occur that during the process, the supervisor indicates that the content of the student's thesis has the potential to be published in a (scientific) journal. In that case, the student needs to discuss with the supervisor to postpone the uploading to the UT repository (<https://essay.utwente.nl/>)

2.4 Literature study

A literature study starts with searching for and selecting appropriate literature. The supervisor is well informed about the literature in the students' field of research but has not always read everything about their specific research topic.

Because students need to situate their topic in a historical context, it is often good to first read about the general field of research before focusing on the very specific literature. The supervisor can help by pointing out particular books or scientific articles. Naturally, students should also search for literature themselves. There are several places where they can do this:

- The library: the University Library. Website: <https://www.utwente.nl/lisa/en/>. It is possible that the University Library does not hold a book. In that case the database *Picarta* (www.picarta.nl) can indicate if the book is available in another Dutch university library. The book can then be ordered using a so-called *IBL account* and will be sent to the UT. In consultation with the supervisor students can request this book via the supervisor's department in order to avoid associated costs. The library also offers e-journals that contain relevant articles.
- The internet: Note that, for example, Wikipedia articles may not be adequate references. However, they can serve as an entry to other sources. Google Scholar (<http://scholar.google.nl/>) is a useful programme to find scientific articles and books.
- The bookshop: sometimes it might be best to purchase a book that you plan to use intensively. The advantage is that you can add remarks and make notes in the book.
- Fellow students: fellow students might have good tips. Sometimes they might have books about the inquired subject that can be borrowed.

Once students have found the first few useful books or articles, it often becomes easier to advance their search using the bibliography and references. Also (inquire after the library staff) the use of citation indexes can be considered. Together with their supervisor students can make a selection of the literature that they need to read. When selecting, students need to pay close attention to the background of the writer, the context of the book (why is it written?) and the references that the writer draws on.

It is always preferred to read a book in the language in which it was written. Translations may come with subtle (or less subtle) changes of meaning. If students are not able to read a book in its original language, they need to consult their supervisor about which translation they should read. Also the internet could provide reviews of translations.

When students have made a selection of the literature, it is wise to make a schedule. Setting deadlines can help to maintain some speed and prevent becoming 'stuck' in a book. Because reading 40 hours a week is almost impossible to achieve, it is important to find a good balance between searching, reading, writing and discussing.

It is really important to read systematically: only read what you need to read and don't read (very thoroughly) what is not or less relevant. Students should also prevent reading without really processing the information. They need to ask themselves what they want to accomplish before they start studying a book and make notes! There are multiple ways to do this:

- Keep a logbook with notes;
- Underline fragments in the text and add remarks on the sides of the pages in order to quickly find important fragments;
- Make excerpts of articles and books.

Every student has his/her own preferences. Discover what way is best for you and discuss it with your supervisor at an early stage.

Tips for the literature study

1. Do not just read, also write.

When you only collect more and more literature and do not write down what this information has to do with your problem, chances are that you will find it difficult to tackle your problem. It is often easier to structure thoughts in the process of writing. Furthermore, while writing, you can formulate new questions that can help you to grasp the problem and think up new questions for further research.

2. Talk to others.

Especially in this phase, it is important to talk to others. Similar to writing, talking to others can help to structure your thoughts and find out which presuppositions might have been wrong. It may generate new ideas. MasterLab 2 will also offer you a platform to discuss their ideas.

3. Make excerpts and notes of the literature.

Since you will read a lot of articles and books, it is helpful to make excerpts and notes, including why you think that this specific article or book is useful for you. Make notes of strong and weak points in a text and problems you have with the text. Also make clear what parts you can or cannot use. Questions that you have about a text can often be used as a starting point of a discussion with your supervisor.

2.5 Writing a thesis proposal

Once students have proceeded some way with their literature study they should have enough basic knowledge to formulate a final project proposal. Based on this proposal and their progress in the remainder of the curriculum, their supervisor will decide whether they can start with their final project. The final project proposal is written in the context of MasterLab 1, where students have the opportunity to present and discuss ideas and drafts for their thesis topic. The matured draft is discussed with the supervisor and, if necessary, improved by the student. Once students have completed this phase, they arrive at Milestone 2 (see appendix B).

