Guidelines for preparing an MSc thesis at the Cultural Geography Group

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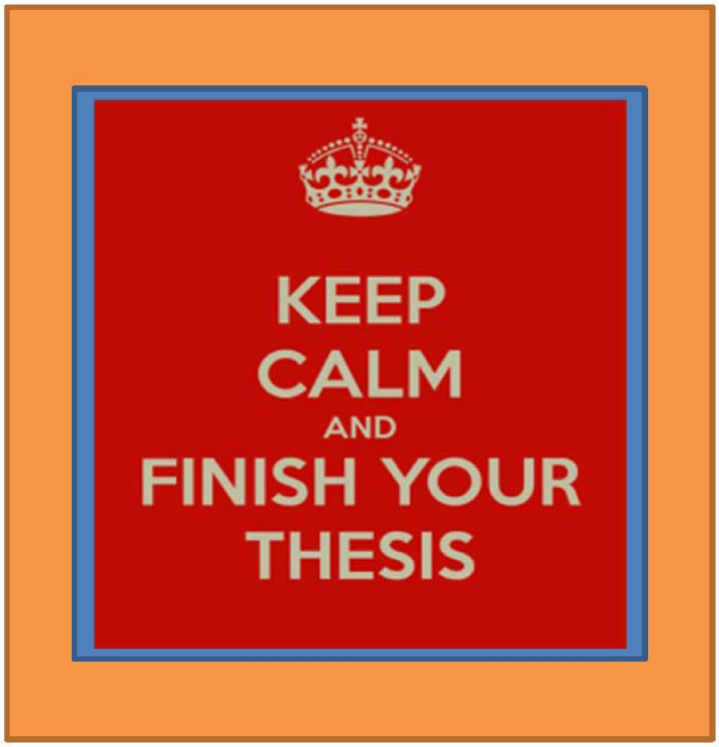
Study load:
24, 27, 30, 33, 36, 39 ECTS



Guidelines for preparing an MSc thesis at the Cultural Geography Chair Group, Wageningen University February 2012, adapted January 2018

Contents

1 Preface

These thesis guidelines have been written for students who plan to carry out MSc thesis research at the Cultural Geography Chair Group (GEO). The thesis is a compulsory element of all MSc study programmes. It is considered the culmination of your studies. A thesis ranges between 24 and 39 credits.

As will hopefully become clear in the following text, these thesis guidelines do not intend to replace the many excellent textbooks providing an introduction to science or the writing of research proposals. Rather they should help orient the student during her/his scientific training period with the GEO group at Wageningen University to take the best out of this period for her/his further career.

It includes information about the goal of the thesis, the role of the thesis contract, the admission requirements, the responsibilities of the key actors, the assessment procedure, plagiarism and the submission requirements of the final thesis. The appendices contain an example of the thesis contract, the thesis assessment rubric and form, and a format for the cover page of the thesis.

2 Introduction

2.1 Goal of the thesis

Many people view writing an MSc thesis as the pinnacle of higher academic education. And indeed, the importance of the thesis work is also reflected by the prominent role it takes within the whole MSc program. After completing compulsory and optional courses in the educational program, the MSc thesis challenges students to set up and carry out a scientific research project in an almost fully self-responsible manner.

The overall goal of the thesis is to further develop research, analytical and presentation skills. The thesis is the culmination of the MSc study program in which the student will have to show that he/she is able to design and conduct social science research in an academic context and is able to theoretically reflect on a particular field of research relevant to their MSc program.

The thesis project, in which a student independently addresses a topic approved by the supervisor, is an individual learning process that can be started and finished at any time during the academic year. Upon completion of the MSc thesis, the master student will be capable of independently conducting social science research. Hence, the main responsibility for a successful thesis process rests with the student, who is expected to take an active role and to display growing independence and maturity, but must also consult regularly with the assigned supervisor regarding progress.

Thesis writing is a process during which the student is expected to become competent in:

• Carrying out the different phases of research in an independent manner within a previously agreed time-span;

• Evaluating relevant theories and applying them to a relevant scientific problem;

• Applying a work ethic appropriate to the performance of scientific research, the development of scientific understanding and its application;

• Writing and editing a well-structured thesis.

The research process, and thus the acquisition of specific research skills, generally relates to proposal writing, fieldwork, data analysis, and the preparation and writing of the thesis.

2.2 What is a scientific thesis?

Most MSc candidates already have some experience in carrying out research (e.g., experiments during their internship). But, in working on an MSc thesis, they face, usually for the first time, the requirement that the thesis must be scientifically embedded within a theoretical context. The relationship between theory and research design is often unclear in the beginning of the process.

Philosophy of social science

The fundamental question "what is social science?" has been approached in many different ways over time. A specific discipline has been formed to deal with this question, namely the philosophy of social science. This thesis guidelines document does not endeavour to provide an overview on the different approaches (e.g., positivism, interpretivism, critical enquiry, etc.). Many excellent introductory textbooks on the philosophy of social science are available to orient the student on this question (see section 5.1 below for a list of suggested references). Nor does this thesis guidelines document favour one approach over another. However, it is argued here that the researcher must be clear about his/her own understanding of how his/her research fits within the different approaches, as this determines to a significant extent the logic and also sequence of the research process.

Science and research

In this thesis guidelines document it is argued that science and research both aim at deeper understanding of real-world phenomena. Research does this through empirically accessing and depicting real-world phenomena in a systematic, consistent and comprehensive manner. Research questions are therefore mainly formulated as "what, who, and how" questions (e.g., in *what* ways is 'sustainability' understood by planners, *who* is participating in collaborative management approaches, *how* do tourism entrepreneurs respond to economic crises, etc.). This does not mean, however, that primary data gathering and analysis is the only possible research method (see also paragraph 2.4). Science aims at understanding real-world phenomena through a process of theoretical interpretation of these phenomena. Scientific questions are therefore first and foremost "why" questions,

searching for explanations for empirical realities (e.g., *why* do people spend their leisure time in forests, etc.). However, in the process of theoretical interpretation, science relies on research. "Why" questions are therefore supported or, in the case of explorative studies, even replaced by "what, who, and how" questions (e.g., *who* visits a national park, etc.), with the intention to contribute to the process of theoretical interpretation of a topic.

