MSc Thesis Course Guide Wageningen University

- Part A: information about MSc theses at WU
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Additional information specific to programmes or chair groups is provided online (via Brightspace and/or webpages).

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Part A: Information about MSc theses at WU

1. General information

This course guide describes the procedures for the MSc thesis supervision and writing process for all chair groups of Wageningen University. This course guide applies to both compulsory and extra theses. It is meant for staff and students. It includes information about the goal of the thesis, the necessary procedures before starting and during the thesis, as well as the assessment procedure.

A separate course guide applies to the *Research Practice*. This is a thesis-like project with additional learning outcomes and related assessment criteria that – depending on the programme and individual arrangements made with the Examining Board – may be done instead of an internship.

Course profile

The MSc thesis enables the student to put their acquired knowledge and skills into practice by individually and independently conducting a research project within the scope of their programme.

Language: English
Credits: 30 - 39 EC (compulsory theses) or 24 - 33 EC (extra theses)*
Period: The start date of your thesis is determined in consultation with your thesis supervisor

* Most study programmes require a minimum of 36 credits for the compulsory thesis; see the Study Handbook for more information. As a guideline, a full-time thesis of 36 credits (EC) equals 24 weeks of 42 hours/week or 26 weeks of 40 hours/ week).
You may choose to include an extra thesis as part of the electives in your study programme. The extra thesis has a minimum size of 24 EC: 16 weeks of 42 hours/week or 17 weeks of 40 hours/week. Only in consultation with the thesis coordinator (of the chair group) and your study adviser, can you extend the length of your (compulsory) thesis to a maximum of 39 credits.

Specific requirements (e.g. mandatory courses) for each MSc thesis can be found in the online Study Handbook. Please check with your study adviser for any programme specific requirements. Finally, you should be officially registered as a Wageningen University MSc student.

Learning outcomes

After the successful completion of your MSc thesis, you are expected to be able to *independently* carry out the following aspects of a research project:
1. Develop a research plan, including: a description of the research topic in relation to the wider scientific context; an identification of the knowledge gap; formulation of research questions and/or a hypothesis, aims and objectives; an explanation of how you intend to conduct the research (e.g. in terms of a design for the project, data-collection and -analysis methods, research tools).
2. Collect, select and process data, using the design for the project, methods and tools described in the research plan.
3. Analyse and synthesise the data in order to answer the research questions and/or test the hypothesis.
4. Formulate answers to the research questions that are supported by the research outcomes; pay attention to potential limitations; critically discuss the outcomes in relation to the wider scientific and societal context.
5. Report on the research, both in writing and in oral presentation.

6. Work in compliance with academic codes of conduct and with proper management of time and resources.
7. Make use of input and feedback for executing the research project and provide feedback to others.

2. Preparation of your thesis

The supervision of your thesis is the responsibility of a Wageningen University chair group. Your study programme determines which chair groups are entitled to supervise your thesis project. Consult the description of your MSc programme in the Study Handbook and contact your study adviser to find out more about the chair group(s) allowed to supervise your thesis. If you find a thesis topic that does not meet these criteria, but which, in your opinion, is extremely relevant for your programme, you should contact your study adviser and ask for approval from the Examining Board.

People involved in your thesis

- The *thesis coordinator* is the contact person within the chair group. You can find thesis coordinators of each of the chair groups in the online Study Handbook of Wageningen University. The thesis coordinator appoints a supervisor and an examiner from the chair group.
- The *supervisor* is a staff member of the chair group and responsible for the supervision of your thesis. Especially in lab theses, the daily supervision often is delegated to a PhD student. Supervisors from external organisations cannot have a formal role and cannot be involved in the grading.
- The *examiner* will be the chair holder or another staff member appointed by the Examining Board. The examiner is responsible for the final grading.

How to find a thesis (topic)

There are differences between chair groups with regard to how theses should be found and arranged. In general, you can take the following steps:
- Attend a thesis information meeting, organised by your MSc programme or the chair group. In a few programmes, you need to participate in a thesis allocation procedure.
- Contact your study adviser to discuss the options for thesis subjects.
- Visit the Wageningen University websites of chair groups that are entitled to supervise an MSc thesis within (the specialisation of) your study programme.
- Find thesis subjects via the thesis database at WU-website (this database is still under construction).
- Make an appointment with the thesis coordinator of the chair group and discuss which thesis subject(s) you are interested in. Names of thesis coordinators can be found in the online Study Handbook.

The thesis subject should preferably match the overall research field of your programme. You must discuss both the topic and timing with your study adviser and the thesis coordinator of the chair group in a timely manner, especially if your thesis includes an experiment or field work abroad: this can sometimes take several months to arrange.

Learning Agreement

Before the thesis starts, you and your supervisor have to discuss and agree on the content of your thesis. The *Learning Agreement* (see overview of downloads in Appendix II) contains a description of the thesis topic, the agreements on supervision, planning, data management plan, evaluation moments, and (if applicable) risk assessment. You and your supervisor must discuss and sign the Learning Agreement. The Learning Agreement will be archived in OSIRIS.

Discuss possible confidentiality issues with your supervisor. In principle, your MSc thesis is not considered confidential, however, if part of your results is used in a larger research project, contract research or research that is subject to patenting, then confidentiality agreements may apply. You

should be informed by the thesis supervisor prior to starting if your thesis is part of a contract research programme or a patent procedure.

Discuss time, format and transfer of results and data with your supervisor as well (these are part of the data management plan) and include arrangements in the Learning Agreement. If the chair group use a specific format for a data management plan, this is included in the chair group specific regulations in this course guide (Part B).