Structure of the final project proposal

Good proposals have often the following structure:

1. Introduction (1-1½ pages).
The introduction introduces the topic of the thesis and sketches the background conditions that have prompted the problem statement.
2. Problem statement (½ - 1 page)
A clearly formulated research problem with related key questions that could be satisfactorily investigated in the time that is available for the thesis. Usually, the thesis has one main research question, which is then divided up into a number of sub-questions that, when answered individually, jointly answer the main question.
3. Thesis outline in the form of a preliminary table of contents which lists titles and brief descriptions of the chapters (1-1½ pages).
4. Philosophical justification (½ page).
An account of the philosophical questions and methods in the treatment of the problem ("What is philosophical about the problem and what philosophical methods are used?").
5. Scientific/technological justification (½ page).
An account of the scientific or technological domain that is involved in the problem.
6. Bibliography (1 page).
An overview of research works that are consulted and will be consulted for the thesis.

7. Time schedule (½ page).
A timeline which contains an inventory of research tasks for the thesis and dates by which the tasks will be completed.
8. Composition of the graduation committee (½ page)
The members of the committee (usually the first supervisor and the second reader).

Four important criteria for a good final project proposal are:

- It should have a clearly visible scientific or technological component (it is not a purely philosophical thesis!).
- The main research question and sub-questions and the approach should be clear
- The relevance of the research should be clear
- The main research question and sub-questions should be adequately specific for a project to be completed in five months.

Tips for writing a thesis proposal

1. Start on time!
A good final project proposal usually has several versions that precede it. Beginning early helps you to formulate your thoughts at an early stage. After you have handed in your draft, it will be easier for the supervisor to help you further.
2. Be as concrete and clear as possible.
In your final project proposal you present the research you want to conduct and the research question(s) that you would like to answer. When you can explain this in a concrete and clear manner, it becomes much easier for your supervisor to judge whether the proposed research question is feasible. Furthermore, if you write in a concrete and clear manner, it becomes easier to discover presuppositions and tackle possible problems.
4. Do not be afraid to make choices.
Doing scientific research requires making choices, especially in the process of formulating your problem statement. In the research question(s) you will describe what exactly you would like to investigate. To obtain a point of focus you will need to draw boundaries between what you will and what you will not investigate. There are often multiple ways of approaching a subject. It is usually not a choice between what is right or wrong. You need to be able to defend your choices. Making choices at an early stage prevents you from reading too much general literature and allows you to focus on more specific books and articles.
3. Discuss your problem statement and adjacent research question(s) with others.
If you can explain your research question(s) to an outsider, the chances increase that you are on the right track. It often indicates that a question is relevant and important enough for investigation. If an outsider doesn't know what you are talking about, this of course does not have to suggest that your question isn't any good!

2.6 Writing a final thesis

The final thesis has to be written in approx. twenty weeks. In the beginning this may seem like more than enough time; however, it rarely is. Students should bear in mind that a final thesis project will require a lot of iterations before the desired results are achieved. Before the final version of the thesis is completed, there probably will have been several versions of it. Students need to start writing on time and realise that they really will need the approx. 20 weeks to finish it. A good and realistic scheme with

soft and hard deadlines is pivotal for achieving the desired results. In this way students structure their activities and force themselves to make choices. A good study plan helps to make the graduation process more concrete.

Tips for writing the thesis

1. Before starting writing, make an outline of the chapters and paragraphs that should be included in your thesis.
Your final project proposal contains a thesis outline. Determine continuously if your outline is still adequate. Your thesis needs to have a clear structure. A house is also not built without an architect's detailed drawing. Such a framework should contain the topics of the different chapters, sections and paragraphs in a logical order. Be at the same time flexible and make necessary adjustments: an outline helps you to structure your thesis but should not hinder your research process.
2. Kill your darlings.
Sometimes you will have to chuck out entire pages of your thesis and start writing all over again. Often this may prove to be more fruitful than trying to tweak a text over and over again.
3. Do not forget the relation between what you are writing and your problem statement and research question(s).
At the beginning things are not always clear. However, after a while, you should have a clear idea about the direction you want to pursue. You will always keep adjusting little things in your thesis, but keep asking yourself: what am I working towards and am I doing that right now?
4. Read large amounts of text on paper.
Although it is not good for the environment and it costs you money, text on paper sometimes reads easier than on screen and, more importantly, helps to spot mistakes and spelling errors that you often do not see on a screen.
5. Use a good system of annotations.
Do not write your notes on loose papers but use a notebook (paper or digital). Furthermore, keep a register of topics and literature references. It is impossible to remember everything that you have read in detail. When you need that specific quote that seemed to fit so well in your text, you will be thankful for having documented it. Programmes such as Endnote are valuable tools for documenting references. Making excerpts also helps a lot when you need to find something that you have read somewhere. If you do this electronically (preferably with the original page numbers of the book added), you can easily search for words and phrases. This can be very handy for finding relevant quotes!
6. The books that you have bought and read during your study will not suffice for your thesis.
The electronic journals of the University Library are a fantastic source of knowledge. Use them. The same goes for Google Scholar, the Social Sciences Citation Index, the Philosopher's Index, Routledge and Wikipedia.
Tip: if you cannot access an article, try to Google the title. Many authors post their articles on their websites.