Scientific standards

Broad agreement exists on scientific research standards. Therefore, these should be applied (and demonstrated) by the student in his/her thesis:

- The thesis must be theory-based. 'Theories' in this respect can be understood as sets of explanatory/analytical systems for real-world phenomena. The student's point of departure for examining real-world phenomena must begin with a review of existing theoretical literature. The student is furthermore expected to discuss and reflect on his/her findings relative to both existing theoretical literature and empirical literature. Theoretical literature claims to contain explanatory or interpretive systems for understanding real-world phenomena, whereas empirical literature is characterised by its descriptive focus on cases and situations.
- The thesis must be verifiable. This is only possible if a clear line of argumentation through the existing theoretical and empirical literature is given, and the underlying assumptions are made explicit. Ideally, also the primary data gathered by the student should be included in the work (usually as an appendix) to allow the reader to verify the conclusions drawn. Science is always at least partially subjective, as it is a social activity carried out by human beings. However, this fact should never lead to the rejection of the call for scientific objectivity and researcher reflexivity. This can be accomplished through clear, rigorous explanation of and reflection on the conditions and assumptions underlying the research process.
- The thesis must be following the principles of credibility, transferability, and trustworthiness (in qualitative research) and/or reliability, validity and replicability (in quantitative research)
- replicable when deploying quantitative methods. It should be possible to repeat the empirical part, thereby leading to similar results and conclusions. Therefor the methods for data collection and for data analysis should be clearly described, and the research and analysis as unbiased/reflective as possible.

2.3 Basic requirements and necessary skills

A base knowledge level and mastery of a particular skill set are required for the successful completion of an MSc thesis. This means that students normally should start work on their MSc thesis only after they have obtained at least 20 credits within the MSc program, with an adequate coverage of relevant courses either in the field of leisure, tourism and

environment or in the field of cultural geography. In all cases, students must complete an advanced course on research methods and techniques before starting their thesis projects.

The student is responsible for acquiring the necessary knowledge and skills before starting the thesis project. Sound knowledge of relevant theories, research approaches, methods and tools for data collection as well as data analysis are required in order to begin the thesis project and will not be touched upon during the thesis supervision. Special attention may be given to statistical data analysis packages (e.g., SPSS), if the research employs a quantitative approach, or qualitative data analysis software (e.g., Atlas.ti), if the research employs a qualitative approach. Should these skills need to be acquired during the thesis project itself, extra time should be scheduled in. This additional work, however, cannot be rewarded with extra credit points. The same holds for sufficient writing skills. Students ought to take responsibility for writing their thesis report in correct English. Students in need of support to improve their writing skills are encouraged to make use of the University's Writing Lab.[1]

2.4 Types of research

The thesis should be conducted on a graduate level and written for the MLE, MLP or another MSc program. As such, the thesis should not be merely descriptive; it should have an adequate theoretical as well as informational base. The topic cannot be trivial or superficial; it should have clear theoretical and societal relevance to the field of leisure and/or tourism studies and/or cultural geography. It should reflect the student's interests and goals and be realistic in scope, so that it can be completed with the resources available to the student. It must be original work and make a substantive contribution to the understanding of a set of significant issues.

The following types of research theses are acceptable:

1 Historical: A documentary study of past developments, including a reflection on the contemporary relevance;

2 Theoretical/analytical: All papers should have a theoretical component. With adequate library resources, however, a thesis may be primarily a theoretical analysis or critique;

3 Field study: An empirical study of a set of issues related to a particular population, group, institution, or cultural setting. Methods (e.g., survey, ethnography, case study, action research, or some combination of these) should be appropriate to the topic;

4 Evaluation: A particular project or program can be evaluated from a theoretical perspective that includes history, theory, comparison, and organizational analysis;

5 Action: A research design that involves the people being studied in the design, implementation and analysis a particular project intended to change the conditions or lives of those involved. Time constraints may limit such opportunities.

[1] http://www.wur.nl/en/article/Wageningen-Writing-Lab-2.htm

3 MSc thesis preparation steps

3.1 Selection of a topic and supervisor

The first step in working on the MSc thesis is the selection of a topic and a supervisor. All scientific staff with a PhD degree or with other relevant research experience qualify for thesis supervision. A PhD student may be involved in the supervision, but not as the main supervisor. Joint supervision by staff from other groups and institutions or from a company is possible and even recommended in the case of cross-disciplinary topics, as long as all parties agree.

Depending on the thesis topic, MLE students may seek supervision with the following chair groups: GEO, SDC and ENP. This depends on the topic and theoretical focus of the thesis. Students who are in doubt are advised to contact the study advisor or thesis coordinator of GEO first.

Before students approach the thesis coordinator, they need to have a basic idea of what they would like to study and send a brief description to the thesis coordinator.

> *Tip: take a look at previous thesis reports available in the library to get an overview of the type of studies conducted by students: library.wur.nl/WebQuery/theses*

ENP and SDC have slightly different guidelines, please check them before contacting the thesis coordinator.

- Specific guidelines from SDC are found at: www.wur.nl/en/Expertise-Services/Chair-groups/Social-Sciences/sdc/Education/Master-thesis-with-SDC.htm
- Guidelines from ENP can be found at: www.wur.nl/en/Expertise-Services/Chair-groups/Social-Sciences/Environmental-Policy-Group/Information-for-students.htm

The ultimate responsibility for supervision and examination remains with the supervising chair group. Students may propose a thesis supervisor to the thesis coordinators, yet the thesis coordinator is in charge of formally approaching a thesis supervisor. The final decision to accept an MSc thesis student is made by the supervisor. The thesis coordinators are:

- GEO: Yulia Kisora (yulia.kisora@wur.nl)
- SDC: Jessica de Koning (jessica.dekoning@wur.nl)
- ENP: Kris van Koppen (To make an appointment with him, please contact corry.rothuizen@wur.nl)

In some cases, it is helpful for students to combine the MSc thesis project with their internship. This holds particularly true for all MSc research undertaken outside the Netherlands. Where MSc research is conducted abroad, adequate scientific supervision should be guaranteed in the respective country (in most cases by selecting a second supervisor from a local university) or within the respective organisation. Possibilities to carry out an MSc thesis in European countries also exist within the scope of the European Union's

Erasmus exchange.[2] All arrangements must be settled by the student prior to the start of the thesis project and must be approved by the GEO supervisor.

3.2 Preparation of a research proposal

After the selection of a topic and supervisor, the next step in the thesis process is the preparation of a consistent and comprehensive research proposal. The thesis proposal is a product of preparatory research around the topic to be developed. Students must become familiar with the theoretical problems, the historical context and the empirical specifics of the theme in order to be able to define, in precise terms, what will be studied and how it will be studied. It is necessary to understand and incorporate existing social scientific knowledge, departing from a concrete problem, to be able to advance scientific knowledge.

Three basic questions should be answered in a research proposal:

1. *What* are you going to study?
2. *Why* are you going to study it?
3. *How* are you going to study it?

Ideally, a research proposal should provide enough detail and sufficient argumentation to enable another skilled researcher to be able to carry out the same study you aim to do. Everything that can be said at that stage about "what", "why" and "how" relative to the study belongs in the research proposal.