Information on WU travel policy, insurance and grants

Travel policy for students
Are you planning to travel abroad or, as an international student, are you temporarily travelling back home in the context of your studies at Wageningen University & Research? Find out in good time whether this trip concerns a **risky area** (source: Dutch Ministry of Foreign Affairs). If so, you will have to receive permission. If this is relevant to you, you should submit a **travel request** together with your thesis coordinator.
You will need to complete a form that also functions as a checklist to ensure that you are well-prepared for your trip. This checklist includes precautions to be taken – both mandatory and otherwise – such as travelling together with a student who is already familiar with the area, (additional WU) insurance, safety training, registration in Kompas (Foreign Affairs), and recommended vaccinations. You can find the form on the website mentioned below.
For actual information on travel policy WU, check the website:
https://www.wur.nl/en/Education-Programmes/Current-Students/Travel-policy-for-students.htm

Travel Insurance
Students participating in internships and/or conducting thesis work abroad as part of their study programme at the University are covered by the collective travel insurance of Wageningen University & Research. You do not need to pay to make use of this collective travel insurance. More information you can find here (heading Collective Travel Insurance):
https://www.wur.nl/en/Education-Programmes/Current-Students/Insurance.htm

Grants
There are some possibilities to apply for grants if your thesis, internship or research practice takes place in a foreign country, but most times the chance to receive a grant is small. For information about grants, see the following websites:
- https://www.wur.nl/en/Education-Programmes/Study-Abroad-and-Exchange-Students/Outgoing-from-Wageningen-University.htm
- http://www.beursopener.nl/content/index.asp (unfortunately in Dutch only)
- https://www.wur.nl/en/Education-Programmes/master/Study-grants.htm
- https://www.wur.nl/en/Education-Programmes/Current-Students/Travel-Funding.htm

3. Points of attention during the thesis

Supervision

Each chair group organises the appointment of supervisors differently. Contact the thesis coordinator of the respective chair group to check their specific procedure.

The first (main) supervisor is always a staff member of the responsible chair group, but sometimes, a second or even a third chair group may be involved in the supervision of an MSc thesis. In general, students are entitled to have regular meetings (e.g. every two or three weeks) with the primary supervisor. The actual frequency of meetings may vary depending on the nature of the thesis project. In order to make the meetings effective, the student needs to prepare for them, for example by preparing documents for the meeting (e.g. a chapter of the thesis or a list of discussion points) and by sending the document to the supervisor well in advance of the meeting. The supervisor, in turn, is expected to read the documents sent to them and to discuss them with the student during the meeting. As the thesis project is a learning experience, students are encouraged to act independently when resolving problems or in difficult situations. However, in cases of urgency, the supervisor should be available for feedback and support in between the regular meetings. Agreements on how to deal in such situations should be included in the Learning Agreement.

Ethical behaviour and plagiarism

Attention to scientific integrity is an important aspect of your academic education, including the various aspects that are relevant for an academic researcher. You always have to be aware of the fact that you could get into an ethical dilemma and you should be prepared if you run into such a situation. We refer to the Wageningen Code of Conduct for Scientific Practice (see Appendix I).

The main aspects described in this code concern:
- Scrupulousness: Scientific activities are performed scrupulously, unaffected by mounting pressure to achieve.
- Reliability: Science's reputation of reliability is confirmed and enhanced through the conduct of every scientific practitioner. A scientific practitioner is reliable in the performance of their research and in the reporting, and in the transferring of knowledge, through teaching and publication.
- Verifiability: Presented information is verifiable. Whenever research results are publicised, it is made clear what the data and the conclusions are based on, where they were derived from and how they can be verified.
- Impartiality: In their scientific activities, the scientific practitioner needs no other interest than the scientific interest. In this respect, they are always prepared to account for their actions.

A summary of the Wageningen Code of Conduct for Scientific Practice is given in Appendix I.

You are expected to be familiar with proper citing and referencing techniques before you start writing the thesis and are advised to consult relevant information available on the WUR-website (e.g. 'Citing and referencing'). Improper citing and referencing may be considered as plagiarism, which is a form of fraud. Staff are expected to screen all writings carefully for similarity with known sources; the University has made software available for this purpose. In case of suspicion of plagiarism, either of text, figures, models or data, the Examining Board will be informed. In the Rules and regulations of the Examining Board, procedures and sanctions regarding fraud are described.

Progress evaluation

The progress evaluation is a meeting between student and supervisor that takes place before you are

halfway through the project. It is up to the chair group if this meeting is scheduled right after the completion of the research proposal or later on, but should be agreed upon with the student in the Learning Agreement. In this meeting, all aspects of the thesis project at that point (i.e. research proposal, supervision, performance) are discussed. The principle of two-way feedback applies to the progress evaluation: if you have experienced any shortcomings in your supervision, then this is a good moment to discuss them and make agreements on potential improvements. In case of severe problems regarding your dedication, skills, knowledge or communication, your supervisor and the thesis examiner, may decide to terminate the thesis project. The outcome of the evaluation will be discussed with you and will be registered in OSIRIS afterwards.

The thesis assessment form and rubric can be used for the evaluation of the progress and provide a clear picture of what is going well and where improvement may be needed. If progress has not been achieved as planned due to reasons beyond your control (e.g. illness, problems in supervision), the plan for the rest of the project may need to be adjusted and new, feasible end goals defined.

Meetings

During your thesis period, you may participate in work discussions and other meetings of the chair group. Many chair groups have weekly work discussions in which research progress of all group members is discussed. Depending on the chair group, you may be asked to join the discussion group that is related to your research topic. Ask your supervisor when your chair group holds discussion sessions.

Both students and staff present their results to the other members of the chair group during colloquia. In general, students have to attend these colloquia.