7. Take into account the style of your references and the lay-out of your whole thesis.
Standardising this early in the process may prevent lots of burdensome work later on. Although different styles of references are used in the academic world, APA is very common and recommended. For the lay-out of the thesis, there are no official requirements. Use an adequate font (not too big or small, readable) and a line spacing of at least 1.5. Browsing other theses for their lay-out may be helpful to discover what you would prefer.

8. Be disciplined.
If there are other things that require your attention (a job, the last couple of courses that you need to complete, other courses that you are taking, private circumstances, etc.), try to estimate how much time you have to spend on these matters. Most supervisors will accept that you sometimes cannot work full-time on your thesis, as long as it is clear what they can expect. If you have a job that takes up 15 hours, make sure that you can work the other 25 hours on your final thesis project. Consider the final project as a full-time job of (at least) 40 hours per week, with the responsibilities that come with it. Most students work best in a regular rhythm, for example from 9 to 5. Your final project is very demanding and make sure that you spend enough time on it.

9. Make sure that the following information is on the cover page of your thesis:
 - Title (and sub-title)
 - Full name student
 - Qualification (Master thesis)
 - Institution (University of Twente, Faculty of Behavioural, Management, and Social Sciences, Enschede, the Netherlands)
 - Date
 - Full name supervisor and second reader/examiner
 - Programme (MSc Philosophy of Science, Technology, and Society - PSTS)

2.7 Oral examination and graduation colloquium (i.e. public presentation)

Students complete the process of graduation with an oral examination and a graduation colloquium. During the oral examination the graduation committee will ask questions about or related to the thesis (about the premises, the student's understanding of the literature, the way the student has formulated and answered the research question, etc.). Students need to remember that they have worked on their final project for half a year, and that they are considered to be (to a certain degree) experts on their topic. Often questions will, however, not address what students have already answered in their thesis. "Why did you include this?" and "Have you considered that?" are typical questions that students can expect. Be assured that the oral examination is not an inquisition. It is, however, an exam and an important part of the process where ideas and decisions are evaluated. The oral examination will last approximately 45 minutes and is not public.

The public presentation (the graduation colloquium) should last approximately 30 minutes, after which there is about 15-20 minutes left for the audience to ask questions. The graduation committee might also take part in the discussions or ask questions. It is important that the student's presentation meets the usual demands. If students use visual aids, they should make sure that they are clear and readable. It is smart to rehearse the presentation several times aloud (even if you think that you are an experienced speaker), so that you can talk fluently for 30 minutes. Students should not forget to introduce the graduation committee before they start their presentation (if the first supervisor has not already done so).

During your presentation you will present the topic of your final project to a broader audience. Make sure that your presentation is clearly structured and contains the most important elements and results. Often you will not have time to discuss (not very important) details. Furthermore, if you want to make sure that the audience is able to fully grasp what you have been working on, it is advisable to keep your presentation simple and to the point.

After the presentation and the questions of the audience, the committee will leave for a few minutes to evaluate how it went. After they have come to a conclusion, students will receive their grade and appropriate certificates. Although the grade is to a great extent determined by the quality of the thesis, the oral examination and the graduation colloquium are part of the examination and can play a significant role: if members of the committee do not agree with some of the choices that a student have made in their thesis, students might be able to properly defend it orally. Next to the quality of the thesis, factors such as working attitude and style of writing can also be considered.

In chapter 4 of this guide, the examination of the final project is discussed in detail.

Finally, do not forget to arrange a nice drink after the colloquium!

3 Supervision

The supervisor and second reader (read: the examiner) form the graduation committee. It is also possible to have a second supervisor. The graduation committee will meet at least three times during the final project: at the start, in the middle and at the end (green light and graduation). This chapter focuses on the interaction between supervisor and student because the contact with the supervisor has the greatest influence on the content of the thesis and the process of completing the project.