The research proposal consists of the following parts:

1. **Introduction**: This provides an overview of problems and issues leading up to the problem statement. Therefore, this section depends on your preliminary literature review. The background of the topic area may be given in the introduction along with a statement indicating the overall purpose of the research.
2. **Preliminary problem statement**: This indicates the motivation for the selection of the topic and a clear delineation of the field of study, resulting in a concise problem statement. This must implicitly and explicitly reflect the social and scientific relevance of the selected research topic. To be able to develop a clear problem statement, a preliminary investigation must be carried out to establish a sufficiently profound knowledge base in order to identify the concrete issues that will be researched. This includes a theoretical and empirical literature review of material most relevant to the topic in order to ensure that the topic has not already been exhausted by other researchers.
3. **Scientific objective(s) and research questions**: This section clearly states the scientific objectives of the research project. Given the fact that scientific research aims to contribute to the theoretical reconstruction of the topic at stake, scientific objectives are very often expressed in terms like "to understand", "to explore", "to

[2] For more details, visit: http://www.wur.nl/en/Education-Programmes/Study-Abroad-and-Exchange-Students/Outgoing-from-Wageningen-University.htm

determine", "to verify", etc. It is important that the scientific objectives of the research project have a clear and explicit focus.

Research objectives are, on the one hand, determined by the challenge to deepen theoretical knowledge, analytical capacities and techniques and methods of social research, and, on the other hand, by pragmatic reasons, such as available time, actual research conditions (e.g., availability of resources, political events, etc.), and the capacity of the student.

The scientific objective(s) should be translated into research questions, which are questions that need to be answered in order to fulfil the research objective(s). In this respect, the research questions are an operationalisation of the research objectives. Ideally, these questions are based on your preliminary conceptual framework (derived from the theoretical and empirical literature review) and problem definition. In the conceptual framework you introduce the main concepts and theories you intend to use in your research. Although it is often difficult to elaborate on this in the beginning of the research, it is important to at least give some indication of the key concepts in your research and the theories that might be of interest. Moreover, these research questions should not be confused with the questions used in data collection (e.g., the questions in a survey or in a structured interview) in later stages of the research process.

4. **Relevance of the study:** The social, theoretical and policy/management-oriented relevance of the study should be addressed here.

5. **Theoretical framework**: The theoretical framework acts as a partial guide for the selection of the phenomena to study. Different theoretical frameworks emphasise different phenomena as those which are most important, thereby giving direction to the overall thesis work. In other words, the theoretical framework guides the student in his/her approach to the topic.

   To qualify as scientific research, theoretical categories are used which demarcate the research within a specific discipline, school of thought or epistemology. In presenting the theoretical framework, the main theoretical categories/concepts should be described, along with their relations to different concepts discussed as well as substantive areas under investigation. Keep in mind that the theoretical framework should provide an adequate argument based on existing theories and concepts that will result in the student's own conceptual model (which can be summarised graphically at the end of the theoretical framework, if appropriate). Working out the theoretical framework is therefore a creative act, rather than a descriptive exercise, the conceptual model is derived from existing literature and does not simply summarize the literature.

   The theoretical framework should reflect the scientific objective(s) and research questions. Even though almost everything may seem to be connected, the scientific objective(s) and research questions should help determine which theories and concepts are (not) relevant for the student's thesis research. It becomes clear,

therefore, that developing a research proposal is not strictly linear but, rather, an iterative process, with several versions being drafted before finally completing the final proposal. A comprehensive review of existing theoretical and empirical literature therefore forms the indispensable basis to move from a pre-scientific understanding (on which the selection of the topic was based) to a deeper theoretical understanding of the topic (necessary to actually start writing the real thesis proposal). If there are debates on the definition of concepts or their application, the major insights in the debate should be laid out, showing the differences and similarities and, finally, how the student will incorporate them into his/her research. Also, if the direct application of concepts and theories is not possible for the chosen topic (e.g., because the theory is about decision-making in organisations, whereas the focus of the student's research might be on individual decision-making), a solid rationale should be provided as to why they have been adopted and how they have been adapted by the student for the purposes of his/her study.

All these findings result in a final problem statement and research questions. The theoretical framework, and its condensed expression in the form of the conceptual model (where applicable), acts as a map to identify those concepts found relevant in the literature that are being used by the student to steer his/her examination of real-world phenomena in all of their empirical complexity. Investing time and energy in preparing an analytically sharp theoretical framework is fundamental, and can help to save a lot of blood, sweat and tears later on in the thesis process.

6. **Methodology:** With the theoretical framework, the student has indicated which concepts are important to be examined in seeking to answer his/her research questions. In the Methodology section, students should explain how these concepts will be identified, mobilised and assessed empirically. In other words: how is the student's theoretical framework operationalised? How will they guide data gathering? Methodology is the study of how methods and techniques are used to gather and analyse data about real-world phenomena. The function of the Methodology section in the research proposal (and later on in the thesis report) is to specify how the principles of credibility, transferability, and trustworthiness (in qualitative research) and/or reliability, validity and replicability (in quantitative research) will be reached. Limitations to the study must be discussed by identifying the barriers and constraints students expect in conducting the research.

   Setting up a sound methodological framework requires addressing the following points:

   (1) *Identify the character of the thesis work*: Is a case study approach chosen in order to use certain real-world phenomena to *test* or *exemplify* theory or does the thesis project aim at using theory to *interpret* the phenomena? The selection of the topic and the formulation of the problem statement mean that the student has already implicitly provided answers to many of these

questions. Thus, the student's assumptions and logical framework need to be made explicit.

(2) *Design the way in which data is collected*: This step requires students to present their approach (supported by solid arguments, grounded in literature, for the selection of the approach) in response to the following questions:

i. What is understood as data and from which *sources of information* (e.g., pictures, texts, individuals, groups, etc.) will they be derived? Data can take on the quality of primary data (i.e., generated by the researcher) as well as that of secondary data (i.e., data generated by earlier research that will be subject to the student's own analysis).

ii. What are the *criteria for determining and delineating the sources of information* (e.g., who will be interviewed? Why certain policy documents and not others? How many people will receive a questionnaire? Why select one case study and not another?) Answers to these questions are partially dependent on whether qualitative or quantitative research methods are chosen (see next question).

iii. What methods are employed to generate data from the sources of information identified? The selection of adequate methods is dependent on the sources of information seen as relevant to answering the research questions posed. Here, students must argue for why a certain method (e.g., observations, interviews, content analysis, etc.) is the most appropriate for the research topic at stake. In general, textbooks distinguish between *quantitative* and *qualitative* research methods. Both, quantitative and qualitative methods aim to be as true to life as possible. However, they refer to different qualities of the data, namely whether the data accessible is quantifiable (or measurable) (e.g., the amount of money spent during one's holidays) or whether it can only be derived in an interpretative way (e.g., an individual's underlying motives for spending money as they do during their holidays). As no single method is able to fully capture the complexity of real-world phenomena, very often *triangulation* of methods is used. Triangulation involves the combination of different methods (e.g., observation plus questionnaire plus focus group discussions) in order to not to miss important information in the assessment of the same phenomena and to fulfil the principles of validity and reliability.

