

MSc Thesis Course Guide, Cultural Geography Group (GEO)

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Study load:
36 ECTS

Course code:
GEO-80436

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1. General information

This course guide describes the procedures for the MSc thesis supervision and writing process of the Cultural Geography Chair Group (GEO). 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 checklist and general overview of the timeline of a MSc thesis can be found in Appendix I and II.

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: 36 ECTS¹

Period: The start date of your thesis is determined in consultation with your thesis supervisor

You should be officially registered as a Wageningen University MSc student. 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. In any case, the student must complete an advanced course on research methods and techniques and courses in the field of tourism, society and environment and/or cultural geography before starting the thesis project. The student is also responsible for acquiring sufficient writing skills before starting the thesis project. Students ought to take responsibility for writing their thesis reports in correct English. Students in need of support to improve their writing skills are encouraged to make use of the University's Writing Lab (<https://www.wur.nl/en/education/studying-wageningen/personal-development/wageningen-writing-lab>).

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.

¹ 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 nearly 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. This extra thesis *cannot* replace an internship or research practice.

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.

People involved in your thesis

Actors involved in the learning process:

- The *thesis coordinator* is the contact person within the chair group. You can find the thesis coordinator of each chair group in the online Study Handbook of Wageningen University (as the coordinator of the thesis course code), or for Cultural Geography specifically, on the next page.
- The *main and administrative supervisor* is responsible for guiding the thesis project. They are an employee of your chair group. They are often an academic WUR staff member², but they can also be an experienced PhD candidate or a post-doc. PhD candidates and post-docs will preferably have taken the courses 'Start to Supervise BSc & MSc thesis students' and 'Supervising BSc & MSc students' from the Education Support Centre, potentially as part of their Training and Supervision Plan. A technician may also be involved.
- A *second supervisor*. If the daily supervisor is a PhD candidate, the second supervisor of the MSc student is usually the supervisor of that PhD candidate. There can also be content-related reasons to appoint a second or third supervisor or advisor.
- *Advisor(s)*: other people not involved in supervision.

Actors in the assessment (the main and administrative supervisor assigns the assessors and examiner in Osiris):

- *Assessor 1* is responsible for evaluating the thesis project. This is an academic WU staff member². They are preferably involved in supervision as they assess the student's performance. Hence, assessor 1 will often be the daily supervisor (provided that they match the definition of academic WU staff member).
- *Assessor 2* is responsible for an independent assessment of parts of the thesis project (at least the report). Assessor 2 is often the examiner, but not necessarily. This role has the same requirements as Assessor 1.

² From the EER for the academic year 2023/2024 onwards, the following holds for both supervisors and assessors: 'During the internship, thesis and research practice, the Master's student is supervised by a WUR staff member affiliated with a chair group with a PhD degree or an equivalent research profile, or someone who performs this role under the responsibility of this staff member. The equivalence of the research profile is at the discretion of the examiner of the course under consideration.'

- *Examiner* (one of the two assessors³), who is responsible for evaluating the thesis project and coordinating grades throughout the chair group. They are appointed by the Examining Board, and they are listed as examiner in the [Study Handbook](#) under the MSc thesis course code.

Requirements: a PhD degree or other demonstrable experience with the MSc thesis subject. Only examiners listed for the courses in the course catalogue can decide and finalise the grade in Osiris.

Contact information

MTO Thesis Coordination

Maria de Wit

Contact for:

- General information Email: maria.dewit@wur.nl
- Brightspace Office location: Gaia B301

MLP Thesis Coordination / MUE Contact

Martijn Duineveld

Contact for:

- General information Email: martijn.duineveld@wur.nl
- Supervisor allocation thesis Office location: Gaia B301
- Thesis topic exploration
- MUE supervisor allocation

Additional Staff

Astrid van de Kuilen

Contact for:

- Colloquium Email: astrid.vandekuilen@wur.nl
- Proposal presentations Office location: Gaia B327

Cheryl van Adrichem

Contact for:

- Thesis rings Email: cheryl.vanadrichem@wur.nl
- Thesis topics brochure Office location: Gaia B309
- Thesis market

³ In previous versions of the course guide, it was stated that the examiner is 'often Assessor 2'. However, the EER states that the 'the examiner is one of the assessors' (article 46b in EER 2023/2024).

2. Thesis preparation

This section describes the initial preparation before starting your thesis project in general terms. See Appendix I for a checklist for organising your thesis, Appendix II for a timeline of the thesis and Appendix III for the administrative process of your thesis in OSIRIS.

Finding a thesis topic

The thesis subject should preferably match the broad research field and/or design expertise of the Cultural Geography Chair Group (GEO) offering the thesis. 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. The thesis must be original work and make a substantive contribution to the understanding of a set of significant issues.

In order to select a thesis topic, you can:

- Attend a thesis information meeting organised by GEO (e.g. the annual thesis café) or your MSc programme.
- Visit GEO's Wageningen University webpage '[Thesis with the Cultural Geography Group](#)' and read the GEO Research Topic Brochure
- Contact your MSc programme study advisor.
- Find thesis subjects via the thesis database at WU-website (currently this is the TIP database: [tip.wur.nl](#) which is not fully up-to-date but can inspire you; an alternative is under construction).

You must discuss both the topic and timing with your study adviser and GEO's thesis coordinator in a timely manner, especially if your thesis includes an experiment or field work abroad: this can sometimes take several months to arrange.

Finding a supervisor

Once you have found a potential topic, you will need to find a matching supervisor. Check the GEO Topics Brochure to see who at GEO matches your interest best. Based on the topic(s) in the brochure, you can contact 1 or 2 potential GEO supervisors to inquire whether they want to supervise you. In your email, we advise you to always include the following information:

- Who you are
- When you expect to start your thesis
- The topic/project: minimum 1-2 paragraphs
- In what way(s) is this topic relevant for your own development, study programme and/or Cultural Geography
- Potentially add ideas of theory(ies) and/or methodology

If you direct this email to two potential supervisors, please include them in the same email. You can expect to receive a reply from them usually within 5 working days. If you do not hear back after 5 working days, you may send a reminder. Please note that you may not receive a response, or the response may be delayed, if your email misses important information (listed above) about your thesis.

