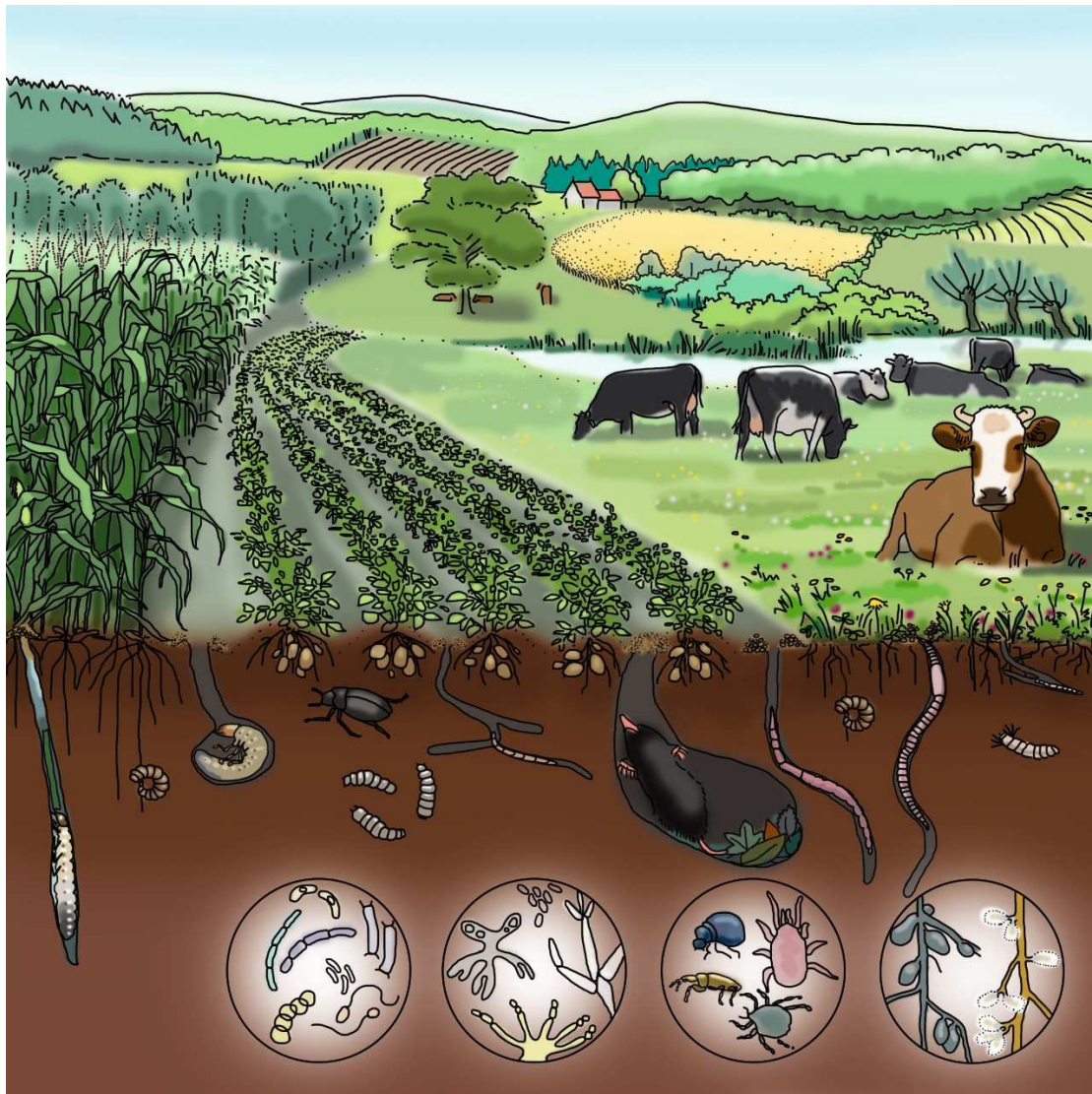


MSc Thesis Soil Biology - Course Guide

SBL-818 24-39



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Lumen, building no. 100

<https://www.wur.nl/en/Research-Results/Chair-groups/Environmental-Sciences/Soil-Biology-Group/About-us.htm>

Please forward suggestions for modification to Ellis Hoffland or Marnella van der Tol.

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1. Why Soil Biology?