(3) Which method instruments will be used (e.g., questionnaires, semi-structured interview guide, topic list, observation manual) and the rationale for this choice.

7. **Design of the data analysis**: It should be pointed out that methods and instruments are necessary not only for the data collection but also for data analysis. Whereas students are most often familiar with basic qualitative and quantitative methods of data collection, they are regularly missing knowledge about methods for data analysis (e.g., how to cope with hundreds of pages of transcribed interviews? How to make sense of interview data? Which statistical tests can be applied, given the data collection methods employed?). Students should therefore inform themselves in advance about the wide range of techniques and the availability of instruments for data analysis (e.g., critical discourse analysis, narrative analysis, statistical software packages, etc.).

8. **Work plan and time scheme**: The research proposal culminates with a comprehensive work plan. The work plan indicates the necessary steps for carrying out the research as well as their logical order. The different steps involved in writing an MSc thesis should be distributed in a feasible manner over the available time period (in most cases, 26 weeks, equalling 36 credits). The student should also agree with the supervisor about the frequency of contact as well as the deadlines for delivering certain parts of the thesis proposal or report.

   Preparing the work plan also involves elaborating a budget (e.g., budgeting costs for travel, mailing costs, field assistance, etc.). Financial means for carrying out the thesis project must be discussed and agreed between student and supervisor before the actual thesis work begins.

3.3 The MSc thesis contract

No MSc thesis project can be undertaken without a contract. The MSc thesis officially begins only when the student, together with the GEO supervisor, has completed an MSc thesis contract (to be found at: http://www.wur.nl/nl/Onderwijs-Opleidingen/Student-Service-Centre/Show-ssc/Formulieren-Student-Service-Centre-1.htm). The most important formal requirements are:

- The student will have *at least four* formal meetings with the supervisor. The student must record each meeting by summarising the main decisions in written form and providing a copy of these to the supervisor by email in a timely fashion;
- The amount of time which the supervisor invests in an MSc thesis is 40 hours (maximum). His/her time will be used for reading, commenting, meetings, assessment and general assistance.

After the MSc thesis contract is signed by the student, the supervisor and the examiner, the original remains with the GEO secretariat (Ms. Mieke Hannink). Copies of the contract go to the student and the supervisor. The thesis contract formalizes the agreements made

between the student and the thesis supervisor (expected date of completion, frequency of meetings, absences, co-supervision, etc.). In this sense, it is a supplement to and elaboration of the parties' rights and obligations based on the Higher Education and Research Act, the Education and Exam Regulations and the Student Statutes. The establishment and signing of the contract involves the student, and the supervisor as follows:

- Before a student can actually commence the thesis project and the thesis contract can be prepared, the intended supervisor must check with the study advisor as to whether the student has permission to start thesis writing.
- The supervisor and student officially sign the thesis contract at the beginning of the process and once the student has met all other admission requirements. This moment demarcates definite admission to the MSc thesis and requires permission from the study advisor. The student has to make sure that the contract is properly established and signed.
- Without a signed thesis contract, students are not allowed to undertake their fieldwork (see Appendix I for the MSc Thesis Contract).

3.4 Carrying out the research

When carrying out the research, special attention should be given to organisational and safety aspects. Possible economic, social and technical constraints (e.g. personal funds to cover the expenses of fieldwork, rainy seasons, tourism season, holidays of respondents/interviewees) should be taken into account as much as possible in advance of the research work. If unforeseeable circumstances do occur, the research plan should be adapted after consultation with the supervisor respectively.

In all cases, the student must respect social, cultural and interpersonal norms and standards of the organisations and people they are studying. This holds particularly true for the privacy of organisations and persons. The identity of people studied should not, in any case, be discernible in the final text, unless otherwise agreed between the respondents and the researcher. These agreements must be made explicit orally and/or in writing prior to information collection.

Students' analytical skills should be accompanied by organisational accuracy. As such, it is recommended to clearly document all research activities, findings and sources, including also seemingly inconsequential details. Experience shows that this can save a lot of time when finally preparing the thesis report. Also, in the phase of carrying out the research, it is recommended to keep in close, routine contact with the supervisor.

3.5 Writing the thesis report

The research activities should finally result in a comprehensive, consistent and concise thesis report. The thesis report will cover approximately 60 to 80 pages organized in a minimum of

five chapters. It should be written according to scientific standards and using the possibilities of modern text software in the layout.

The presented structure of the thesis' various parts reflects the standard chapter structure of a scientific report, with the introduction forming chapter 1, the theoretical framework forming chapter 2, and so on. However, different types of research (e.g., historical research) might require a slightly different chapter structure. In general, the following parts structure the thesis report, either as a chapter or as a sub-chapter:

1. **Cover page thesis:** The cover page of all theses must contain the following information:

Wageningen University and Research (with logo) Department of Environmental Sciences Cultural Geography Chair Group Thesis title Thesis code Submission date Student's full name Student's registration number Both the supervisor and examiner's names

2. **Table of contents:** This provides an overview of the chapter structure with the respective page numbers. It should also include the summary and appendices.
3. **Lists of tables and figures**: The table of contents is followed by a list of tables and a list of figures that include the page numbers of each table and figure, respectively.
4. **Summary**: This is a brief, comprehensive summary of all chapters that should not exceed one A4 page in length.
5. **Introduction:** This chapter includes the problem statement, the scientific objectives and the research questions. It characterises the research project and includes a brief outline of the structure of the subsequent chapters and how they work together to support the main thesis argument.
6. **Theoretical framework and literature review**: In this chapter (normally chapter 2), relevant theoretical and empirical literature is reviewed and the selected theories and concepts used to frame the thesis are presented and explained. The theoretical framework is very often summarised by a conceptual model, in which relations drawn between the relevant concepts (e.g., behaviour, action, values, community, etc.) are presented (see also the chapter entitled 'Preparation of a research proposal').
7. **Methods:** This part describes the data sources as well as the applied methods and instruments for data collection and data analysis that were used (see also the section entitled 'Research proposal'). In contrast to the research proposal where the methods section presents the study's ambitions/plan, the final thesis reports on

what actually happened. Problems encountered in the data gathering and analysis should be presented here as well.