If the specific supervisor is available to work with you on this, you should inform the thesis coordinator Maria de Wit. She will provide additional information and next steps for the thesis

process as you will have to start the administrative process of your thesis in OSIRIS. For further instructions on the procedure of starting your own OSIRIS Case, please visit [the WUR support portal](#).

Learning Agreement

Subsequently, you and your supervisor have to make more detailed agreements related to your learning process during the thesis. These agreements are written down in the Learning Agreement. To have an overview of the various topics covered in the learning agreement you can consult the checklist learning agreement that is available on the GEO Brightspace. You as a student fill in the learning agreement in Osiris. An overview of the entire process in Osiris is available in the form of a [presentation with screenshots](#).

One of the aspects covered in the learning agreement is intellectual property rights. The text of the statement you have to sign can be found in Appendix IV: Intellectual property statement for student. Related to that, discuss potential 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 transfer of results and data with your supervisor as well. Do not only specify *that* the data are transferred but also *when* (during and/or after the project, before or after the final assessment) and *how*. It is your responsibility to manage data according to GEO's data management plan (see Appendix V). Include additional arrangements regarding the results and data in the Learning Agreement.

Finally, discuss with your supervisor the use of AI (for elaboration see Chapter 5). Include in your learning agreement if you are aiming to use AI, and if so, how you will use it.

3. Thesis activities

This section describes the different stages of the thesis project in general terms. See Appendix I of the course guide for an important checklist, Appendix II for a timeline of the thesis and Appendix III for an overview of administrative steps in OSIRIS. For further instructions on the procedure in OSIRIS, please visit [the WUR Support](#) website.

Research proposal

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, theoretical framework, methodology stating how the research is to be conducted (e.g. study design, data collection and analysis methods), a work plan and 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).

In the planning part of your proposal, also pay attention to data management: e.g. safe storage / sharing / transfer of data (during and after the thesis), (personal) sensitive data, ownership (especially when data is provided by others), organising folders and files, file naming, etc. (see also the relevant part of the Learning Agreement, section 2.3).

Proposal presentation and peer feedback session

When your proposal is (more or less) completed, you are asked to present your research proposal to other students and staff members in order to acquire feedback and suggestions for improvement. Discuss content of your presentation with your supervisor. You will present your research proposal to other students and staff members around eight weeks after the start of your thesis research. Each presentation must be 5-7 minutes in length.

The proposal presentation(s) are followed up by a peer feedback session in which you get the chance to give feedback on each other's presentations/proposals. Feedback given during the feedback sessions will help you to further develop your knowledge, skills and attitude and make the best of your project. You will present your proposal to and have the feedback session with at least two other students.

GEO has reserved multiple dates throughout the year for research proposal presentations. Check the Brightspace page to see the allocated dates. Discuss with your supervisor which date would fit your schedule best. Register no later than 10 working days before the proposal presentation date by emailing Astrid van de Kuilen, mentioning the name of your supervisor and subject of your presentation. Once confirmed, you will need to arrange two peers to join your proposal presentation to give feedback and discuss your ideas. On Brightspace further instructions for arranging a proposal presentation are provided.

Progress evaluation

The progress evaluation is a meeting between the student and the supervisor that takes place in the 8th week or within two months after the start of your thesis research. 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. The thesis assessment rubric (available on Brightspace) 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 your supervisor considers that your progress is such that successful completion of the project is unlikely, you should be given the opportunity to improve. Your supervisor should clearly indicate what improvements are required and within which timeframe. If the lack of progress is the result of a mismatch between your supervisor and your, a switch of supervisor should be considered.

If, after the set timeframe for improvement(s), your supervisor considers your progress as being still not enough to successfully complete your thesis, the supervisor should involve an examiner (four-eyes principle). Together, they could consider termination of the project with a 'no-go' decision. A no-go decision must be taken by the examiner. It must be well explained to you, and the explanation should be recorded in Osiris. The supervisor should ensure that this 'no-go' decision is taken before half way the nominal duration of the thesis project, to prevent further delay for the student. Your supervisor must inform the study advisor to create a safety net for the student outside the chair group and facilitate a 'warm handover'. Note that the student may disagree with the no-go decision and submit an appeal to Examination Appeals Board (CBE).

Depending on the reason for the no-go decision, there may still be a role for the chair group in the follow-up. In consultation with the study advisor, the supervisor and the examiner, the student may, for example, be recommended to take additional education first (e.g. courses on content or skills, like academic writing). The student can also be assigned a topic that fits their knowledge and skills better. These adjustments require them to restart their thesis.

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 any specific agreements made in the Learning Agreement and the data management plan (see Appendix V). 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.

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. 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.

The thesis report will cover approximately 60 to 80 pages organised 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. In some special 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 a co-author of any publications originating from thesis work.

Once your thesis report is (almost) finished, the supervisor will assign an examiner, which is usually

the GEO chair holder or another staff member appointed by the Examining Board. The assessors will have to be documented in OSIRIS.

You will have to upload the final report to OSIRIS and send the data management files to Astrid van de Kuilen for archiving using SURFfilesender (<https://filesender.surf.nl/?s=upload>). The oral defence will take place ten working days after you have submitted your report(s) to the supervisor and examiner.

Important: It is the student's responsibility to provide the supervisor and the examiner with a PDF copy of the final MSc thesis in OSIRIS (and via email, if requested by your supervisor and the examiner) no later than 10 working days prior to the defence. Without an upload in OSIRIS, the thesis cannot be assessed.

Oral presentation (final 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. GEO has a fixed schedule for these presentations. The dates are visible on Brightspace and the GEO calendar. You must contact Astrid van de Kuilen at least three weeks in advance to reserve a slot for the upcoming colloquium.

It is not necessary to present all the elements of the thesis during the oral presentation. Focus on the main issues and the most interesting parts/findings of the research. You may discuss the structure and content of your presentation with your supervisor in advance to receive feedback and advice. The presentation must be 15 minutes in length (maximum) and allow for approximately 15 minutes for discussion. The presentation must be in English so all staff and students can participate in the discussion. The colloquium will take place on campus unless there are significant (personal) circumstances that do not allow this.

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 who is, however, 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 usually takes place immediately after your final colloquium, on the same day. The overall length of the oral presentation plus examination is about 45 minutes, with approximately 30 minutes of presentation and discussion (see the section above), followed by 10-15 minutes of defence. Then, following a short consultation between the supervisor and examiner, (an indication of) the final grade will be announced to the student (chapter 4).