Some chair groups organise literature discussions on papers that are relevant to their field, or organise seminars, during which guest researchers present their research or designs.

4. Thesis activities

This section describes the different stages of the thesis project in general terms. See Part B of the course guide for the specific requirements of your chair group.

Research proposal/ planning

At the start of the thesis, you will discuss the topic with your supervisor and read literature related to the project. After this initial orientation, you write a research proposal, which has to be discussed in depth with your supervisor(s). The research proposal should include a problem statement, research questions or a hypothesis that is supported by up-to-date literature related to the topic, an explicit and specific plan regarding how the research is to be conducted (e.g. study design, data collection and analysis methods) and a time schedule.

If drafted correctly, sections of the proposal can be used to write the final thesis report (e.g. the Introduction and Methodology sections). However, you cannot start conducting the research project before the research proposal has been approved by your supervisor(s).

When your proposal is completed, you may be asked to present your research proposal to other students and staff members in order to acquire feedback and suggestions for improvement. Discuss format and content for your presentation with your supervisor. The presentation should be given in English in order to allow international students and staff members to participate in the discussion.

Carrying out the research project

You should document your research activities, findings and sources carefully, including seemingly small details. During data collection, analysis and synthesis, you should follow the agreements made in the data management plan. In experimental research, a lab or field journal has to be kept.

You are recommended to keep in close contact with your supervisor throughout the project. Should unforeseeable circumstances occur, you will have to adapt your research proposal; any changes in planning must be discussed with and approved by your supervisor.

Feedback

Dealing with feedback and providing feedback to others is one of the learning outcomes of the thesis. While carrying out your project and attending meetings, there will be ample opportunities for you to ask for and receive feedback from staff and students, and to give feedback to others as well. The chair group will request that you participate in thesis rings or other peer-learning sessions. Using this input will help you to further develop your knowledge, skills and attitude and make the best of your project.

Thesis report

Your research should result in a comprehensive, consistent and concise thesis report. It is important to realise that the thesis is not a chronological account of the project or a summary of the lab-journal. Furthermore, as good scientific writing dictates, the results should be properly organised and data should be correctly processed, analysed and presented. In principle, an MSc thesis report should contain all the elements of a full scientific paper in your discipline (see Part B for specific criteria for your chair group).

In some cases, it may be possible to write your thesis in the format of a scientific article, which is usually much shorter than a regular thesis report. Discuss this with your supervisor. Publication of the results of your research in proceedings or a scientific article is also possible. The supervisor of the chair group will generally be co-author of any publications originating from thesis work.

You usually get one possibility to discuss a draft report with your WU supervisor before handing in

the final report. In many chair groups it is common practice to discuss chapters separately in the final stage of the project.

Oral presentation (Colloquium)

Once your research has been completed, you are required to present your thesis and your major findings to other students and staff members of the chair group. Chair groups usually have a fixed schedule for these presentations. Appointments for a date, and the publication of the announcement should be made well in advance. You may discuss the structure and content of your presentation with your supervisor in advance so they can offer feedback and advice. The presentation must be in English so international staff and students can participate in the discussion.

Oral defence

The final oral defence is a discussion with your supervisor, the examiner and, in some cases, a supervisor from outside the chair group not involved in the grading of the thesis. The discussion focuses on the content of the thesis, in which your knowledge, understanding, insights, as well as creativity and scientific attitude are evaluated. You are expected to be able to place your results and conclusions in the wider context of the field of science. The oral defence will be scheduled ten working days after you have submitted your reports to the supervisor and examiner. You must make an appointment for the oral defence.

5. Completion of your thesis

Assessment of the thesis

For the Wageningen University assessment, supervisors/examiners use the Wageningen University Thesis Assessment Form (see Appendix II). The average grade for each category (performance, thesis project report, oral presentation (colloquium), oral defence) should be at least 5.5 for a pass.

The assessment strategy below shows the relation between the learning outcomes and the different parts of the assessment.

Weights			Assessment categories			
		Description	Performance	Research Report	Oral presentation	Oral defence
		% of grade	40%	50%	5%	5%
Learning outcomes	1	Develop a research plan, including: a description of the research topic in relation to the wider scientific context; an identification of the knowledge gap; formulation of research questions and/or a hypothesis, aims and objectives; an explanation of how you intend to conduct the research (e.g. in terms of a design for the project, data-collection and -analysis methods, research tools).	x	x		x
	2	Collect, select and process data, using the design for the project, methods and tools described in the research plan.	x	x		x
	3	Analyse and synthesise the data in order to answer the research questions and/or test the hypothesis.	x	x	x	x
	4	Formulate answers to the research questions that are supported by the research outcomes; pay attention to potential limitations; critically discuss the outcomes in relation to the wider scientific and societal context.	x	x	x	x
	5	Report on the research, both in writing and in oral presentation.	x	x	x	
	6	Work in compliance with academic codes of conduct, and with proper management of time and resources.	x	x		
	7	Make use of input and feedback for executing the research project and provide feedback to others.	x			
Assessors		Supervisor	x	x	x	x
		Examiner*		x	x	x

* The examiner will determine the final grading after a discussion with the supervisor/second assessor.

A rubric is used for feedback and grading (see Appendix II). After the examination, you will receive the reasoning behind your thesis grade, including specific feedback on all assessment categories. The final grade is administered in OSIRIS.

Delay and possibility to resit

The start and end date of your thesis are recorded in the Learning Agreement. There are a number of potential causes for delay in your thesis project: force majeure, functional disabilities or an insufficient result for your thesis.

In case of force majeure (circumstances beyond one's control) you can discuss an adjustment to your time schedule with your supervisor. Your supervisor can register an adjusted end date in OSIRIS.