8. **Results/Analysis of empirical material**: This should be presented objectively and comprehensively. Structure the presentation of results in such a way that the research questions are fully and effectively addressed. Where appropriate, findings should be illustrated or summarised with tables and figures. Appropriateness means that they provide an added value compared to ordinary text. Any tables and figures must be drawn in such a way that they can stand independently from the surrounding text. Do not forget to include measurements and an explanation of abbreviations. Colour figures should be avoided; students should opt for grey scales or textures instead. References to tables and figures should be made in the text (e.g., see Table 1; cf. Figure 2) – they should not be included unless reference is made to them. Note that table captions are given above the table, whereas figure captions are placed below the figure.
9. **Discussion**: The discussion sections links the study's findings, as presented in the result section, with those of others. Argue for and against the findings and the related theoretical concepts. References to theoretical and empirical literature are necessary in this section. Furthermore, the findings should be discussed in relation to the scientific objectives and research questions, as well as in the light of the chosen theoretical framework. Last but not least, do not forget to discuss the extent to which the findings might have been influenced by the chosen methods (e.g., possible shortcomings, special circumstances, etc.). This chapter can also be combined with chapter 10.
10. **Conclusions**: In this section, the problem statement and research questions should be answered. These conclusions normally touch on three aspects:
    (1) The scientific objective and the research questions (results);
    (2) Proposals for future research on this topic (relative to theory and methods that can be used);
    (3) Practical application of the results (e.g., consequences or recommendations for management and policy).
11. **References**: In this section, a list of all literature cited and discussed should be given, sorted in alphabetical order by the author's surname. Information given in the reference list should be complete and accurate. The style for the different types of publications (e.g., articles in journals, books, chapters in books etc.) should be consistent, preferably APA style. Some researchers prefer to mention information sources, such as policy documents and internet sources separately. If reference is made to information on the Internet, the complete electronic address should be given, as well as the date on which the information has last been accessed (e.g. BBC. 2011. 'Rina: Tourists evacuate Cancun ahead of storm', 27 October. Available HTTP:

< http://www.bbc.co.uk/news/world-latin-america-15471633> [Accessed 2 Nov. 2011].).

12. **Appendices**: Appendices should include information that can be left out of the main body of text but that is relevant for understanding the research and/or important steps in the research process (e.g., the inclusion of the original data, the list of interviewees, background information on the study area, the questionnaire, further detailed statistical analysis, etc.). The appendices should be numbered consistently with the main body of the text and references should be made within the text to them when applicable.

3.5 Giving a final colloquium[3]

As soon as the student and the supervisor have agreed on the final thesis version, the student is required to present the major findings of his/her thesis project to an audience of MSc students. It is not necessary to present all the elements/parts of the thesis. Focus on the main issues and the most interesting parts/findings of the research. The student is responsible for organising the final colloquium. The presentation must be 15 minutes in length (maximum) and allow for approximately 15 minutes for discussion.

The presentation should follow the standards for oral presentations. Students must ensure that they are clearly addressing the audience with a comprehensive, consistent and logical structure. It is highly recommended to support the presentation by visual tools, such as hand-outs or PowerPoint presentations. Please consult the assessment rubric below for additional detail on how this component is assessed.

3.6 Final examination appointment

The aim of the final examination is:

- To reflect on the overall scientific training process that the student has undergone in the preparation of the MSc thesis;
- Place the MSc thesis within the on-going debates and larger contexts within the field of leisure, tourism and environment.

An examiner will participate in the final examination with the student and supervisor. The final examination will take place after the colloquium. The schedule of the colloquia is established at the beginning of the academic year.

The overall length of the final examination is about 45 minutes, with approximately 30 minutes of presentation, questions and discussions, followed by 10-15 minutes of feedback and the announcement of the final grade. It is the student's responsibility to provide the supervisor and the examiner with a PDF copy of the final MSc thesis by email no later than 10 working days prior to the appointment.

[3] In cases where the student is not returning to the Netherlands, this requirement will be waived.

Following a short consultation between the supervisor and examiner, the final grade will be announced to the student. The supervisor will communicate the grade to the administration. It should be noted, however, that an MSc thesis has successfully passed only after all administrative issues have been completed.

3.7 Costs associated with carrying out the MSc research

All MSc research should be planned in a manner such that no project finances or external funding must be required. The research should rely on existing administrative and logistic support as much as possible. If, despite all efforts, costs are unavoidable for carrying out the MSc research (e.g., travel to undertake interviews, etc.), the student must provide a financial plan in a timely manner prior to undertaking the research, and the plans must be approved by the supervisor. All costs made without the supervisor's *a priori* agreement must be assumed by the student her/himself.

4 Assessment

4.1 Thesis evaluation form

Feedback on the student's performance during the training process of the MSc thesis will be provided through the thesis evaluation form. This thesis evaluation form can be found in Appendix A and consists of the following four parts:

- **Research competence** (35%): Commitment and perseverance, Initiative and creativity, Independence, Efficiency in working with data, Handling supervisor's comments and development of research skills, and Keeping to the time schedule;
- **Thesis report** (55%): Relevance of research, clearness of goals, delineation of research, Theoretical underpinning and use of literature, Use of methods and data, Critical reflection on the research performed (discussion), Clarity of conclusions and recommendations, and Writing skills;
- **Colloquium** (5%): Graphical presentation and verbal presentation and defence;
- **Examination** (5%): Defence of the thesis and knowledge of study domain.

The space for remarks allows for additional comments by the supervisor about the student's training process. The supervisor and examiner will fill in the thesis evaluation form after having read the thesis. The evaluation form will be discussed with the student at the end of the final examination and send to the student afterwards.

4.2 Grading

The grading will be based on the standard grading scale at Wageningen University, ranging from 0 to 10 (extraordinary), with a grade lower than 6 meaning "fail". The assessment rubric in Appendix B is used as a basis for grading the thesis. The grading will take into account all elements and steps in the preparation of the MSc thesis, including the oral

presentations as well as the final examination talk. The final grade will be announced and explained by the supervisor immediately after the final examination talk.

4.3 Plagiarism

The fact that all research is directly or indirectly based on the intellectual work of others, on their theories, their models or research findings, makes scientific writing a risky process, especially in an era in which "cut and paste" possibilities are overwhelming. Plagiarism, or using the work of someone else without acknowledging it, is considered theft of intellectual property. When quoting, paraphrasing and summarising the intellectual work of others, it is necessary to cite the source of that work – without exception!

A charge of plagiarism can have severe consequences. Wageningen University and Research heavily insists on documenting sources. In order to avoid plagiarism, staff is expected to screen all writings carefully and the University has made software available (e.g., TurnItIn) for this purpose. If a supervisor or examiner identifies plagiarised text, he or she must immediately inform the Examining Board as well as the relevant student. After providing a hearing for the student involved, the Examining Board decides if fraud has actually occurred and can punish the relevant student by preventing him/her from completing the subject [in this case from submitting the thesis] for up to one year" (for further information see the Student Charter; http://www.wur.nl/en/Education-Programmes/Current-Students/2015-2016-Student-Charter.htm). There is a course on Information Literacy (EDU-52901) offered by the University and numerous other websites that can help students ensure that they are not committing plagiarism.