4. Completion of your thesis

Assessment of the thesis

For the Wageningen University assessment, supervisors/examiners use the Wageningen University Thesis Assessment Form (Appendix VI). 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 | Description | Assessment categories | | | |
|-------------------|---|-----------------------|-----------------|-------------------|--------------|
| | | 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 (Assessor 1) | x | x | x | x |
| | Examiner* (Assessor 2) | | x | x | x |

* The examiner will determine the final grading after a discussion with the supervisor who acts as the first assessor.

A rubric is used for grading (you can view the assessment form on Brightspace or in Appendix VI). After the examination, you will receive the reasoning behind your thesis grade, including specific feedback on all assessment categories. Both assessors independently assess one or more aspects of your thesis work. Subsequently, the examiner, usually in consultation with the supervisor will determine the final grade for the different criteria. That assessment, the final grade, as well as an underpinning of the grade will be registered in OSIRIS.

You officially conclude your MSc thesis when all administration related to the thesis, including that of data management (see Appendix V), has been completed.

Delay and possibility to resit

The start and end date of your thesis are recorded in the Learning Agreement. You should complete the thesis project within the time allocated to this programme component (i.e. 6 months for a 36 EC thesis). Ensure that the research proposal is realistic and contains a contingency plan ('plan B').

Below we discuss the three acceptable reasons for a longer runtime of a thesis project. There are three acceptable reasons for a longer runtime of a thesis project: planned longer duration of your thesis project, force majeure or an insufficient result for your thesis. Other causes for delay are *not* acceptable.

Planned longer duration of the thesis project

If the student plans to undertake additional activities next to the thesis, the total runtime of a thesis project can be longer than the nominally allocated time. Examples are you have a job, have planned holidays, or will do a student-assistantship. You can take this into account when registering the expected date of completion (to be filled out in the learning agreement). This situation is *not* considered as delay.

Delay due to force majeur

If the planned period needs to be extended due to *force majeur*, you should submit a request to the student dean. The dean is to decide whether this is a case of *force majeur*, and advises the Examining Board. The Examining Board can then decide to extend the term for the thesis. In that case, the expected date of completion will be moved forward, in accordance with the extent of the delay. 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.

Delay due to an insufficient result

Around the expected date of completion of the thesis, the thesis is assessed, and the grade is registered in OSIRIS. In this way, all students are graded after the same amount of time, which makes the grading fair for all students.

If the assessment is insufficient, but your supervisor and you expect that you will be able to finish the project successfully within two extra months, the examiner registers the grade in OSIRIS as INCOMPL. Next, you have two months to improve the work to a sufficient level. In the case of *force majeur*, these two months can be extended under the same conditions as above (via student dean and Examining Board).

After two months, the work of the student's work is assessed again (again with two independent assessors, and the examiner determining the final grade). If the result is sufficient, the grade is registered in OSIRIS. If the result is insufficient, INSUFF will be recorded in OSIRIS.

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 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 start a new thesis, this is considered as a resit.

Course evaluation for 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.

Unenrolment Studielink

If the thesis is the last part of your study, be aware you can indicate a termination of your studies in advance in Studielink. When you are relatively certain about the expected end date, you can note this down in Studielink and avoid a payment of unnecessary tuition fees. There is no need to wait for the examining board to formally decide that you graduated or for a grade to be submitted at the end of the month for you to indicate an unenrolment in Studielink. If you - for instance - think that you will complete all final course assessments for your programme in February, you can inform Studielink months in advance. SSC always performs a final check to assess if all grades are indeed completed and if needed they will delay your final graduation.

5. Points of attention during the thesis

Well-being

Your MSc-thesis may be challenging for you in many ways. You may need to stretch yourself to master the contents, your academic or general skills may put to the test. Furthermore, the required level of independence may be a new experience for you, and you collaboration skills may be tested in the intensive collaboration within a small team (your supervisor and possible some other people involved in your research).

Given these challenges, it is of utmost importance to monitor your well-being. Make it a topic that you discuss with your supervisor with some regularity, but also with your fellow thesis students. If you feel that you need to discuss things that go beyond what you would like to discuss with your supervisor, do not hesitate to contact your study advisor. Useful links about student guidance and social safety can be found in Appendix VII: Information on student guidance and social safety.

Diversity

All theses and thesis processes are different because all students (and their supervisors) are different (e.g. in disciplinary/cultural backgrounds, communication, work styles). There is no one best way of doing a thesis and it is important to recognise this diversity. At the start of the thesis process, students should have a meeting with their supervisor(s) about their preferences in research, preferences in communication and expectations of themselves and their supervisor(s).

Supervision

The supervision of your thesis is the responsibility of a Wageningen University chair group, in this case the Cultural Geography Group (GEO). Your first (main) supervisor is a staff member of GEO, but a second Chair Group may be involved in the supervision of your MSc thesis as well.

In general, students are entitled to have regular meetings (e.g. every two or three weeks) with the GEO supervisor. The actual frequency of meetings may vary depending on the nature of the thesis project. The student will have at least four formal meetings with the supervisor. The amount of time the GEO supervisor invests in an MSc thesis is 40 hours (maximum). The time will be used for reading, commenting, meetings, assessment and general assistance.

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. We recommend the student to 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.

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.

Feedback

Dealing with feedback and providing feedback to others is one of the learning outcomes of the thesis and listed in the grading rubric in the assessment form. While carrying out your project and attending

meetings, there will be ample opportunities for you to ask for and receive feedback from your supervisor. In addition, you are required to participate in feedback and peer-learning by attending research proposal presentation sessions (see also the sections 'Proposal presentation and peer feedback session' above).

Thesis rings

As an addition to the peer feedback procedure explained in the previous section, GEO offers and strongly advises students to participate voluntarily in self-organised thesis rings. When interested, you are encouraged to contact Cheryl van Adrichem for thesis ring opportunities or instead self-organise into small groups of four to five people. For more information, see Brightspace.

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 VIII).