3.1 The graduation committee

In the final thesis project, the role of the supervisor is embedded in a graduation committee. The graduation committee consists of at least the first two members, but can be extended.

1. the supervisor in the role of chair ;
2. a lecturer as the second reader, in the role of second examiner
3. a second and/or external supervisor (if applicable)
4. an external subject expert (if applicable)

The supervisor and second reader (examiner) are PSTS lecturers. In case of an external final thesis project, an external supervisor may be added as a member of the graduation committee. Besides these supervisor(s) and examiners, an external subject matter expert may be added or consulted. This external subject expert may be consulted to advice on a specific part of the research (often related to a specific technology or technological practice).

The student is coached by the supervisor on a regular basis. The supervisor and student meet frequently according to the agreement. They discuss the progression on the basis of text that is submitted earlier. The second reader is kept informed about the progress of the final project. The same procedure holds for the external supervisor and the external subject expert.

Before graduation the Examination Board verifies whether the student meets all requirements, including all the courses that are finished.

3.2 Mutual obligations between supervisor and student

The supervisor and the student have duties and responsibilities towards each other.

A supervisor:

- will judge whether the research can be done within the timeframe and whether the quality of the thesis is sufficient;
- will give directions;
- will supervise the literature study;
- will give constructive commentary on chapters and sections;
- will ensure that suitable progress is maintained;
- will stimulate and motivate;
- will evaluate results.

Although the supervisor needs to invest a lot of time in the final project, remember that he/she nominally only has max. 40 hours available for the entire process (the 2nd reader/examiner max. 10 hours). [For a shortened 20 EC's final project, the following time investment for supervision has to be taken into account: 25 resp. 7 hours].

Your supervisor can expect that you:

- will honour agreements/promises;
- will show initiative and do your best;
- will ensure that suitable progress is maintained

3.3 What should you discuss with your supervisor?

In the beginning

Important agreements should be set at the beginning of the final project. This reduces the chance for both parties that unpleasant surprises and misunderstandings will occur at a later stage. One of the first things students need to discuss with their supervisor is the frequency of the meetings. If a student spends 40 hours a week on the project, it would be advisable to meet once every two weeks.

Be clear on what the supervisor can expect from you. Are you able to spend 40 hours per week on researching or are there other activities that require your attention? Discuss how and when you can contact each other. For example, if you or your supervisor go on a holiday for a couple of weeks or attends a conference abroad, you should make sure whether (and how!) you can contact each other if required. Can you simply drop into the supervisor's office if you have a question or do you need to make an appointment? Can you contact him/her at home or not?

Further down the road

During the process of the final project you will have to set many appointments with your supervisor (do schedule and set these appointments in time!). Usually, before a meeting there will be a deadline for you to send in the necessary material for the supervisor to read. If you have been unable to meet the deadline, you should contact the supervisor who can then decide whether the meeting will continue or will be rescheduled. Before the end of the meeting you should make an appointment for the following meeting and set deadlines.

To put it very briefly: despite individual preferences and style, it is advised to have regular meetings, to plan pre-agreed deadlines for submitting paperwork, to keep record of supervisors comments, to have in-between assessments of the proceedings, and to plan ahead continuously. Be aware of delays, especially if you experience difficulties. Put any concerns immediately on the agenda for the next meeting, and try to work out a solution.

Do not forget meetings, do not ignore comments, do not hide or avoid difficulties.

Remain focused on your final project.

3.4 MasterLab 2

During the final thesis project, students attend the 2nd semester course MasterLab 2, which is taught by a PSTS teacher in close collaboration with the 3 profile co-ordinators. Students can enrol upon having completed in. 80 EC's of the year 1 and year 2 courses, including at least the courses TechnoLab, PhiloLab and MasterLab 1.

In MasterLab 2 students report on their progress and share advice with peer students on practical matters. Moreover, during each seminar, students present and discuss drafts of their work.

3.5 Conflict resolution

It might occur that a student has the feeling that s/he is not getting the kind of supervision that s/he expected or that things simply turn out to be different.

First, discuss possible problems with your supervisor, including problems related to the supervisor. Sometimes expressing problems is already part of the solution. Problems need to be discussed with your supervisor first before you involve other parties. If you have doubts about what steps you need to take in a specific case you could discuss your problem with the study counsellor Yvonne Luyten.

If there is a disagreement within the graduation committee about the quality of a student's work, the Examination Board can ask a third reader to give an independent verdict.