Students are expected to be familiar with proper referencing techniques and preferably will use APA style (http://www.apastyle.org/learn/tutorials/basics-tutorial.aspx).

5. Literature and other relevant information sources

The following reference lists provide some suggestions of helpful and interesting literature when starting to write a MSc thesis, though this list is not exhaustive. It mainly focuses on standard publications which are easily accessible at the libraries in Wageningen and from which students can begin to search for more detailed literature relevant to his/her specific topic. Excellent literature hints and online papers can be also found on the Internet, particularly by using the Google search engine (http://www.google.com).

The literature search facilities provided by the WUR libraries at http://library.wur.nl/ give good literature hints for thesis projects.

5.1 Introduction to social science

- Crotty, M. 1998: *The Foundations of Social Research: Meaning and Perspective in the Research Process.* Sage, London.
- Fuller, S. 1997: *Science*. Open University Press, Buckingham: 159 p.

- Smith, M.J. 1998: *Social Science in Question: Towards a Postdisciplinary Approach.* Sage Publications/Open University Press, London.
- Stevenson, L.; Byerly, H. 1995: *The many faces of science: an introduction to scientists, values, and society*. Westview Press, Boulder: 257 p.
- Trigg, R. 1985: *Understanding social science: a philosophical introduction to the social sciences*. Blackwell, Oxford: 224 p.

5.2 Methods used in the social sciences

- Berg, B.L. 2001: Qualitative research methods for the social sciences. - 4th ed. Allyn and Bacon, Boston: XV, 304 p.
- Bohrnstedt, G.W.; Knoke, D. 1994: Statistics for social data analysis. - 3rd ed. Peacock, Itasca: 574 p.
- Boeije, H.; 2010. Analysis in Qualitative Research. London: Sage. Handouts.
- Bryman, A.; Cramer, D. 2001: Quantitative data analysis with SPSS Release 10 for Windows. a guide for social scientists. Routledge, Hove.
- Dale, A.; Davies, R.B. 1994: Analyzing social and political change - a casebook of methods. Sage, London: 229 p.
- DeLyser, D, S. Herbert, S. Aitken, M. Crang, and L. McDowell, Eds. 2010. Handbook of Qualitative Geography (London: Sage Publications)
- Denzin, N.K.; Lincoln, Y.S. 2000: Handbook of qualitative research. - 2nd ed. Sage, Thousand Oaks: XX, 1065 p.
- Field, A.; 2013 Discovering Statistics using IBM SPSS Statistics. London: Sage. ISBN-10: 1446249182. ISBN-13: 978-1446249185.
- Hair, J.F.; Anderson, R.E.; Tatham, R.L.; Black, W.C. 1995: Multivariate data analysis. 5th ed. Prentice Hall, Englewood Cliffs: XX, 730 p.
- Jennings, G. 2001: Tourism Research. Central Queensland University. John Wiley & Sons Australia – Milton: 452 p.
- Punch, K.F. 2000: Developing effective research proposals. Sage, London: VII, 125 p.
- SPSS Inc. (Chicago) 1997: SPSS 7.5 statistical algorithms. SPSS, Chicago: 641 p.

Appendix A: Thesis evaluation sheet

	grading mark 1-10	relative weight *
Research competence (30-60%) *		35%
1 Commitment and perseverance		
2 Initiative and creativity		
3 Independence		0,0
4 Efficiency in working with data		
5 Handling supervisor's comments and development of research skills		
6 Keeping to the time schedule		
Thesis report (30-60%) *		55%
1 Relevance research, clearness goals, delineation research		
2 Theoretical underpinning, use of literature		
3 Use of methods and data		0,0
4 Critical reflection on the research performed (discussion)		
5 Clarity of conclusions and recommendations		
6 Writing skills		
Colloquium (5%) *		5%
1 Graphical presentation		
2 Verbal presentation and defence		0,0
Examination (5%) *		5%
1 Defence of the thesis		
2 Knowledge of study domain		

* please choose weights such that there sum is 100.

TOTAL	0,0
FINAL GRADE	0

Comment by supervisor

Comment by external supervisor

Appendix B: Rubric

Rubric for assessment of MSc-thesis

Author: Arnold F. Moene, Meteorology and Air Quality Group, Wageningen University
Version: 1.1 (December 15, 2010)

Item	Mark for item					
	2-3	**4-5**	**6**	**7**	**8**	**9-10**
1. Research competence (30-60%) *						
1.1. Commitment and perseverance	Student is not motivated. Student escapes work and gives up regularly	Student has little motivation. Tends to be distracted easily. Has given up once or twice	Student is motivated at times, but often, sees the work as a compulsory task. Is distracted from thesis work now and then.	The student is motivated. Overcomes an occasional setback with help of the supervisor.	The student is motivated and/or overcomes an occasional setback on his own and considers the work as his "own" project.	The student is very motivated, goes at length to get the most out of the project. Takes complete control of his own project. Considers setbacks as an extra motivation.
1.2. Initiative and creativity	Student shows no initiative or new ideas at all.	Student picks up some initiatives and/or new ideas suggested by others (e.g. supervisor), but the selection is not motivated.	Student shows some initiative and/or together with the supervisor develops one or two new ideas on minor parts of the research.	Student initiates discussions on new ideas with supervisor and develops one or two own ideas on minor parts of the research.	Student has his own creative ideas on hypothesis formulation, design or data processing.	Innovative research methods and/or data-analysis methods developed. Possibly the scientific problem has been formulated by the student.
1.3. Independence	The student can only perform the project properly after repeated detailed instructions and with direct help from the supervisor.	The student needs frequent instructions and well-defined tasks from the supervisor and the supervisor needs careful checks to see if all tasks have been performed.	The supervisor is the main responsible for setting out the tasks, but the student is able to perform them mostly independently	Student selects and plans the tasks together with the supervisor and performs these tasks on his own	Student plans and performs tasks mostly independently, asks for help from the supervisor when needed.	Student plans and performs tasks independently and organizes his sources of help independently.
	No critical self-reflection at all.	No critical self-reflection at all.	Student is able to reflect on his functioning with the help of the supervisor only.	The student occasionally shows critical self-reflection.	Student actively performs critical self-reflection on some aspects of his functioning	Student actively performs critical self-reflection on various aspects of his own functioning and performance.
1.4. Efficiency in working with data Note: depending on the characteristics of	**Experimental work** Student is not able to setup and/or execute an experiment.	Student is able to execute detailed instructions to some extent, but errors are made often, invalidating (part of) the experiment.	Student is able to execute an experiment that has been designed by someone else (without critical assessment of sources of error and uncertainty).	Student is able to execute an experiment that has been designed by someone else. Takes sources of error and uncertainty into account in a qualitative sense.	Student is able to judge the setup of an existing experiment and to include modifications if needed. Takes into account sources of error and uncertainty quantitatively.	Student is able to setup or modify an experiment exactly tailored to answering the research questions. Quantitative consideration of sources of error and uncertainty. Execution of the