The main aspects described in this code concern:

- **Honesty** means, among other things, reporting the research process accurately, taking alternative opinions and counterarguments seriously, being open about margins of uncertainty, refraining from making unfounded claims, refraining from fabricating or falsifying data or sources and refraining from presenting results more favourably or unfavourably than they actually are.
- **Scrupulousness** means, among other things, using methods that are scientific or scholarly and exercising the best possible care in designing, undertaking, reporting and disseminating research.
- **Transparency** means, among other things, ensuring that it is clear to others what data the research was based on, how the data were obtained, what and how results were achieved and what role was played by external stakeholders. If parts of the research or data are not to be made public, the researcher must provide a good account of why this is not possible. It must be evident, at least to peers, how the research was conducted and what the various phases of the research process were. At the very least, this means that the line of reasoning must be clear and that the steps in the research process must be verifiable.
- **Independence** means, among other things, not allowing the choice of method, the assessment of data, the weight attributed to alternative statements or the assessment of others' research or research proposals to be guided by non-scientific or non-scholarly considerations (e.g., those of a commercial or political nature). In this sense, independence also includes impartiality. Independence is required at all times in the design, conduct and reporting of research, although not necessarily in the choice of research topic and research question.
- **Responsibility** means, among other things, acknowledging the fact that a researcher does not operate in isolation and hence taking into consideration – within reasonable limits – the legitimate interests of human and animal test subjects, as well as those of commissioning parties, funding bodies and the environment. Responsibility also means conducting research that is scientifically and/or societally relevant.

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

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 at the WUR library, including [workshops](#). 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 Osiris. 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.

Use of generative artificial intelligence (e.g. Language models, image generators, transcription models, (semantic) literature search engines)

Rules regarding AI usage

Working in an academic environment requires using available tools responsibly, and Generative AI ('GenAI') is no exception. To ensure ethical and effective use, the following rules have been established on how to incorporate GenAI tools into your academic work.

What is Generative AI?

Generative artificial intelligence is a technology that generates content (textual, visual, audio) based on previously learned patterns by a model, sometimes facilitated through the use of natural language conversational interfaces.

In principle, the use of AI is allowed as/for:

- Sparring partner / Brainstorming
- Feedback tool for textual improvement (e.g. spelling/grammar checking)
- Data processing script development (coding)
- Literature searching
- Transcription

Under the conditions that:

- Acquiring skills relevant to the thesis, such as active writing, designing, and reflection skills, are an important part of your learning objective. The use of AI may only be in support of the development of these skills and not a replacement of these skills.
- You will always be held accountable for the correctness, completeness, and coherence of all your texts. AI models can misinterpret information, introduce or amplify biases, or introduce false or unsubstantiated information. You should always critically evaluate the output. Don't let an AI perform the work for you, but ask it for suggestions and weigh them critically.
- When you use AI for your work, acknowledge and/or document the usage of AI on your products.
- Never put (personal) data of others, information that infringes on intellectual property rights or sensitive or confidential (research) data into external/commercial AI tools. When using data or information written by your supervisor that is not (yet) published, make sure this is not entered into any AI-software without your supervisor's approval.
- Be aware of institutional policies regarding data usage. Some databases, chair groups, internship companies, etc., might not allow you to share their data with AI tools, as this may

violate agreements with financiers of projects or may even violate intellectual property rights (IPs). For more information, see: [Personal data protection regulations WUR](#).

- Always respect copyright laws and the intellectual property rights of others. Do not upload materials that are copyright-protected in an AI tool, this can have severe consequences.
- When applying AI for literature searching you use it as a supplementation or extension of existing conventional search methods (e.g. keyword-based searching via the WUR Library or Google Scholar), and not as a replacement of these methods. Use specialised programs for literature searches and creating a list of references, as multipurpose generative AI models may generate (i.e. make up) references.
- Using AI to write code / scripts may only be done if you can explain and verify the accuracy and validity of the code.

Documenting and acknowledging AI usage

We advise you to have an explicit discussion with your supervisor at the start of the thesis project, and make an agreement over the use of AI. You may also include this as a part of the content of your learning agreement. Whenever needed or in doubt, you may revisit the agreement together with your supervisor during the process of writing your thesis.

In case AI is applied as an integral part of your research methodology (e.g. as a transcription tool or for data analysis), its usage needs to be documented in the Materials and Methods section of your scientific report. This should be done in line with research methodology standards, aimed at reproducibility and verifiability. Prompts or instructions applied in this context should be made available in the appendix. Be aware that the use of AI within some software (e.g. Atlas.ti) is not guaranteed to be safe and your collected (private) data may end up in the cloud. If you aim to use AI embedded in a particular software, check the WUR ApprovedApps list to see if it is safe to use.

If AI was used only in the writing of the report, this should be acknowledged in a separate section before the References, using the standard format presented below:

“During the preparation of this work the author used [TOOL, VERSION IF APPLICABLE, METHOD OF ACCESS] in order to [GOAL OF APPLICATION]. After using this tool/service, the author reviewed and edited the content as needed and takes full responsibility for the content of the report.”

More examples for documentation are available via: <https://wur-studentsupport.screenstepslive.com/m/118226/l/1878197-how-to-document-your-genai-use>.

Extensive interactions with AI should be documented via documentation in the appendix or via your data repository (as PDF or text file). It is recommended to maintain a version history of your internship documents to be able to show the progression of your work over time.

The documentation and acknowledgement of AI usage depends on its application. For each application the requirement may differ. Please consult the table below for information:

| Application ⁴ | Usage in research methodology | Usage outside of research methodology |
|---|---|---|
| Spelling/grammar checking | Acknowledgement with prompt | Acknowledgement only |
| Coding / Script development | Acknowledgement with prompt, incl. outputs and modifications for significant/major changes. | N/A |
| Transcription | Full documentation, incl. tool used. | N/A |
| Image/Video/Audio generation | Full documentation with prompt, tool used, modifications. | Full documentation with prompt, tool used, modifications. |
| Sparring partner / Brainstorming | Acknowledgement only | Acknowledgement only |
| Literature searching | Acknowledgement with embedding in conventional methodology. | Acknowledgement with embedding in conventional methodology. |

Costs associated with carrying out the research

All MSc thesis 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 thesis 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 prior agreement must be assumed by the student.

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. More information, see [Travel Abroad](#).

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.

If you have any questions or need support regarding Visa or travel permission, you can contact Working Abroad Services (WAS): workingabroad.services@wur.nl .