In case of functional disabilities or other valid reasons for delay that are known beforehand, those should be mentioned at the start of the course. Your supervisor will only extend the regular duration of the project based on the advice of a student dean.

If you do not manage to complete a satisfactory final report before the end date recorded in the learning agreement, you may ask your supervisor for an extension of two months. Supervisors will extend the end date if they expect that you will be able to hand in a satisfactory report within these extra months. If you are not able to hand in a satisfactory report within two extra months, your WU supervisor and examiner can decide that you should start a new thesis. This new thesis does not necessarily need to have the same supervisor, chair group or be on the same subject. If you do start a new thesis, this is still considered as a resit.
If you and your WU supervisor disagree on your being able to pass the course in two extra months, and you do not get up to two months extension for finishing your thesis, you are able to send an appeal to the Examination Appeals Board. But ask your study adviser for advice first in this case; usually there are other possibilities to solve the issue.

Feedback on your thesis

Following the assessment, Wageningen University will send you a link to an online evaluation questionnaire. Please complete this, even if your thesis project is finished. The results of the questionnaires help us to improve the quality of the thesis supervision and organisation, and to identify potential (or actual) problems. The evaluation is anonymous.

Part B: Chair Group specific regulations

Version: September 2022

1. Doing a MSc thesis at ENP or PAP

ENP and PAP are part of the Wageningen Centre for Sustainability Governance (WCSG). WCSG is an interdisciplinary group of governance scholars contributing knowledge on the design, functioning and implications of sustainability governance arrangements in the Wageningen domains of food, nature and environment. More information about the centre can be found here:
https://www.wur.nl/en/research-results/chair-groups/social-sciences/section-sustainability-governance.htm

Part B of this thesis document details the various steps from identifying a MSc thesis idea to receiving a final grade on your thesis; see figure 1 for a summary of the main steps. The document also contains suggestions to successfully complete your thesis work. Read this document carefully and, in case something is unclear, raise any doubts with your (potential) supervisor or during the intake.
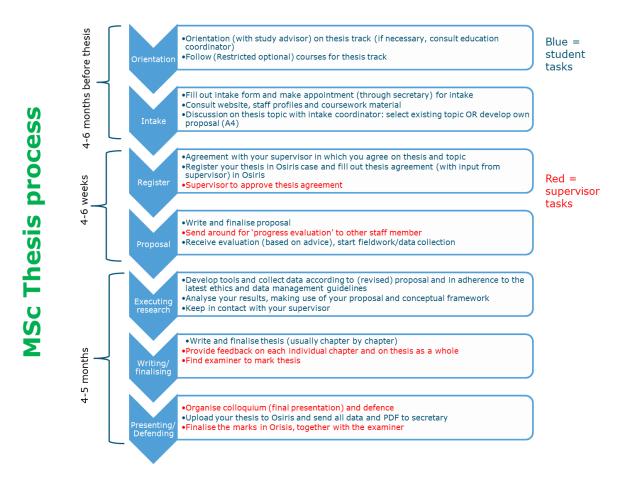

Figure 1. Flowchart of the main steps in the MSc thesis process for ENP and PAP.

Contact person chair groups

- Education coordinator ENP: Mattijs Smits (mattijs.smits@wur.nl)

- Intake MSc thesis ENP-code: email to Erna van Ludevelde (erna.vanludevelde@wur.nl) for an appointment with one of the intake coordinators. Include the completed intake form (see below)
- Secretariat ENP: office.enp@wur.nl

- Education coordinator PAP: Robbert Biesbroek (robbert.biesbroek@wur.nl)
- Intake MSc thesis PAP-code: for MID students: Otto Hospes (otto.hospes@wur.nl); Other students: Jeroen Candel (jeroen.candel@wur.nl). Include the completed intake form (see below)
- Secretariat PAP: office.pap@wur.nl

How to find a thesis topic at our groups

An important step is to find a thesis topic before or shortly after the intake meeting. Some students have a clear idea what they want to do, whereas others are very much open to suggestions. There are various ways for students to develop their own thesis topic, for example:

- access the chair group websites for information about main research themes and ongoing projects
- search the online database with thesis topics (e.g. www.tip.wur.nl)
- make use of previous courses for inspiration.

Thesis orientation and intake meeting

If you are interested to do a thesis at one of the chair groups, you need to complete an intake form which serves as input to the intake meeting. The intake meeting is with someone who will discuss the form and thesis process and will help you to narrow down the scope and/or find a thesis supervisor. Completing the intake form and emailing it well before the intake meeting takes place is therefore important. The document contains basic information, initial ideas you might have about the topic and supervisors, and questions about where you are in the process of finding a thesis topic. You can find the form on the education webpage of the chair groups. The form is also included in Appendix III

It is possible to have a supervision team consisting of PAP and ENP staff (or staff from other groups).

Formal registration in OSIRIS

Once you and a supervisor have agreed on the general scope of the thesis, it is up to the student to start a 'case' in OSIRIS, see instructions at the WUR students support website: Here.
You will develop a learning agreement (formal 'contract') using the online platform which includes agreements between student and supervisor about number of meetings, facilities, special requirements etc. Once approved by the supervisor you can formally start your thesis work.

WCSG Thesis Café

Once you registered, you are expected to participate in the Wageningen Center for Sustainability Governance (WCSG) Thesis Café. This is a monthly meeting for ENP/FNP/LAW/PAP students, to discuss and exchange experiences related to your thesis with peers. You are expected to participate in the Thesis Cafe. For more information, registration and the link to access, please see the Brightspace page: https://brightspace.wur.nl/d2l/home/17165

Guidelines for supervision

For most students, thesis work is their first real encounter with independent academic research. From your supervisor you may expect guidance in, for instance, proposal writing, in methodology and research set-up, in theory selection, in making questionnaires and in academic writing. Thesis work, however, requires that students work as independently as possible. In the end, students are responsible for their own thesis work in terms of content, planning and choices made.