1.1 Who are we and what do we do?

Welcome at the Soil Biology group! Opposite to the secretariat you will find a photo gallery to find out who is who. What we do can be found at our website: <https://www.wur.nl/en/Research-Results/Chair-groups/Environmental-Sciences/Soil-Biology-Group/About-us.htm>

If you do MSc thesis work in our group, most of you will participate in our current research. This deals with organisms in soil. Detailed information can be found at <https://www.wur.nl/en/Research-Results/Chair-groups/Environmental-Sciences/Soil-Biology-Group/Research-1/Research-1/Research-topics.htm>

1.2 Our target group

Most of our students study MEE, MPS or MOA. But a large diversity of students have found their way to our department for MSc thesis work. We cater major theses for MSc students in

Study program	Specialization
MBI	Evolution and Biodiversity
	Conservation and Systems Ecology
	Bio-interactions
MOA	Agroecology
MEE	Biology and Chemistry of Soil and Water
MPS	Natural Resource Management
MES	

Occasionally also students in International Land and Water Management (MIL), Forest and Nature Conservation (MFN), and Animal Sciences (MAS) found interesting topics for (minor) theses with us.

1.4 Future perspectives

Many of our alumni find a job in research, either at universities or at research institutes throughout the world. Another large group starts a career in consultancy, for instance in the field of climate adaptation or nutrient management. Others find a job in international cooperation or policy.

2. Getting Started

2.1 Prerequisites for a thesis

Consult the description of your MSc programme in the Study Handbook and/or contact your study advisor to find out if you are allowed to execute your MSc thesis with us. If you find a thesis topic in our group that does not fit in your MSc programme, but which, to your opinion, is relevant to your programme, you should contact your study advisor and ask for approval by the Examining Board.

Specific preliminary knowledge is required to complete your MSc thesis at SBL successfully. Requirements (e.g. mandatory courses) for each MSc thesis can be found in the online Study Handbook of the academic year in which you started your MSc study, under the codes of our MSc Theses (SBL-81318-81839; refer to <https://ssc.wur.nl/Studiegids/2019/Leerstoelgroep/SBL> - check: the year should be the first year of your MSc programme).

If you have done your BSc programme outside WU, you should check with your intended supervisor whether your competences meet our specific requirements.

MSc thesis students from a non-English MSc programme outside the Netherlands must provide recent evidence of their spoken and written command of English. Admission requirements can be found at <https://www.wur.nl/en/Education-Programmes/master/Admission-requirements-Master/English-language-proficiency-NL-1.htm>

We expect basic skills in information literacy. It might be useful for you to take the course ECS-65100 Information Literacy (1.5 EC; 4 times per year) prior to the MSc thesis or take an internet-based course (http://library.wur.nl/infoboard/module_2/) to compensate for any deficiencies.

For data management and processing we expect you can work with Excel. We expect basic skills in making calculations, copying formulas, making graphs etc. You can use any tool to get acquainted with excel. Perhaps <http://best-excel-tutorial.com/> would be a good idea.

2.2 Choice of the subject

Potential MSc thesis topics can be found on internet:

https://tip.wur.nl/SearchResult.php?s_LsgID=65&s_ProjectTypeID=&s_StudieID=&s_Zoekterm=&Button_DoSearch=Search%21

If you find a topic of your interest, you can directly contact the supervisor mentioned in this list, and work out further details. If you have difficulties in choosing, you can contact our contact person education: Ron de Goede. You can also come up with your own suggestions for research and find a supervisor among our staff.

In some cases it is also possible to work on a topic at one of the research institutes in Wageningen or elsewhere in or outside The Netherlands. In that case an expert scientist has to be available at the institute for your daily supervision. The supervision responsibility for your project will ultimately rest with your Wageningen supervisor (and examiner).

2.3 Registration

Once you have agreed with your (future) supervisor and you have the green light from your study advisor, you have to sign up for the thesis study (similar to signing up for courses) under the correct code. Without proper registration we cannot file your grade.

2.4 MSc thesis contract

On the first day of your thesis study, a contract will be made, registering commitments regarding MSc thesis work. Among others, commitments are made on frequency of supervision meetings.

The contract form (*Wageningen University Master Thesis Agreement*) can be found at internet <https://sharepoint.wur.nl/sites/ESAinfo/diversen/owi%20reference%20site.aspx> left column, document name: MSc Thesis: Agreement).