⁴ If your application method is not listed in this table, your examiner/supervisor may decide how to document/acknowledge the usage.

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.

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](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)

6. Appendices

Appendix I: Checklist students for organising a thesis

- ✓ Check whether you are allowed to start your thesis, i.e. if you meet the mandatory knowledge requirements of the chair group and the requirements of your study programme.
- ✓ Find a thesis topic.
- ✓ Check whether the topic of your thesis is consistent with your study programme.
- ✓ Contact GEO's thesis coordinator and contact a potential GEO supervisor.
- ✓ Discuss the thesis topic with the supervisor.
- ✓ Start an OSIRIS Case for the administration of your thesis.
- ✓ Obtain access to GEO's thesis and internship Brightspace by contacting Maria de Wit

You can only proceed to the following until you have done all of the above:

- ✓ Check whether the country of research (if applicable) is a risk area or not.
- ✓ Discuss the Thesis Learning Agreement together with your supervisor.
- ✓ Submit the Thesis Learning Agreement via OSIRIS.
- ✓ Discuss the requirements for your research proposal with your supervisor (length, depth etc.).
- ✓ Discuss your data management with your supervisor, especially when your research is part of a larger research project.
- ✓ Optional: Arrange thesis ring independently or contact Cheryl van Adrichem
- ✓ Write a research proposal.
- ✓ Arrange slot for proposal presentation by contacting Astrid van de Kuilen.
- ✓ Arrange a date with your supervisor for progress evaluation.
- ✓ Confirm progress evaluation on OSIRIS after the supervisor has registered this.
- ✓ Arrange dates for the final assessment (handing in thesis report, examination) by contacting your supervisor and arrange final colloquium by contacting Astrid van de Kuilen.
- ✓ Provide the supervisor and examiner with a PDF of the final version of your thesis report by uploading it on OSIRIS⁵ (and, in case requested, via email too)
- ✓ After the examination, send the data management files to Astrid van de Kuilen using SURFfilesender (<https://filesender.surf.nl/?s=upload>)
- ✓ Complete the thesis evaluation questionnaire.

Appendix II: MSc Thesis Timeline

In this appendix you will find a general overview of the timeline of a GEO MSc thesis project. **Please do keep in mind that the order in which you write certain parts of your thesis are topic-dependent and can also differ per supervisor or thesis project.**

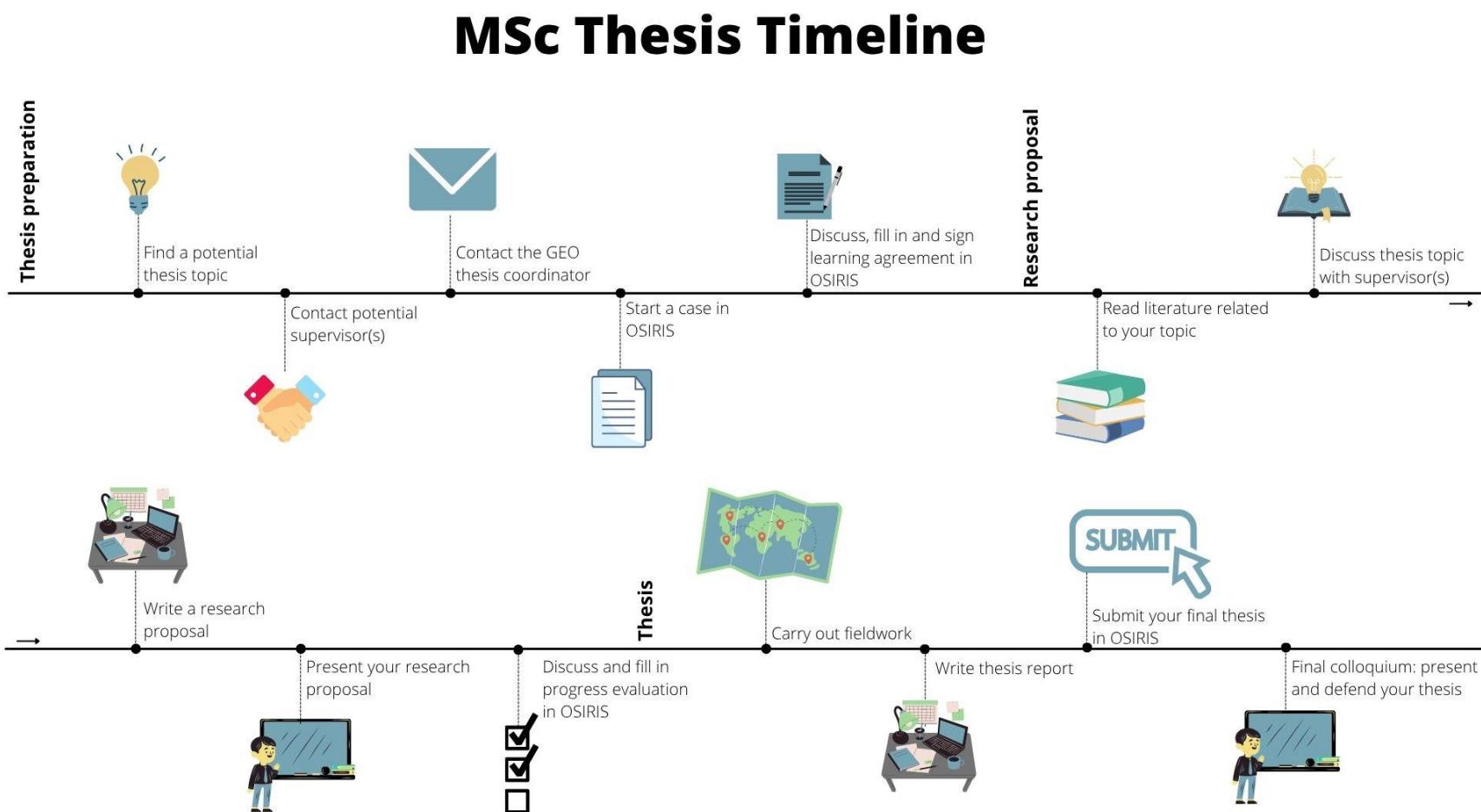


Figure 1 Thesis period timeline

As illustrated in the flow chart (Figure 1), the thesis period consists of three phases: (1) the thesis preparation phase, (2) the research proposal phase and, (3) the thesis phase. The accompanying steps, tasks, deliverables, and deadlines per phase can be found in Table 1. The steps can also indicate when to meet with your supervisor(s). For more details, please consult the previous chapters of this MSc thesis course guide.