Some guidelines in supervision:
- Write a mini-proposal to take with you to the first supervision meeting.
- Your supervisor will guide you in developing your proposal. Expect 3-4 meetings with your supervisor from start to submitting your final proposal.
- In general, have a meeting with your supervisor once every two weeks, except in the period of fieldwork when this can be organised on an ad hoc basis.
- In most cases you may discuss draft texts during these meetings. Please provide these texts well in advance, typically at least 2-3 working days in advance. Your supervisor will tell you in what form (digital or in hard copy) and at which deadlines (s)he needs your texts.
- Keep in mind that you will receive feedback on a chapter only once and once more for the full draft.
- During supervision meetings you are responsible for the content of the meeting. Make sure the agenda and purpose of the meeting is clear, and documents have been shared well in advance (as agreed with your supervisor).
- There is a limited number of rooms available for MSc students at the university. You may instead opt to use the general computer rooms or library in the Leeuwenborch or other university buildings.
- In general, there is no funding available for MSc thesis research from the chair groups. Occasionally, it may be possible to cover some expenses if you contribute directly to a specific project.

Research (fieldwork) outside the Netherlands

Some research may include fieldwork in places outside the Netherlands. Wageningen University has strict travel policy for students. Typically countries or regions labelled as 'green' by the Dutch government do not require formal permissions. Countries labelled 'yellow' require permission and travel to 'red' areas is not allowed. Areas labelled 'orange' are typically not allowed but exceptions may be given. Make sure you are aware of the latest university policy, discuss this with your supervisor and or chairholder, and apply for necessary travel requests on time. More detailed information can be found here: https://www.wur.nl/en/education-programmes/current-students/travel-policy-for-students.htm. For information on current travel advice from the Dutch government (in Dutch): https://www.nederlandwereldwijd.nl/reisadvies

2. Writing a research proposal

An important first step is to develop a research proposal. It is important to realize that there is often no fixed structure for research proposals. The outline presented in Appendix III should be considered as a guideline to help you, not as a fixed scheme that you can follow blindly. If you have good reasons to diverge from the suggestions below, discuss this with your supervisor.

There is no fixed length of the proposal, but it typically consists of ~10-15 pages including annexes and references. Avoid spending too much time on the proposal as you need enough time to execute the work. Consider 4-6 weeks as a rough estimate to draft a full proposal.

Furthermore, it is good to realize that the research steps that you describe in the proposal can be modified during implementation of the research. When diverging from the proposal, however, always communicate this with your supervisor. Finally, note that several parts of the proposal can be reused for the final thesis report.

Completing the proposal is an important milestone in your thesis trajectory as this document is used for the progress evaluation, see below and section A.

3. Progress evaluation

The progress evaluation is a meeting between student and supervisor that takes place before you are halfway through the project (see part A). This meeting is scheduled right after the completion of the research proposal, which will be assessed by your supervisor and the examiner (a staff member, usually from WCSG, who is knowledgeable about your research topic). Typically this is after the first 4-6 weeks of your thesis work. Your supervisor decides who should be the examiner, who will likely also be involved in the assessment of your final thesis report and oral defence.

The supervisor is the point of contact with the examiner. The outcome of the progress evaluation is registered in OSIRIS by the supervisor. The result of the progress evaluation (a 'go' or 'no go') is always substantiated with argumentation in written format. The GO advice can be phrased as provisional (i.e. 'if the student takes these things into account, it's a GO'). The student should contact his/her study advisor when a NO GO decision is given. In the unlikely event disagreements or conflicts occur between the student, supervisor and/or examiner, the respective chairholder will be involved to mediate.

The progress evaluation is also a moment to reflect on the process so far and what can be done to improve this. A useful guide for giving and receiving feedback are the assessment criteria that are used during the process evaluation at the final stage of the thesis (see http://wur.eu/thesis-internship). It gives the student a possibility to voice any concerns or suggestions to further strengthen supervision.

4. Executing the research

After you received a go-decision you can start implementing your research. This is an exciting but often challenging transition. During this time the number of meetings may be reduced as you are primarily busy collecting and analyzing data. That said, keep in regular contact with your supervisor and inform them about your contact details and your progress. The supervisor will be ready to support you with comments during your research, but it is your responsibility to take the initiative and set the agenda of meetings. You may for example want to:
- discuss important steps with your supervisor, for example topic lists for interviews or design of focus group events.
- keep track of the research you are doing and ensure transparent documentation of the data you collected and analysed. This will help you when analysing the results.

The library offers a range of academic literacy courses and tools that can help you in executing parts of the research and/or writing the report: https://www.wur.nl/en/library/students/support-for-theses-and-essays.htm

5. Writing a thesis report

We expect you to have knowledge about the structure of a scientific report. A report outline is

shown in Appendix IV, but this outline should be considered as an example, not as a fixed format. Make use of the provisional table of content you developed for the proposal.

Do not wait too long with submitting drafts of the texts to your supervisor; the longer you postpone, the less helpful the supervisor's comments may be. Be concise and precise in your writing and make sure there is a clear structure and narrative. Make use of figures, tables and/or supplementary materials where relevant.

Reports should be written in English (in exceptional circumstances, you can ask the examination committee to write it in Dutch). There is no fixed number of words or pages but on average theses consist of 50-60 pages (or 25000-30000 words, excluding tables, figures, references and supplementary materials). Keep in mind that length of a thesis is no indication of the quality of the work.