4 Examination of the final thesis project

The graduation phase really begins when the graduation committee accepts the final draft of the thesis and allows the student to request graduation: the so-called “green light” (Milestone 3). The criterion is that the draft (almost) fulfils all requirements. The green light meeting in which the graduation committee comes to this decision takes place at least three weeks before the planned graduation date. The graduation committee shows confidence in the capability of the student to deliver a thesis that matches the requirements according to the final evaluation of the committee.

Now a lot of actions have to be taken and the student should take initiative:

1. The student fills in the form *Milestone 3, Request for graduation* (see: Appendix C) and submits a printed final draft version of the thesis, a summary (see below) and a printed transcript of records from Osiris (in order to allow the supervisor whether the students meets all requirements, i.e. completed all coursework) to the graduation committee.
2. The summary must not exceed 800 words (1 A-4) and recapitulates:
 - a) The research question
 - b) The research method
 - c) The major results
 - d) Discussion
 - e) The major conclusions
3. The second reader assesses the final draft.
4. The supervisor (after having checked the transcript of records) signs the *Milestone 3, Request for Graduation* form that he/she received from the student.
5. In case the student would like to include extra-curricular courses on the transcript of records (courses that exceed the 120 EC of the standard PSTS programme) this has to be requested at the Examination Board, and communicated to the Educational Affairs Office.
6. The student submits the signed *Request for Graduation* form at the Educational Affairs Office at least 15 working days before the envisaged examination date.
7. The Examination Board approves the examination request by verifying the requirements.
8. This Educational Affairs Office sets the examination date and time, prepares the certificate, arranges the rooms (for the oral examination and graduate colloquium), and prepares the convocation on the Student Portal (Note: the transcript of records will be issued at a later stage, in practice a couple of weeks later. The Educational Affairs Office informs the student timely)
9. The student distributes the printed thesis (including appendices), one for each member of the graduation committee at least one week before graduation. Furthermore the student uploads the thesis to the UT Student Theses and UT Archive online <http://essay.utwente.nl/>. Besides the PSTS *Educational Affairs Office* receives two (2) digital copies: 1 in MS-Word and 1 in *.pdf format, ultimately 3 days before the colloquium takes place..

The graduation project is examined on aspects like the scientific quality of the work (thesis and project); creativity, level of own input, level of independency, working speed; quality of writing (thesis), and quality of the oral explanation of research (oral examination and colloquium).

The scientific quality

Has the research been performed in a proper manner?

The scientific quality will be judged upon:

- formulation of research problem;
- collection and application of literature;
- how the research is positioned in the scientific debate;

- the philosophical/STS approach that is used to answer the main question.

The level of own input and the level of independency

Although the product of the research is more important than the path towards it, it is taken into account if students:

- come up with their own ideas of how to approach a problem;
- ask critical questions;
- can handle and process criticisms;
- ask for help when required;
- stay in touch and prioritise progress.

The thesis

The thesis is the most important part of the graduation project and will be evaluated on the basis of the following criteria:

- structure of the thesis (structure of chapters, appendixes, footnotes, logical order of text);
- readability and accessibility;
- the way the thesis fits its goal and the audience for which it is written (level of difficulty, accuracy, completeness, density of information);
- discussion of results; conclusions and suggestions for further research;
- references.

Note: for all details on the assessment aspects of the Graduation project, see Appendix D)

Oral examination

During the oral examination students will be evaluated on the basis of the following criteria:

- being able to give a brief summary of the thesis
- adequately responding to critical questions and remarks on the set up of the research project
- adequately responding to critical questions and remarks on the observations and conclusion of the thesis
- being able to relate their research to knowledge and insights gained during the PSTS programme as a whole
- being engaged with the examiners in discussion on the validity of their observations and/or conclusions for other domains than the one they have focused on

Graduation Colloquium (public presentation)

Important aspects of the colloquium are:

- the outline of the presentation and the clarity of the structure during the entire presentation;
- the use of media; whether it is proper and functional;
- presentation skills; interaction with the audience, the quality of speech (audibility, tempo, intonation), ability to hold the attention of the audience;
- properly dealing with questions.

The graduation committee uses a standard assessment form listing all assessment aspects in detail, including the relevance (weight) of these aspects (see Appendix D).

Graduation with distinction / 'Cum Laude'

If upon sitting the Master's examination, the student has shown evidence of exceptional capability, 'cum laude' (with distinction") will be recorded on the degree certificate.