3. Aims and Components of your MSc Thesis Study

The major aim of MSc thesis work is to learn how to conduct a research project, individually and independently, at an academic level. In MSc thesis research you carry out *your own* scientific research project, usually as a contribution to a larger project within our department.

Your thesis study includes four phases, each with its own activities.

3.1 Orientation phase

This phase roughly last 25% of the total amount of time available for your entire MSc thesis. During this phase you:

- work on agreement on the topic of your project with your supervisor
- search for and read literature relevant to your project and manage references.
 - Instructions on
 - searching for literature in well-structured databases (Scopus or Web of Science, preferably not Google scholar)
 - how to build-up your own literature database in Endnote or Mendeley can be found at <http://www.wur.nl/en/Expertise-Services/Facilities/Library/Students.htm>
 - will get a compulsory introduction to the lab. All students who will do lab work need to attend this introduction. You will be invited to this course, which will run on a 6 week interval, by our technician.
 - write a research proposal.
 - Instruction on how to write a research proposal can be found at our website*.

This phase concludes with

- A seminar on your draft research proposal. You should make appointments for a seminar date with your supervisor and the secretary well in advance. Plan a dry run for the presentation with your supervisor a few days before the seminar. Instructions on how to prepare for, and give a seminar can be found at our website*.
- An agreed (by your supervisor) and approved (by your supervisor and our administrator) research proposal.
- A list of methods that you will be planning to adopt with indicative timelines. This list will be sent to our technician ultimately one week before you plan to start in the lab. Our technician will provide you with a date for the specific method training sessions.

In the exceptional case that you are unable to produce a research proposal of sufficient quality, your daily supervisor, together with your thesis examiner, may decide to terminate your thesis project.

3.2 Execution phase

This phase roughly last 50% of the total amount of time available for your MSc thesis. You can only start this phase after successful completion of the orientation phase. It may partly overlap with the reporting phase.

The execution phase includes the performance of your experimental work or modelling study (laboratory, pot and/or field work and/or computer modelling).

- You must plan your activities in the lab and greenhouse well in advance, depending on availability of our technicians.
- Lab facilities, materials (chemicals), space, instruments can only be used after consultation of our technicians.

It is of utmost importance that you fill out a lab journal, to keep accurate records of what you did, how you did it, what you found out and what was discussed on a day-to-day basis. For guidelines see "How to keep a lab journal" at our website*.

It is mandatory to record data according to our management plan. Refer to "How to manage data" at our website* for instructions.

Half way the execution phase there will be an *intermediate evaluation* during which you discuss your progress and potential grade. In the exceptional case of severe problems regarding dedication, skills,

* <https://www.wur.nl/en/Research-Results/Chair-groups/Environmental-Sciences/Soil-Biology-Group/Education-2/MSc-thesis-and-internships.htm> under "Thesis Guide"

knowledge or communication, your daily supervisor, together with the thesis examiner, may decide to terminate the thesis project. The rubric (<https://sharepoint.wur.nl/sites/ESAinfo/diversen/owi%20reference%20site.aspx> left column, document name MSc thesis: Rubric) can provide a clear picture of what goes well and where improvement is needed.

3.3 Reporting phase

This phase may partly overlap with the execution phase.

- arrangement, analysis and presentation of the results
- interpretation of results and drawing conclusions
- writing a thesis report and/or scientific publication(s) (see website* for instructions).
- presenting your results at a seminar (see website* for instructions).

3.4 Examination

On the final day of your project you will complete your thesis study with an oral presentation of your results (seminar) and a final, oral exam. Instructions on how to give a seminar can be found at our website*. You should make appointments for an examination date with your supervisor and the secretary (seminar) weeks in advance, also to ensure your examiner can make it. Plan a dry run for the presentation with your supervisor a few days before the examination/seminar.

The final oral examination consists of a discussion with your supervisor and examiner. If you have been supervised by a PhD student, s/he will be present as well. The discussion focuses on the contents of your 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 context of the field of science and to indicate possibilities for applying your findings in practice.

During the examination you will receive the reasoning behind your thesis grade including specific feedback on all aspects of the assessment. We will use the assessment tool called a Rubric (<https://sharepoint.wur.nl/sites/ESAinfo/diversen/owi%20reference%20site.aspx> left column).

The final grade will be recorded in the MSc thesis Assessment Form WU (<https://sharepoint.wur.nl/sites/ESAinfo/diversen/owi%20reference%20site.aspx> left column, left column). Your final grade will be the weighted average of the research competence (40%), thesis report (40%), colloquium (10%), and examination (10%). The minimum grade for each category should be at least 5.5 for a pass.