Item	Mark for item					
	2-3	**4-5**	**6**	**7**	**8**	**9-10**
the thesis work, not all three aspects (experimental work, data analysis and model development) may be relevant and some may be omitted						experiment is flawless.
	Data analysis Student is lost when using data. Is not able to use a spreadsheet program or any other appropriate data-processing program.	Student is able to organize the data, but is not able to perform checks and/or simple analyses	Student is able to organize data and perform some simple checks; but the way the data are used does not clearly contribute to answering of the research questions and/or he is unable to analyze the data independently.	Student is able to organize the data, perform some basic checks and perform basic analyses that contribute to the research question	Student is able to organize the data, perform commonly used checks and perform some advanced analyses on the data	Student is able to organize the data, perform thorough checks and perform advanced and original analyses on the data.
	Model development Student is not able to make any modification/addition to an existing model.	Student modifies an existing model, but errors occur and persist. No validation.	Student is able to make minor modifications (say a single formula) to an existing model. Superficial validation or no validation at all.	Student is able to make major modifications to an existing model, based on literature. Validation using some basic measures of quality.	Student is able to make major modifications to an existing model, based on literature or own analyses. Validation using appropriate statistical measures.	Student is able to develop a model from scratch, or add an important new part to an existing model. Excellent theoretical basis for modelling as well as use of advanced validation methods.
1.5. Handling supervisor's comments and development of research skills	Student does not pick up suggestions and ideas of the supervisor	The supervisor needs to act as an instructor and/or supervisor needs to suggest solutions for problems	Student incorporates some of the comments of the supervisor, but ignores others without arguments	Student incorporates most or all of the supervisor's comments.	Supervisor's comments are weighed by the student and asked for when needed.	Supervisor's comments are critically weighed by the student and asked for when needed, also from other staff members or students.
	Knowledge and insight of the student (in relation to the prerequisites) is insufficient and the student is not able to take appropriate action to remedy this	There is some progress in the research skills of the student, but suggestions of the supervisor are also ignored occasionally.	The student is able to adopt some skills as they are presented during supervision	The student is able to adopt skills as they are presented during supervision and develops some skills independently as well	The student is able to adopt new skills mostly independently, and asks for assistance from the supervisor if needed.	The student has knowledge and insight on a scientific level, i.e. he explores solutions on his own, increases skills and knowledge where necessary.
1.6. Keeping to the time schedule	Final version of thesis or colloquium more than 50% of the nominal period overdue without a valid reason (force majeure)	Final version of thesis or colloquium at most 50% of the nominal period overdue (without a valid reason).	Final version of thesis or colloquium at most 25% of nominal period overdue (without valid reason)	Final version of thesis or colloquium at most 10% of nominal period overdue (without valid reasons)	Final version of thesis or colloquium at most 5% of nominal period overdue (without good reasons)	Final version of thesis and colloquium finished within planned period (or overdue but with good reason).
	No time schedule made.	No realistic time schedule.	Mostly realistic time schedule, but no timely adjustment of time schedule.	Realistic time schedule, with some adjustments (but not enough or not all in time) in times only.	Realistic time schedule, with timely adjustments. of times only.	Realistic time schedule, with timely adjustments of both time and tasks.

Item	Mark for item					
	2-3	**4-5**	**6**	**7**	**8**	**9-10**
2. Thesis report (30-60%) *						
2.1. Relevance research, clearness goals, delineation research	No link is made to existing research on the topic. No research context is described.	The context of the topic at hand is described in broad terms but there is no link between what is known and what will be researched.	The link between the thesis research and existing research does not go beyond the information provided by the supervisor.	Context of the research is defined well, with input from the student. There is a link between the context and research questions.	Context of the research is defined sharply and to-the-point. Research questions emerge directly from the described context.	Thesis research is positioned sharply in the relevant scientific field. Novelty and innovation of the research are indicated.
	There is no researchable research question and the delineation of the research is absent	Most research questions are unclear, or not researchable and the delineation of the research is weak	At least either the research questions or the delineation of the research are clear	The research questions and the delineation are mostly clear but could have been defined sharper at some points	The research questions are clear and researchable and the delineation is clear.	The research questions are clear and formulated to-the-point and limits of the research are well-defined.
2.2. Theoretical underpinning, use of literature	No discussion of underlying theory.	There is some discussion of underlying theory, but the description shows serious errors.	The relevant theory is used, but the description has not been tailored to the research at hand or shows occasional errors.	The relevant theory is used, and the description has been tailored partially successful to the research at hand. Few errors occur.	The relevant theory is used, it is nicely synthesized, and it is successfully tailored to the research at hand.	Clear, complete and coherent overview of relevant theory on the level of an up-to-date review paper. Exactly tailored to the research at hand.
	No peer-reviewed/primary scientific papers in reference list except for those already suggested by the supervisor	Only a couple of peer-reviewed papers in reference list.	Some peer-reviewed papers in reference list but also a significant body of grey literature.	Relevant peer-reviewed papers in reference list but also some grey literature or text books. Some included references less relevant.	Mostly peer-reviewed papers or specialized monographs in reference list. An occasional reference may be less relevant.	Almost exclusively peer-reviewed papers in reference list or specialized monographs (not text books). All papers included are relevant.
2.3. Use of methods and data	No description of methods and/or data.	Research is not reproducible due to insufficient information on data (collection and/or treatment) and analysis methods	Some aspects of the research regarding data-collection, data-treatment, models or the analysis methods are described insufficiently so that that particular aspect of the research is not reproducible.	Description of the data (collection, treatment) or models as well as the analysis methods used is lacking in a number of places so that at most a more or less similar research could be performed.	Description of the data (collection, treatment) or models as well as the analysis methods used is mostly complete, but exact reproduction of the research is not possible due to lack of some details.	Description of the data (collection, treatment) or models as well as the analysis methods is complete and clear so that exact reproduction of the research is possible.
2.4. Critical reflection on the research performed (discussion)	No discussion and/or reflection on the research. Discussion only touches trivial or very general points of criticism.	Only some possible weaknesses and/or weaknesses which are in reality irrelevant or non-existent have been identified.	Most weaknesses in the research are indicated, but impacts on the main results are not weighed relative to each other.	Most weaknesses in the research are indicated and impacts on the main results are weighed relative to each other.	All weaknesses in the research are indicated and weighed relative to each other. Furthermore, (better) alternatives for the methods used are indicated.	Not only all possible weaknesses in the research are indicated, but also it is indicated which weaknesses affect the conclusions most.
	No confrontation with	Confrontation with irrelevant	Only trivial reflection vis-a-vis	Only most obvious conflicts	Minor and major conflicts and	Results are critically