A student is considered to have exceptional capability if each of the following conditions is met:

- the average mark awarded for the units of study of the Master's examination (except the Final Project (read: master's thesis) is at least an 8,0;
- no unit of study was graded less than a 7, and this grade needs to be obtained at each course's first attempt [Exception: a student may re-sit for an exam or re-submit an assignment once when having obtained a 6 for that course at the first attempt;
- the mark for the Final Project (read: master's thesis) is at least a 9;
- the mark for the internship (if applicable) is at least an 8;
- in the determination of this average, the units of study which were not graded with a numerical mark or units of study for which an exemption was granted are not considered;
- the number of units of study for which no numerical mark has been given or for which exemption has been granted, spans max. 30 EC [In case the number of these non-numerically marked courses and/or exemptions exceeds 30 EC's, then the Examination Board has to evaluate whether graduation with distinction is possible];
- The length of study is maximal the nominal duration plus 25%.

In special cases and despite not fulfilling these conditions, a member of the Examination Board or the student's Graduation Committee is entitled to propose a "Cum Laude" award to the Examination Board. Besides, the Examination Board will only award a "Cum Laude" designation in case the Final Project has been completed under the supervision of and has been assessed by a faculty's examiner.

The rules applied by the Examination Board can be found in the Rules & Regulations of the Examination Board.

5 What to do after graduation?

Please return the questionnaire

We need your feedback on the PSTS programme, now from you as a graduate, looking back on your recent experiences in this programme. Please fill out the exit-questionnaire and return it to the PSTS Educational Affairs Office (Claudia van Dijken).

De-register and refund of tuition fees

De-register from the University of Twente by sending a written request to Student Services (they have standard forms for this procedure), starting the first month after the one in which you have done your final examination. Hand in your request within one month after graduation.

If you graduate before the end of the academic year, you can request a refund of tuition fees. The months July and August are not included so you can get a refund divided over 10 months. Refund of tuition fees will be executed after the Student Services desk has received an official date of graduation from the faculty.

If you have any doubts about the procedure you can contact the Student Services desk for further information (Vrijhof, room 236).

If you are a Dutch student and you make use of a public transport card (in Dutch: *OV-kaart*), make sure that you hand it in on time (within five working days after your right to the study finance or loan has ended).

Appendix A: Choosing a PSTS Profile (Milestone 1)

To be submitted at the Educational Affairs Office before 1 June

Family name: _____

Given name(s): _____

Student number: _____

I choose:

- Profile 1: Technology and the Human Being (Co-ordinator: Peter-Paul Verbeek)
- Profile 2: Technology and Values (Co-ordinator: Philip Brey)
- Profile 3: Dynamics of Science, Technology and Society (Co-ordinator: Kornelia Konrad)
- PhD track Ethics & Technology (E&T) (Co-ordinator Philip Brey)
(To register for the E&T track you should have successfully passed the application procedure; the deadline for applications is at the end of April!!)

The chosen elective courses are:

Course code	Course name	EC's

Please make an appointment with the co-ordinator of your profile at the beginning of the second year, to discuss your graduation trajectory (project, thesis).

If you plan to include an internship or a stay abroad in your profile, please contact your profile co-ordinator.

Student:	Signature:
Date:	
Submit before the 1st of June at the PSTS Educational Affairs Office (EAO) – Ravelijn 3284	

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Appendix B: Graduation Study Plan (Milestone 2)

To be submitted at the Educational Affairs Office before the end of the second quarter in the context of MasterLab 1

Family name: _____

Given name(s): _____

Student number: _____

Chosen Profile :

- Profile 1: Technology and the Human Being (Co-ordinator: Peter-Paul Verbeek)
- Profile 2: Technology and Values (Co-ordinator: Philip Brey)
- Profile 3: Dynamics of Science, Technology and Society (Co-ordinator: Kornelia Konrad)
- PhD track Ethics & Technology (E&T) (Co-ordinator Philip Brey)

Courses to be completed:

Course Code	Course name	ECTS credits	(planned) date of completion
	Total		

Number of attended colloquia	
-------------------------------------	--

Title Final Project:

Short description (“what, why, where”):

External assignment (if applicable):