The university has a repository of completed MSc theses (https://library.wur.nl/WebQuery/theses). If you are looking for inspiration, for example on the structure of the report, length and balance between chapters, or various ways in which results can be presented, you can explore some of these theses. You can also ask your supervisor for some good (or bad) examples.

Writing support
The supervisors are not there to edit your text. If you have difficulties with writing, make use of the university services such as the Wageningen Writing Lab (for free: https://www.wur.nl/en/article/wageningen-writing-lab-3.htm), the Wageningen in'to languages (courses: https://www.wur.nl/en/education-programmes/wageningen-into-languages/target-groups/students.htm) and/or the WCSG thesis cafe. Start finding and using this type of support as early as possible in the thesis process.

Plagiarism
Please be aware that the University and the chair group consider plagiarism as a major offence: it may exclude you from examination / graduation. More information concerning proper referencing and plagiarism can be found on https://www.wur.nl/en/Library/Students/Citing-and-plagiarism.htm

Uploading a draft report and submitting final thesis

You will receive feedback from your supervisor on a completed draft of your thesis once. This can be done by either uploading your draft to OSIRIS, or sharing a editable version to the supervisor. Discuss with your supervisor which option to choose. Make sure the draft thesis is as complete as possible (e.g. list of abbreviations, tables, summary, reference lists, supplementary material etc.). The supervisor provides written feedback on the thesis within the agreed timeframe. After revisions, the final report is submitted to OSIRIS.

Guidelines for data management

Along with handing in your final report, you should also hand in your data files for storage in our research data archives. Your files, consisting of quantitative survey data, interview transcripts, audio, video files, observation notes, will be handled confidentially and will only be accessible by the chair and the data manager of the chair group. You can share the file (one ZIP-file) with the secretariat of the respective chair group by email or online filesharing (https://filesender.surf.nl/). Check with your supervisor for the latest updates on data management, use of consent forms, etc.

6. Thesis colloquia and oral defence

The MSc thesis colloquia are scheduled every month, during which a group of students who have submitted their final thesis provide a public presentation of their findings. This means that not only staff and students are invited, but also family and friends may attend the thesis colloquium. The language of the colloquium is English.

Once you have handed in the final version of the thesis, you may hold your thesis colloquium. Your thesis (main) supervisor is responsible for scheduling the colloquium and defence and will need your personal information, name of MSc programme, thesis title, supervisor(s)/examiners and abstract for doing so. This information will be used to send an invite around two weeks in advance.

The slots are maximum 30 minutes each: 15-20 min for the presentation and 10-15 min for Q&A from the public. The student's thesis supervisor is responsible for chairing his/her student's session. The evaluation of the colloquium is part of the thesis assessment.

There are no strict formats for the presentation, but make sure it is attractive, interactive where relevant and understandable for the audience. Note that your supervisors and examiners have already read your report.

The oral thesis defence will be held on the same day of the colloquium. Your supervisor(s) and the examiner will be present and will ask a number of questions pertaining to your thesis report during approx. 20 minutes, after which they will deliberate on your grade (you will be asked to leave the meeting for about 10-20 minutes). These questions are typically about the theories used, methodological choices and implications, clarification or interpretation of results, broader societal implications of your work and reflections on the problem/recommendations.

Assessment of the thesis, presentation and your defence

The supervisor evaluates both the thesis report as well as the process that has led to the thesis, while the examiner will only evaluate the thesis report, colloquium and the oral defence. Both readers agree on a final grade. The final grade will be announced to you at the end of the defence. If there are irreconcilable differences between the supervisor and examiner, the respective chair or education coordinator will mediate. In the last step of the assessment your thesis grade will be registered in Osiris by the supervisor.

Publishing the report
You should always submit an electronic version (PDF) and in some cases you can be asked to submit two hard-copies. Be sure to ask your supervisor. By submitting your final thesis, you consent to your thesis being published in full-text online on the library website (currently all theses marked 7.5 or higher). You can discuss other publication options (academic journals or elsewhere) with your supervisor.

Appendices

Appendix I: Summary of 'The Wageningen Code of Conduct for Scientific Practice'

The Wageningen Code of Conduct for Scientific Practice concerns principles of good scientific teaching and research, containing the Netherlands Code of Conduct for Research Integrity. The main aspects described in this code concern: Scrupulousness, Reliability, Verifiability, Impartiality, and Independence. See also: [Netherlands Code of Conduct for Research Integrity](#)

Scrupulousness: Scientific activities are performed scrupulously, unaffected by mounting pressure to achieve.
- Scrupulousness is expressed through precision and nuance in providing scientific instruction, conducting scientific research and the publishing of results thereof.
- Every scientific practitioner demonstrates respect for the people and animals involved in scientific teaching and research.
- Accurate source references serve to ensure that credit is awarded where credit is deserved. This also applies to information gathered online.
- Authorship is acknowledged. Rules common to the scientific discipline are observed.
- Scrupulousness is not restricted to the transfer of information, but also applies to relations among scientific practitioners and with students.
- Good mentorship is essential: a student and junior staff member are in a position of dependency. The responsibilities of persons involved in teaching and research are clearly defined and observed at all times.
- A scientific practitioner avoids personal relationships that may give rise to reasonable doubt concerning the objectivity of their decisions, or that may result in any form of coercion or exploitation of a hierarchically subordinate person.
- The assessment of study performance is based on explicit criteria that have been announced in advance. Teachers are prepared to explain every assessment, while students are sufficiently aware of the matter on which they will be assessed.
- A scientific practitioner ensures that they maintain the level of expertise required to exercise their duties. They do not accept duties for which they lack the necessary expertise. If necessary, they actively indicate the limits of their competence
- Damages, as a result of errors or negligence, are repaired to the best of one's ability.
- A scientific practitioner is responsible for the quality of the educational programme in which they provide instruction, and for the scientific and societal value of the research programmes in which they participate. They act according to their own preferences only insofar as they are reconcilable with this responsibility.