Table 1 Overview of the thesis period

| Month | Step | Task(s) | Deliverable | When? |
|-------------------------------------|------------------------------------|--|--|---|
| Phase 1: Thesis preparation | | | | |
| Before the 1 st month | Orientation and learning agreement | <ul style="list-style-type: none"> Check with your study advisor if you are allowed to start your thesis and meet the GEO requirements (for MTO e.g. by completing the course GEO 30806) Find a thesis topic (research direction) Contact potential GEO supervisor(s) Once confirmed, contact thesis coordinator Maria de Wit Start OSIRIS Case Add supervision to OSIRIS Case Fill in learning agreement in OSIRIS | Learning agreement <i>Submit to OSIRIS</i> | Before the start of the thesis project. |
| Phase 2: Research proposal | | | | |
| 1 st and 2 nd | Draft proposal ¹ | <ul style="list-style-type: none"> Discuss the structure of your research proposal with your supervisor(s) Write draft research proposal | Draft research proposal <i>Submit to supervisor(s) via e-mail</i> | Approx. in 8 weeks (<i>depends on the proposal presentation dates and your agreement with your supervisor</i>). |
| | Thesis ring | <ul style="list-style-type: none"> Form a thesis ring with other students (voluntarily) to share feedback and experiences | | |
| | Proposal presentation ¹ | <ul style="list-style-type: none"> Prepare for proposal presentation Register for presentation up to 10 working days in advance Present the proposal Give/receive peer feedback during the peer feedback sessions | | Check available dates on Brightspace |

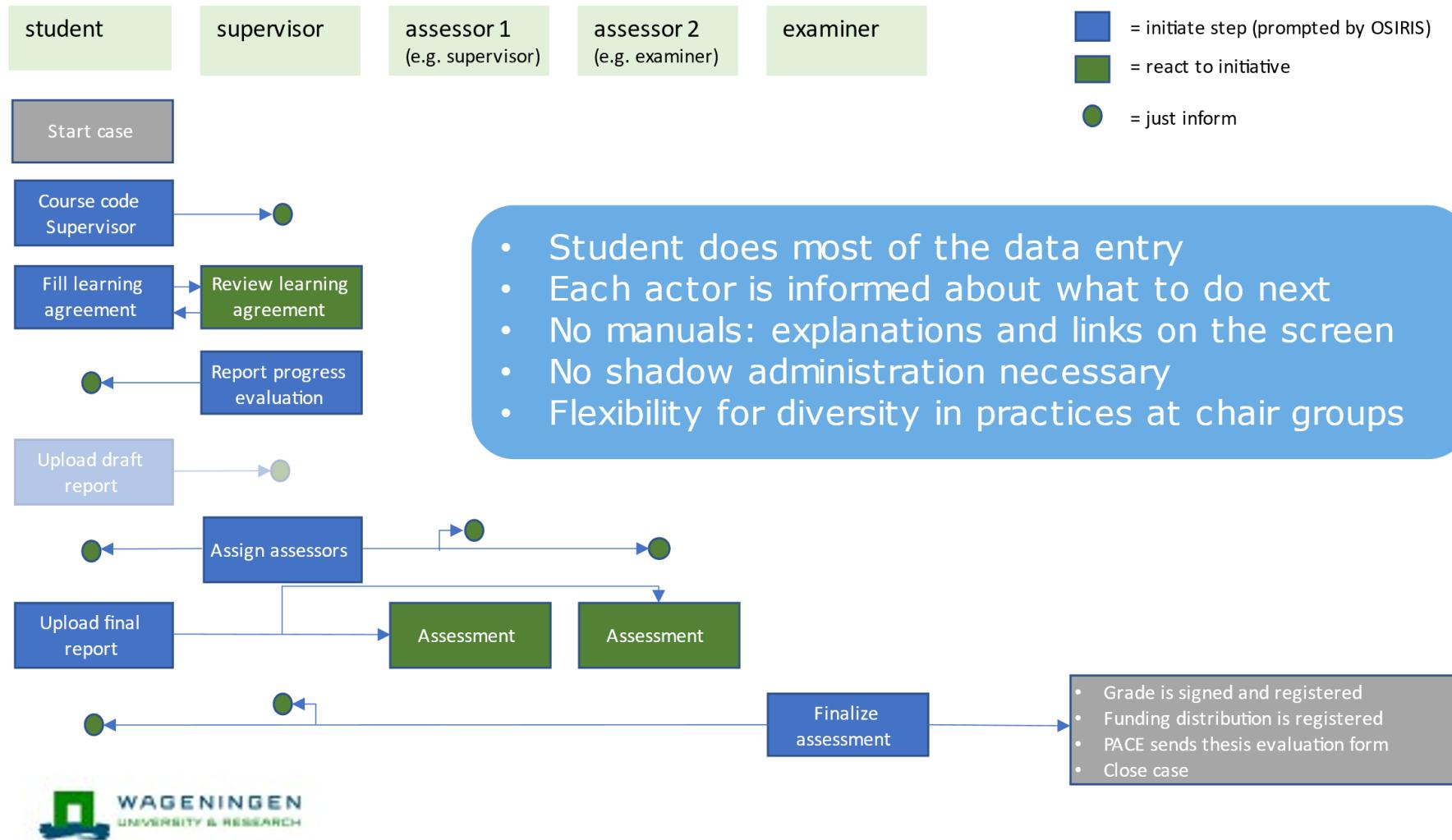
Table 1 Overview of the thesis period (cont.)