Name company/institution:		
Address:		
External supervisor (and phone number):		
Graduation Committee:		
Chair and Supervisor:		
2 nd reader:		
External supervisor (if applicable):		
External subject expert (if applicable):		
Period:		
Start:	(month - year)	
Expected duration :	(in months)	
If applicable, please mention the period when you will be abroad for final project work:		
Supervisor/Chair:	Signature:	Date:
2 nd reader:	Signature:	Date:
External supervisor (if applicable):	Signature:	Date:
External subject expert (if applicable):	Signature:	Date:
Student's signature:		Date:

- All courses have to be completed and passed and the required number of attended colloquia must be registered before you can start your final project.
If this is not the case, you have to contact the study counsellor Yvonne Luyten-de Thouars.
Print a Study Progress Review stating your academic achievement
- Attach the thesis proposal and a transcript of records and submit to the profile co-ordinator for approval.
- After signing the contract the student has to submit the **original copy** of this contract to the EAO PSTS (Claudia van Dijken).

Note: According to standard procedure you will upload your thesis for non-confidential publication after graduation. In case the organisation where you conduct your final project insists on deviating from this public archiving of the thesis, you must submit a request for changing this public status into "confidential" to the Examination Board.

The thesis must be handled confidential:

- No Yes, and I will submit a request to the Examination Board

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Appendix C: Graduation Request (Milestone 3)

To be submitted to the Educational Affairs Office at least 3 weeks before envisaged graduation date.

Family name: _____ Student number _____

Given name(s): _____

Address after Graduation: _____ (street)
 _____ (postal code/city)
 _____ (country)

Phone number: _____

The Graduation Committee declares that:

- The student passed all requirements but the thesis (check study progress report)
- The final project is ready to request for graduation.

Name Supervisor: _____ Signature _____

Name 2nd reader: _____ Signature _____

Name External member (if applicable): _____ Signature _____

Title of the graduation colloquium:

Examination date: _____ Examination time: _____

Colloquium date: _____ Preferred colloquium time: 9.00 / 11.00 /
 13.00 / 14.00 / 16.00

Number of guests: _____

My Thesis is: To be published in the Library Confidential (approved by the Examination Board)

Date: _____ Signature student: _____

Note: make sure to stick to the following issues:

<input type="checkbox"/>	Submit a signed copy of this form to the EAO PSTS, at least 3 weeks before graduation date, and distribute copies to all persons mentioned above.
<input type="checkbox"/>	The final (approved) thesis must be submitted in electronic form (MS-Word and PDF versions) at least one week before the graduation date to all members of the Graduation Committee (and in CC to the profile co-ordinator and the Educational Affairs Office PSTS).

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Appendix D: Graduation Project Assessment form

Student name:

Student number:

Final report – Title:

.....

.....

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The PSTS master's Final Project and Thesis are assessed on the basis of a set of 8 categories, where each category comprises of a detailed set of elements (see: below). These elements (and the corresponding criteria) are derived from the programme's learning objectives.

The supervisors of the Final Project/Thesis are to give an assessment (score 1-100) per element (and thus per category) with the help of a "rubric".

The general meaning of the scores is as follows

Assessment score	Grade	Meaning
≤ 54	< 6	Insufficient
55-64	6	Sufficient
65-74	7	More than sufficiently
75-84	8	Good
85-94	9	Very good
95-100	10	Excellent, outstanding

- The final mark is to be determined on the basis of the total number of points per element/category
- Weighing factors apply to the categories. Points are to be assigned on the basis of these weighing factors.
 - o Score (0-100) 1 – 5 **Content** (50%) $((1+2+3+4+5) / 5) * 5 = A$
 - o Score 0-100 6 **Reporting** (20%) * 2 = B
 - o Score 0-100 7 **Process/Functioning** (20%) * 2 = C
 - o Score 0-100 8 **Oral presentation/defence** (10%) D
- The calculation method to be used for the conversion of the scores per element/category into points and subsequently into the mark without rounding and the rounded final mark.
 - o $(A + B + C + D) / 100 =$ final mark without rounding
 - o ≥ 0.5 implies: round up.