Reliability: Science's reputation of reliability is confirmed and enhanced through the conduct of every scientific practitioner. A scientific practitioner is reliable in the performance of their research and in the reporting, and equally in the transfer of knowledge through teaching and publication.
- The selective omission of research results is reported and justified. The statistical methods employed are pertinent to the acquired data.
- Speculation, spurred by results of scientific research, is recognisably presented as such. This does not include conclusions on the basis of the presented results. Suggestions for follow-up research may rest on speculation, in the form of an interpretation of the acquired results.
- The system of peer review can only function on the assumption that intellectual property is recognised and respected.
- A scientific practitioner provides a complete and honest overview of their skills whenever a decision concerning their career or duties is pending.

- In transferring information in education, a selective representation of available knowledge is either avoided or justified. A clear distinction is made between transferred knowledge and personal opinion or related speculation.

Verifiability: Presented information is verifiable. Whenever research results are publicised, it is made clear what the data and the conclusions are based on, what they were derived from and how they can be verified.
- Research must be replicable in order to verify its accuracy. The choice of research question, the research set-up, the choice of method and the reference to sources studied is accurately documented.
- The quality of data collection, data input, data storage and data processing are guarded closely. All steps taken must be properly reported and their execution must be properly monitored (through lab journals, progress reports, documentation of arrangements and decisions, etc.).
- Raw research data is stored for at least five years. This data is made available to other scientific practitioners on request.
- Raw research data is archived in such a way that it can be consulted with minimal expense of time and effort.
- The source of all educational material, including oral information transfer, is stated.

Impartiality: In their scientific activities, the scientific practitioner needs no other interest than the scientific interest. In this respect, they are always prepared to account for their actions.
- Scientific practitioners give others room to take their own intellectual stance. This applies particularly in case of a hierarchical relation, like the relation between a teacher and a student, or a tutor and a PhD student.
- The choice of methods and criteria is guided solely by the goal of truth-finding, and not by external goals, such as commercial success or political influence.
- A reviewer consults their conscience as to whether they can offer an impartial assessment of a manuscript, for instance when it concerns a competing research group.
- In assessing the performance of others (e.g. peer review in education, research and manuscripts), a scientific practitioner heeds arguments of scientific substance. They refrain from assessing a manuscript if they are in any way involved in the education or research concerned.
- A scientific practitioner only defends a certain scientific viewpoint if that viewpoint is based on sufficient scientific grounds. Competing viewpoints must be mentioned and explained.
- Exclusively assigning one's own study books in education is avoided, in any case at undergraduate level.
- In its annual report, every university reports on its registration of side activities by its staff. Every university registers the side activities relevant to scientific practice. Preferably, this register is made publicly accessible.
- Every scientific practitioner allied with a university provides their institution with an up-to-date overview of their side activities for registration purposes.

Independence: Scientific practitioners operate in the context of academic liberty and independence. Insofar as restrictions of that liberty are inevitable, these are clearly stated.
- Whenever a scientific practitioner is commissioned to provide instruction or conduct research, they are allowed – once the parameters have been defined – to execute the assignment without interference from the commissioning party. The research question is of interest to science, aside from the commissioning party's particular concern. The method employed is scientifically valid. The commissioning party has no influence on the research results.
- Commissioned assignments demonstrably contribute to scientific teaching or research.

- There is no ambiguity as to the identity of the commissioning party of the scientific activity, the relation between the commissioning party and the executing party, the existence of consultancy relations or other connections, etc.
- The publication of scientific research results is guaranteed. Arrangements with external financiers always stipulate that the scientific practitioner is at liberty to publish the results within a specified, reasonable period.
- External financiers of executed projects are identified by name. For research, this means that their names are stated in the publication; for education, this means that they are referred to in the course announcement and teaching material.

Appendix II: Downloads

- **Wageningen University MSc Thesis Learning Agreement**

The current version of the MSc Thesis Learning Agreement is available on the WUR website:
https://www.wur.nl/en/Education-Programmes/Student-Service-Centre/Show-ssc/Forms-Student-Service-Centre.htm

- **Assessment form and rubric**

The WU thesis assessment form and rubric will be used to grade your thesis after completion. We encourage you to look at the assessment criteria at the start of your project. You can download the most recent version of the assessment form and rubric from the Education & Student Affairs SharePoint site:
http://wur.eu/thesis-internship

Appendix III: Outline MSc thesis proposal

Problem description

Here you describe in a concise way the problem that is motivating your research. The purpose of the problem description is to make clear to the reader that the research is important and the research questions are relevant. Tailor the problem description to this purpose and do not include unnecessary background information. But see to it that all the major elements of your research questions are introduced and, if necessary, explained. Typically the problem statement is a combination of a societal problem and theoretical gap.

Research aim / objective

The research aim is a concise and precise formulation of the contribution that your research aims to make to the solution of the problem described in the previous section. The scope of the research aim should to be realistic and proportional to the size of the research project. Typically research aims can only be described in terms of 'contributing to certain solutions' by providing 'the knowledge, insights, understanding' of some relevant aspects of society. The research aim / objective is different from the research question.