| Month | Step | Task(s) | Deliverable | When? |
|-------------------------------------|------------------------------------|--|---|---|
| Phase 3: Thesis | | | | |
| 2 nd | Progress evaluation | <ul style="list-style-type: none"> Discuss progress evaluation with supervisor in a meeting. Confirm the progress evaluation form in OSIRIS¹ | Progress evaluation <i>entered by supervisor(s) and confirmed by student via OSIRIS</i> | In week 8, or within 2 months after the start of your thesis research. |
| 3 rd and 4 th | Fieldwork | <ul style="list-style-type: none"> Carry out your thesis research | Findings <i>Submit to supervisor(s) via e-mail</i> | Depends on the arrangements with your supervisor(s). |
| 5 th and 6 th | Analysis and thesis write up | <ul style="list-style-type: none"> Write a full draft of your thesis | Draft thesis <i>Submit to supervisor(s) via e-mail</i> | Depends on the arrangements with your supervisor(s) and the available colloquium dates. |
| 6 th | Final thesis & colloquium | <ul style="list-style-type: none"> Agree with your supervisor(s) on a date for your final assessment (colloquium) and arrange your final colloquium by contacting Astrid van de Kuilen Send final thesis to your examiner and supervisor(s) Send data management files to Astrid van de Kuilen using SURFfilesender | Final thesis (PDF) <i>Submit to examiner and supervisor(s) via OSIRIS.</i> Data Management Files <i>Send to Astrid van de Kuilen</i> | 10 working days before your final colloquium. |
| | After the examination (colloquium) | <ul style="list-style-type: none"> Fill in the WUR thesis evaluation questionnaire (send to you by e-mail) | | |

¹ Your research proposal is often a work-in-progress that eventually will become part of your final thesis, the items you present at the presentation might therefore not be 'final'. The aim of the presentation is to exchange feedback and suggestions for improvement.

² Please note that the arrangement of additional dates is dependent on the number of students in the process of writing their proposal, availability of supervisors, work schedules, etc.

Appendix III: OSIRIS Timeline



Appendix IV: Intellectual property statement for student

In the learning agreement, one of the steps is that the student has to read and confirm the intellectual property statement below.

Introduction

It is important for you as a student to understand your rights and obligations concerning intellectual property and confidentiality. Please read this declaration and accept it by selecting 'yes' at the bottom of this page. If you have any further questions about intellectual property, consult info.eship@wur.nl.

Declaration

1. The student shall own the (rights to the) MSc Thesis / Research Practice⁵. This does not encompass the information and materials provided by Wageningen University (and others) to the student. The student hereby grants Wageningen University the right to use the MSc Thesis / Research Practice for education and internal research purposes and the right to publish the MSc Thesis / Research Practice in the WUR e-depot.
2. Wageningen University remains entitled to and the owner of the information and materials provided to the student for the MSc Thesis / Research Practice project. The student shall keep these information and materials confidential for a period of five (5) years, starting on the date that this declaration is accepted.
3. The student will perform the MSc Thesis / Research Practice in accordance with the Netherlands Code of Conduct for Research Integrity.
4. The student will process any personal data in connection with the MSc Thesis / Research Practice in accordance with the instructions and regulations given by Wageningen University. More information can be obtained from privacy.student@wur.nl.
5. The student and Wageningen University can agree on an alternative ownership agreement, for example in case of a specific research assignment or in case of an internship. In that case, the other agreement shall take precedence over this declaration.

The acceptance and execution of this declaration by selecting 'yes' in the box below, recorded in the Student Information System of Wageningen University, Osiris), shall be deemed to be an acceptance with the same validity, enforceability and admissibility as an original signature.

I, the student, have read the above declaration, I fully understood it, and I agree to it.

⁵ Apart from the text of the report, this may also apply to **software and code** written by the student. Software and source code can be protected by copyright. If the student encodes or creates software as part of MSc Thesis / Research Practice process, the copyright to that code or software will rest with the student.

If the student **collects data**, there is no copyright yet. So as soon as that source data is shared with others, those others are allowed to use it without infringing student's rights. If the student makes creative choices in the structuring / ordering / selection of the data, it is possible that a copyright applies and that will also be due to the student.

Appendix V: Data management plan

Following the assessment of your thesis and the registration of your grade in OSIRIS, you are required to submit the data in two files to Astrid van de Kuilen for archiving using SURFfilesender (<https://filesender.surf.nl/?s=upload>). One file should contain all the raw data (e.g., all interview transcripts compiled in one single word document), and the other file, processed data (e.g., ATLAS.ti project file, or a word document of coded transcripts plus a list of codes). If needed, seek your supervisor's advice on how to make these files. Please note that you must submit only two files.

You officially conclude your MSc thesis when all administration related to the thesis, including that of data management, has been completed.

Appendix VI: Downloads

- **Learning Agreement**

To have an overview of the various topics covered in the learning agreement you can consult the checklist learning agreement on Brightspace. You as a student fill in the learning agreement in OSIRIS. An overview of the entire process in OSIRIS is available in the form of a [presentation with screenshots](#)

- **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> or find it on Brightspace.

Appendix VII: Information on student guidance and social safety

Resources about student guidance, including the student deans, student psychologists, online training, etc. can be found [here](#).

Appendix VIII: Netherlands Code of Conduct for Research Integrity

Students and staff at Wageningen University Research are bound to the [Netherlands Code of Conduct for Research Integrity](#).

Principles

The main principles described in this code concern: Honesty, Scrupulousness, Transparency, Independence, Responsibility.

Chapter 2 of the Code of Conduct summarizes the principles as follows:

Honesty means, among other things, reporting the research process accurately, taking alternative opinions and counterarguments seriously, being open about margins of uncertainty, refraining from making unfounded claims, refraining from fabricating or falsifying data or sources and refraining from presenting results more favourably or unfavourably than they actually are.

Scrupulousness means, among other things, using methods that are scientific or scholarly and exercising the best possible care in designing, undertaking, reporting and disseminating research.

Transparency means, among other things, ensuring that it is clear to others what data the research was based on, how the data were obtained, what and how results were achieved and what role was played by external stakeholders. If parts of the research or data are not to be made public, the researcher must provide a good account of why this is not possible. It must be evident, at least to peers, how the research was conducted and what the various phases of the research process were. At the very least, this means that the line of reasoning must be clear and that the steps in the research process must be verifiable.

Independence means, among other things, not allowing the choice of method, the assessment of data, the weight attributed to alternative statements or the assessment of others' research or research proposals to be guided by non-scientific or non-scholarly considerations (e.g., those of a commercial or political nature). In this sense, independence also includes impartiality. Independence is required at all times in the design, conduct and reporting of research, although not necessarily in the choice of research topic and research question.