3.5 Final formalities

The secretary will send you a copy of the signed assessment form. Your grade will only be registered in the AIR system once she received a pdf of the final version of your thesis and data files have been transferred in an acceptable way to your supervisor.

4. Your Supervisor

Your supervisor is an expert member of the scientific staff of our group. When you contribute to a PhD project, the PhD student will normally be your daily supervisor, supported by a tenured staff member.

Your supervisor, together with the rest of our staff, is supposed to facilitate your project. S/he should create a supportive and inspiring environment for your project. It is the supervisor's responsibility to *help* you with keeping good progress in your work; *you* are finally responsible. Although your thesis project is a learning experience, you are encouraged to act independently as much as possible when resolving problems and in difficult situations. However, your supervisor will always be available for feedback and support, as indicated in the MSc thesis contract.

On average you can roughly count on contact with your primary supervisor for 1 h per week, unless circumstances do not allow such a frequency. The actual frequency and duration of meetings may vary, depending on the nature of your thesis project and the phase you are in.

You cannot expect your supervisors to teach you on knowledge or skills that we regard prerequisites for starting an MSc thesis study in our group (think of knowledge taught in mandatory courses, working with MS Office, Endnote or Mendeley, English language, basic academic writing, information literacy, etc.).

A good working relation with your supervisor is a prerequisite for good cooperation. When you encounter problems with your supervisor, it is wise to discuss these with him/her immediately. When this does not help, you can ask another member of the group to assist. If you experience any shortcomings in your supervision, the intermediate evaluation would be a good moment to discuss and agree on improvement.

5. Some Rules

5.1 Thesis rings

From the very first week of your thesis project onward, active participation to our MSc Thesis Rings is compulsory. In Thesis Rings you will give and receive feedback on academic writing. They should help you improve your research proposal and thesis. Your supervisor will give feedback on your written product only once they have been discussed in the thesis rings. This requires good planning.

If you cannot be present in person, you should notify your supervisor and the chair of your ring, and are expected to give written feedback.

Thesis Rings are scheduled usually every Tuesday 12-13 h and need maximally one hour preparation. All instructions can be found on the Blackboard site of our Rings (listed at MyPortal under Other Blackboards as "MSc Thesis Rings @SBL"). The Blackboard site also shows in which ring you are and where you meet.

Seminars

5.2

During your period as an MSc thesis student with us, you are supposed to attend all our seminars by students from the Soil Biology and Soil Chemistry groups. You will receive announcements by e-mail. Attendance of the seminars is meant mainly to broaden your view on the scientific field of soil quality and to engage in scientific discussions. You can also learn how to give a seminar yourself by listening to others. You should attend minimally 10 meetings.

House rules

5.3

There are few house rules. These have been developed to make sure that the available facilities can be used optimally. Some of these rules are made to secure your own safety.

- You are most welcome to use a desk and desk top computer in one of our students' offices. But you should clean it when you leave, such that other students can use it in your absence.
- Lumen is open between 7:00 and 22:00 h. You may expect a fine as a consequence of presence outside these hours.
- Working alone in the lab or greenhouse is not allowed.
- If you need to work outside office hours (Mo-Fr 8.00 – 17.00 h), you must consult your supervisor and the responsible technicians first

5.4 Software

Use

- Official (not open source) software to facilitate exchange with your supervisor
- MS Word for editing
- Scopus or Web of Science for literature searches
- Endnote or Mendeley (in combination with MS Word) to build your own data base of relevant papers, to insert references in your text and produce a list of references for your research proposal and thesis
- MS Excel for data management and processing in line with our data management plan (refer to "How to manage data" at our website*).

5.5 Plagiarism

Plagiarism means that you present a work or part of a work without acknowledging the source. This can be using another's work without a citation, or using your own work without citing yourself ('self-plagiarism'). Plagiarism is considered a serious academic offence, and Wageningen University & Research performs plagiarism checks on student assignments. For further information refer to <http://www.wur.nl/en/Expertise-Services/Facilities/Library/Students/Citing-and-plagiarism.htm>

6. Finally.....

.....an invitation: a warm welcome to join us during coffee/tea breaks (10:30-11:00 h and 15:30-16:00 h) and drinks in Lumen A.035 or in our patio.