Research questions

The research questions are at the core of the proposal. These are the questions you want to give an answer to in the conclusions of your thesis report. Clearly demarcate your research objectives and subsequent research questions. Good research questions:
- are precise (so not too general),
- are phrased as 'what' or 'why' questions, rather than 'how to do' questions
- cannot be simply answered with 'yes' or 'no' (unless you are testing a proposition)

Conceptual framework

In the conceptual framework you introduce the main concepts and theories you intend to use in your research to answer your research question. Although it is often difficult to elaborate on this in great detail at the start of the thesis work, it is important to at least give some indication of the key concepts in your research and the theories that you will are planning to use. Conduct a review of the (recent) scientific literature. Think of how the key concepts interrelate with each other, and how these concepts are related to the problem statement, research aim and research questions you have formulated.

Making a figure or schematic representation to indicate these linkages may be helpful. Define your key concepts clearly. When describing your conceptual framework, give adequate references to literature. Give some indications of how to operationalise the concepts: how will you use the concepts in practice? How will you observe, measure or assess the concepts in practice?

Methods

Here you describe the methods you intend to use, which should be aligned with your research objective and the conceptual framework. Typical methods in social research include: interviews (structured, semi-structured, or open); surveys (based on a questionnaire or on oral interviews; qualitative or quantitative); text analysis (documents, newspapers, social media, etc.); literature study; participant observation; focus groups (e.g. workshops); site visits etcetera.

Try to describe your methods as accurately as possible. For example, when planning for semi structured interviews, indicate who your respondents are, how many you plan to interview, how you will find these respondents, how long an interview will last, etc. Consult previous methods courses or a methodology handbook if you feel uncertain about the methods.

Time schedule
The time schedule should preferably be presented as a chart, with horizontal time bars for all main research project activities (e.g. writing the proposal, doing literature research, preparing and taking interviews, processing empirical data, writing the theory chapters, writing the empirical chapters). Try to be as detailed and accurate as possible (keeping in mind that you may need to modify the schedule in a later stage).

Ethical considerations
Research ethics becomes increasingly important. Include a reflection whether there are ethical concerns and how you intent to address them. For example, certain social experiments require formal approval of the Social Science Ethical Committee before implementing, and it is increasingly common to use consent forms for conducting interviews. More information can be found at their website, including a quick checklist to see if you need approval:
https://intranet.wur.nl/umbraco/en/about-wur/integrity-ethics/social-sciences-ethics-committee/

Data management (optional)
It is very likely you will be collecting a lot of data, for example through interviews (transcripts or recordings), surveys (complete forms, online databases), or observations (video recordings of events). Storing data during the research phase is critical, so make clear what kind of data you plan to generate and how you ensure the data is secured. Consider privacy issues. When submitting the final thesis you are expected to share the underlying data of your work for storage. Consult the data management plans of the chairgroups for up-to-date procedures.

Budget estimation (optional)
If you manage an externally funded research budget, a budget estimation is required. If there is no budget you do not need to include this.

Provisional Table of Contents
Concluding your proposal, you should provide a provisional table of contents for your thesis. It shows which chapters are devoted to theory, methodology, results of field work and case studies (if any), analysis and discussion and conclusions.

References
Include a list of references used in your proposal. In the course of your research you can extend this bibliography, and so keep an up-to-date list of references. It is highly recommended to use a reference management software such as EndNote or Mendeley to store and organize your references. There is no mandatory reference style, but author-date is frequently used in the social sciences.

Appendix IV: Outline MSc thesis report

This outline lists the main elements of a thesis report. Please note that most of the headings in this outline are describing the contents of chapters and are not meant as suggestions for actual chapter titles.

Title page

Abstract (<250w)

List of figures/tables (optional)

List of abbreviations (optional)

Table of contents

Foreword, acknowledgements (optional)

Introduction
This chapter can to a large extent be based on the research proposal, and should contain at least sections on problem description and research objectives and questions. Usually, this chapter ends with a section outlining the rest of the report.

Conceptual chapter
Introducing and demarcating the main concepts used, presenting and discussing the main theoretical considerations of the research, and - if applicable - developing hypotheses or another sort of conceptual framework. This chapter includes review of the relevant scientific literature with appropriate referencing. The chapter often contains explanations of the way you operationalise the conceptual framework (but can also be described in the methodology chapter)

Methodology chapter
Outlining the general research approach and a detailed elaboration on the specific methods used. In most cases the chapter includes sections on justification for case selection, data collection, data analysis and limitations.

Empirical chapters
Presenting the findings. Make use of figures/tables to summarize relevant findings. Ensure the link between the research question, conceptual framework, methods and results are clear. There can be one or several empirical chapters.

Discussion chapter
Comparing the findings with the theory (theories) used, evaluating the empirical results, and - if applicable - evaluating theoretical arguments against the empirical findings. Also includes a discussion of the findings, conceptual framework and methodology in light of other relevant literature. Reflect on the internal and external validity of your findings. Typically no new research results are presented in the discussion chapter

Conclusions and recommendations chapter
This chapter does not introduce new empirical evidence or theoretical debates, but synthesises the empirical and theoretical findings of the previous chapters. The conclusions should give answers to the research questions, and these answers should be underpinned by the arguments presented in

the previous chapters. Separate from the conclusions, the author can present recommendations for further research and/or suggestions for practice to cope with the problems investigated. These recommendations are sometimes included in the discussion chapter.

References

References should be complete and consistent. No reference format is required. Special attention should be paid to correct references in case of internet sites.

Appendices (optional)

Appendices should only be added if the information is not easily available elsewhere and is needed to fully understand the arguments of the thesis. This may include interview protocols, codebooks, additional statistical tests, necessary background information, large supplementary tables, links to online repository/github. Fully transcribed interviews are typically not included as appendices.