Responsibility means, among other things, acknowledging the fact that a researcher does not operate in isolation and hence taking into consideration – within reasonable limits – the legitimate interests of human and animal test subjects, as well as those of commissioning parties, funding bodies and the environment. Responsibility also means conducting research that is scientifically and/or societally relevant.

Standards

Chapter 3 of the Code of Conduct provides standards for good scientific practice on the following phases of the research process: design, conduct, reporting, assessment and peer review and communication.

Design

- Consider the interests of science and scholarship and/or society when determining the subject and structure of your research.
- Conduct research that can be of scientific, scholarly and/or societal relevance.
- Do not make unsubstantiated claims about potential results.
- Take into account the latest scientific and scholarly insights.
- Make sure that your research design can answer the research question.
- Ensure that the methods you employ are well justified.
- If the research is conducted on commission and/or funded by third parties, always specify who the commissioning party and/or funding body is.
- Be open about the role of external stakeholders and possible conflicts of interest.
- In research with external partners, make clear written agreements about research integrity and related matters such as intellectual property rights.
- As necessary, describe how the collected research data are organized and classified so that they can be verified and reused.
- As far as possible, make research findings and research data public subsequent to completion of the research. If this is not possible, establish valid reasons for their non-disclosure
- In the event of an investigation into alleged research misconduct, make all relevant research and data available for verification subject to the confidentiality safeguards established by the board of the institution.
- In highly exceptional cases, there may be compelling reasons for components of the research, including data, not to be disclosed to an investigation into alleged research misconduct. Such cases must be recorded and the consent of the board of the institution must be obtained prior to using the components and/or data in question in the scientific or scholarly research. They must also be mentioned in any results published.
- Ensure that the required permissions are obtained and that, where necessary, an ethical review is conducted.
- Accept only research assignments that can be undertaken in accordance with the standards in this Code.
- Enter into joint research with a partner not affiliated with an institution which has adopted this or a comparable Code only if there is sufficient confidence that your own part of the research can be conducted in compliance with this Code and the joint research results meet generally accepted principles of integrity in research.

Conduct

- Conduct your research accurately and with precision.
- Employ research methods that are scientific and/or scholarly.
- Make sure that the choice of research methods, data analysis, assessment of results and consideration of possible explanations is not determined by non-scientific or non-scholarly (e.g. commercial or political) interests, arguments or preferences.
- Do not fabricate data or research results and do not report fabricated material as if it were fact.
- Do justice to all research results obtained.

- Do not remove or change results without explicit and proper justification. Do not add fabricated data during the data analysis.
- Ensure that sources are verifiable.
- Describe the data collected for and/or used in your research honestly, scrupulously and as transparently as possible.
- Manage the collected data carefully and store both the raw and processed versions for a period appropriate for the discipline and methodology at issue.
- Contribute, where appropriate, towards making data findable, accessible, interoperable and reusable in accordance with the FAIR principles.
- Take into consideration the interests of any humans and animals involved, including test subjects, as well as any risks to the researchers and the environment, while always observing the relevant statutory regulations and codes of conduct.
- Keep your own level of expertise up to date.
- Take on only those tasks that fall within your area of expertise.

Reporting

- Do justice to everyone who contributed to the research and to obtaining and/or processing the data.
- Ensure a fair allocation and ordering of authorship, in line with the standards applicable within the discipline(s) concerned.
- All authors must have made a genuine intellectual contribution to at least one of the following elements: the design of the research, the acquisition of data, its analysis or the interpretation of findings.
- All authors must have approved the final version of the research product.
- All authors are fully responsible for the content of the research product, unless otherwise stated.
- Present sources, data and arguments in a scrupulous way.
- Be transparent about the method and working procedure followed and record them where relevant in research protocols, logs, lab journals or reports. The line of reasoning must be clear and the steps in the research process must be verifiable. This usually means that the research must be described in sufficient detail for it to be possible to replicate the data collection and its analysis.
- Be explicit about any relevant unreported data that has been collected in accordance with the research design and could support conclusions different from those reported.
- Be clear about results and conclusions, as well as their scope.
- Be explicit about uncertainties and contraindications, and do not draw unsubstantiated conclusions. Be explicit about serious alternative insights that could be relevant to the interpretation of the data and the research results.
- When making use of other people's ideas, procedures, results and text, do justice to the research involved and cite the source accurately.
- Avoid unnecessary reuse of previously published texts of which you were the author or co-author. Be transparent about reuse by citing the original publication. Such self-citation is not necessary for reuse on a small scale or of introductory passages and descriptions of the method applied.

- Always provide references when reusing research material that can be used for meta-analysis or the analysis of pooled data.
- Avoid unnecessary references and do not make the bibliography unnecessarily long.
- Be open and complete about the role of external stakeholders, commissioning parties, funding bodies, possible conflicts of interest and relevant ancillary activities.
- As far as possible, make research findings and research data public subsequent to completion of the research. If this is not possible, establish the valid reasons for this.

Assessment and peer review

- Be honest and scrupulous as an assessor or peer reviewer, and explain your assessment.
- Do not use information acquired in the context of an assessment without explicit consent.
- Do not use the system of peer review to generate additional citations for no apparent reason, with the aim of increasing your own or other people's citation scores ('citation pushing').
- Refrain from making an assessment if any doubts could arise regarding your independence (for example, because of possible commercial or financial interests).
- Refrain from making an assessment outside your area of expertise, or do so only in general terms.
- Be generous in cooperating with internal and external reviews of your own research.
- Do not establish a journal that does not apply the required standards of quality to its publications, and do not cooperate with any such journal.

Communication

- Be honest in public communication and clear about the limitations of the research and your own expertise. Only communicate to the general public about the research results if there is sufficient certainty about them.
- Be open and honest about your role in the public debate and about the nature and status of your participation in it.
- Be open and honest about potential conflicts of interest.

Standards that are applicable to all phases of research

- As a supervisor, principal investigator, research director or manager, provide for an open and inclusive culture in all phases of research.
- As a supervisor, principal investigator, research director or manager, refrain from any action which might encourage a researcher to disregard any of the standards in this chapter.
- Do not delay or hinder the work of other researchers in an inappropriate manner.
- Call attention to other researchers' non-compliance with the standards as well as inadequate institutional responses to non-compliance, if there is sufficient reason for doing so.
- In addressing research misconduct, make no accusation that you know or should have known to be incorrect.
- Do not make improper use of research funds.