Assessment on Content (1-5)		Score per element (0-100)	Comments
1. Subject matter and main research question			
1.1	The subject matter or case is clearly introduced and described.		
1.2	There is a clearly formulated main research question.		
1.3	The main research question is based on relevant academic concepts and theories, argued for and/or legitimised by up-to-date academic insights and/or social developments.		
1.4	The main question is researchable (providing direction to the research strategy).		
1.5	The relations between sub-questions are clear and sub-questions can be reduced to the main research question.		
Partial score category 1 (1.1-1.5)/5			
2. Theoretical framework			
2.1	The research question is justified and embedded in a suitable theoretical framework		
2.2	An extensive and in-depth literature review has been performed as a theoretical framework for the main research question		
2.3	It is made clear how investigating or answering the research question fits in and could potential contribute to theory development (the theoretical framework) and/or tackling societal challenges		
Partial score category 2 (2.1-2.3)/3			
3. Research method(s)/approach			
Note: this may apply to both data collection as well as to literature research			
3.1	The research method or approach is clearly justified and described		
3.2	The research structure is suitable to the main question		
3.3	The acquisition of the data/literature research has taken place in an adequate and transparent manner, making the data valid and reliable/the literature relevant and/or illuminating		
Partial score category 3 (3.1-3.3)/3			
4. Analysis and argumentation			
4.1	The analysis and interpretation of the data/literature is accurate, reliable, comprehensive and verifiable		
4.2	The argumentation is coherent, logical and convincing		
4.3	The argument leads to theoretically embedded conclusions/partial conclusions that are relevant to the main research question		
Partial score category 4 (4.1-4.3)/3			
5. Conclusion, reflection, discussion			
5.1	Conclusions are formulated which sufficiently take into account presuppositions, basic principles and the limitations/opportunities of the selected methodology/approach		
5.2	The conclusions are formulated into realistic recommendations using creativity and with		

	consideration of social and academic standards and values.		
5.3	The main question is answered adequately		
5.4	The student has critically assessed and discussed the research and the results (recognition of strong/weak points, putting the research into perspective) and reflected on the implications of strong/weak points of the research and on possible solutions		
5.5	The thesis has contributed to the development of new knowledge and ideas or has enough potential to do it		
5.6	The student has made a proposal for follow-up research based on theoretical and/or practical considerations.		
Partial score category 5 (5.1-5.6)/6			
Total score category 1-5: Content = (1-5)/5			
6. Reporting		Score per element	Comments
6.1	Language: <ul style="list-style-type: none"> • The language used is correct and clear 		
6.2	Structure: <ul style="list-style-type: none"> • There is a logical and relevant structure, consisting of the following: title page, table of contents, summary (max. 1 page), main research question, results, discussion, conclusion and references. • There is a consistent and clear chapter structure that is relevant to the main research question. • The chapters and sections are provided with suitable titles. 		
6.3	References: <ul style="list-style-type: none"> • References comply with the applicable academic standards. • Literature references are complete, consistent and correct 		
6.4	Volume: <ul style="list-style-type: none"> • A 30 EC thesis is typically 40-60 pages in length, including introductions, diagrams, notes and the reference list, but not including any applicable appendices. (For a 20 EC thesis this amounts to 30-50 pages). • Line spacing of 1.5 is to be used. 		
Total score category 6: Reporting =(6.1-6.4)/4			

7. Process and functioning of the student 33		Score per element	Comments
7.1	During the research and writing process, the student displayed effort, motivation and enthusiasm.		
7.2	The student worked independently.		
7.3	The student made effective use of feedback.		
7.4	The student complied with deadlines and agreements.		
7.5	The student has written the thesis within the set time period (The study load for a Master's Thesis is 30 EC's, which equals 840 hours of study load. For a 20 EC's thesis this amounts to 560 hours.).		
7.6	The student has collected, analysed and interpreted all theories, information and data him/herself and expressed it in his/her own words.		
Total score category 7: Process and Functioning Student =(7.1-7.6)/6			
8. Oral presentation and defence		Score per element	Comments
8.1	The student gives a clear oral explanation of the research.		
8.2	The student demonstrates in-depth knowledge of the research subject.		
8.3	The student answers critical questions about the research in a convincing manner.		
8.4	The student is capable of reflecting on his/her own research.		
8.5	The student uses in an adequate way media resources.		
Total score category 8: Oral Presentation and Defence =(8.1-8.5)/5			

1-5:	Content (50%)	$((1+2+3+4+5) / 5) * 5 =$	A
6:	Reporting (20%)	$* 2 =$	B
7:	Process/Functioning (20%)	$* 2 =$	C
8:	Oral presentation/defence (10%)		D

The calculation method to be used for the conversion of the scores per element/category into points and subsequently into the mark without rounding and the rounded final mark.

- $(A + B + C + D) / 100 =$ final mark without rounding
- ≥ 0.50 implies: round up.

General remarks:

Names and signatures of the Supervisor and Second reader:

NameSignature.....Date:

NameSignature.....Date:

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