Item	Mark for item					
	2-3	**4-5**	**6**	**7**	**8**	**9-10**
	existing literature.	existing literature.	existing literature.	and correspondences with existing literature are identified. The value of the study is described, but it is not related to existing research.	correspondences with literature are shown. The added value of the research relative to existing literature is identified.	confronted with existing literature. In case of conflicts, the relative weight of own results and existing literature is assessed. The contribution of his work to the development of scientific concepts is identified.
2.5. Clarity of conclusions and recommendations	No link between research questions, results and conclusions.	Conclusions are drawn, but in many cases these are only partial answers to the research question. Conclusions merely repeat results.	Conclusions are linked to the research questions, but not all questions are addressed. Some conclusions are not substantiated by results or merely repeat results.	Most conclusions well-linked to research questions and substantiated by results. Conclusions are mostly formulated clearly but with some vagueness in wording.	Clear link between research questions and conclusions. All conclusions substantiated by results. Conclusions are formulated exact.	Clear link between research questions and conclusions. Conclusions substantiated by results. Conclusions are formulated exact and concise. Conclusions are grouped/ordered in a logical way.
	No recommendations given.	Recommendations are absent or trivial.	Some recommendations are given, but the link of those to the conclusions is not always clear.	Recommendations are well-linked to the conclusions.	Recommendations are to-the-point, well-linked to the conclusions and original.	Recommendations are to-the-point, well-linked to the conclusions, original and are extensive enough to serve as project description for a new thesis project.
2.6. Writing skills	Thesis is badly structured. In many cases information appears in wrong locations. Level of detail is inappropriate throughout.	Main structure incorrect in some places, and placement of material in different chapters illogical in many places. Level of detail varies widely (information missing, or irrelevant information given).	Main structure is correct, but lower level hierarchy of sections is not logical in places. Some sections have overlapping functions leading to ambiguity in placement of information. Level of detail varies widely (information missing, or irrelevant information given).	Main structure correct, but placement of material in different chapters illogical in places. Level of detail inappropriate in a number of places (irrelevant information given).	Most sections have a clear and unique function. Hierarchy of sections is mostly correct. Ordering of sections is mostly logical. All information occurs at the correct place, with few exceptions. In most places level of detail is appropriate.	Well-structured: each section has a clear and unique function. Hierarchy of sections is correct. Ordering of sections is logical. All information occurs at the correct place. Level of detail is appropriate throughout.
	Formulations in the text are often incorrect/inexact inhibiting a correct interpretation of the text.	Vagueness and/or inexactness in wording occur regularly and it affects the interpretation of the text.	The text is ambiguous in some places but this does not always inhibit a correct interpretation of the text.	Formulations in text are predominantly clear and exact. Thesis could have been written more concisely.	Formulations in text are clear and exact, as well as concise.	*Textual* quality of thesis (or manuscript in the form of a journal paper) is such that it could be acceptable for a pear-reviewed journal.

Item	Mark for item					
	2-3	**4-5**	**6**	**7**	**8**	**9-10**
3. Colloquium (5%) *						
3.1. Graphical presentation	Presentation has no structure.	Presentation has unclear structure.	Presentation is structured, though the audience gets lost in some places.	Presentation has a clear structure with only few exceptions.	Presentation has a clear structure. Mostly a good separation between the main message and side-steps.	Presentation clearly structured, concise and to-the-point. Good separation between the main message and side-steps.
	Unclear lay-out. Unbalanced use of text, graphs, tables or graphics throughout. Too small font size, too many or too few slides.	Lay-out in many places insufficient: too much text and too few graphics (or graphs, tables) or vice verse.	Quality of the layout of the slides is mixed. Inappropriate use of text, tables, graphs and graphics in some places.	Lay-out is mostly clear, with unbalanced use of text, tables, graphs and graphics in few places only.	Lay-out is clear. Appropriate use of text, tables, graphs and graphics.	Lay-out is functional and clear. Clever use of graphs and graphics.
3.2. Verbal presentation and defence	Spoken in such a way that majority of audience could not follow the presentation.	Presentation is uninspired and/or monotonous and/or student reads from slides: attention of audience not captured	Quality of presentation is mixed: sometimes clear, sometimes hard to follow.	Mostly clearly spoken. Perhaps monotonous in some places.	Clearly spoken.	Relaxed and lively though concentrated presentation. Clearly spoken.
	Level of audience not taken into consideration at all.	Level of audience hardly taken intro consideration.	Presentation not at appropriate level of audience.	Level of presentation mostly targeted at audience.	Level of presentation well-targeted at audience. Student is able to adjust to some extent to signals from audience that certain parts are not understood.	Clear take-home message. Level well-targeted at audience. Student is able to adjust to signals from audience that certain parts are not understood.
	Bad timing (way too short or too long).	Timing not well kept (at most 30% deviation from planned time).	Timing not well kept (at most 20% deviation from planned time).	Timing is OK (at most 10% deviation from planned time).	Timing is OK.	Presentation finished well in time.
	Student is not able to answer questions.	Student is able to answer only the simplest questions	Student answers at least half of the questions appropriately.	Student is able to answer nearly all questions in an appropriate way.	Student is able to answer all questions in an appropriate way, although not to-the-point in some cases.	Student is able to give appropriate, clear and to-the-point answers to all questions.
4. Examination (5%) *						
4.1. Defense of the thesis	Student is not able to defend/discuss his thesis. He does not master the contents	The student has difficulty to explain the subject matter of the thesis.	Student is able to defend his thesis. He mostly masters the contents of what he wrote, but for a limited number of items	Student is able to defend his thesis. He masters the contents of what he wrote, but not beyond that. Is not able to	Student is able to defend his thesis, including indications where the work could have been done better. Student is	Student is able to freely discuss the contents of the thesis and to place the thesis in the context of current scientific

Item	Mark for item					
	2-3	**4-5**	**6**	**7**	**8**	**9-10**
			he is not able to explain what he did, or why.	place thesis in scientific or practical context.	able to place thesis in either scientific or practical context.	literature and practical contexts.
4.2. Knowledge of study domain	Student does not master the most basic knowledge (even below the starting level for the thesis).	The student does not understand all of the subject matter discussed in the thesis.	The student understands the subject matter of the thesis on a textbook level.	The student understands the subject matter of the thesis including the literature used in the thesis.	Student is well on top of subjects discussed in thesis: not only does he understand but he is also aware of current discussions in the literature related to the thesis topic.	Student is well on top of subjects discussed in thesis: not only does he understand but he is also aware of discussions in the literature beyond the topic (but related to) of the thesis.