

Thesis Study Guide – Behavioural Ecology Group

Starting

The student fills in a thesis contract together with the thesis supervisor and make agreements of the research topic and scheduling of activities.

The student makes an appointment with the secretary to go through a checklist for registration. This checklist will contain information about the formal procedures concerning the thesis, such as authorization for the experimental facilities (if applicable).

Research proposal

Prior to starting the practical work of a thesis, a research proposal is written and approved. This proposal contains the following elements:

- **Title** - Be as brief and informative as possible.
- **Introduction** - Start with a theoretical background to your topic, which should lead logically to the specific question you plan to address. Provide a literature overview that sketches current knowledge of the topic and indicate knowledge gaps that your project could fill.
 - Specific aims and scope - At the end of the introduction state the project's key objectives and the hypotheses or research questions you plan to test. Make (justified) predictions about your expected results.
- **Methods** - Describe the research design in relation to the following points:
 - Relate the design to your hypothesis.
 - Consider including a flow chart illustrating your study design.
 - For studies on wild or captive animals, provide information about the animals, the data collection procedures, and the maintenance conditions and experimental treatments (if applicable). Include details such as sample sizes and how particular behaviours will be defined.
 - If working with wild animals, provide information about the field site.
 - Describe which variables you will measure, and how you will analyse them (strategy for statistical analysis, tests, software).
 - Consider including a plot that illustrates your predicted results.
 - Try to identify aspects of your study that may be risky and describe precautions that will be taken to minimize risks.
 - All activities, including dates for presentations and submission of the final thesis report are listed in a time schedule (listing activities per week).
- **References** - A list of the scientific articles and other sources cited in the proposal. Use a standard format, as in a scientific journal.

(pre)Colloquia

Every fourth Thursday afternoon of the month, students who finish their thesis or internship present their research in a BHE colloquium session. Students are expected to attend **all** colloquia, except when their fieldwork or data collection does not allow it. Attendance is registered. Students who want to present at a (pre)colloquium must sign up at least 10 days in advance, providing the title of the presentation, the code of the (BSc, MSc) thesis / internship and the supervisor(s). In between colloquia sessions there are Thursday afternoon precolloquia sessions during which students present their research plans. BHE thesis students are expected to attend and provide feedback on the research plans of their fellow studies, to become informed on their activities and build a workplace network. The contact person for (pre)colloquia is bonne.beerda@wur.nl

MSc Thesis

A BHE thesis is written in English and following the format of a scientific journal publication. Choose a journal such as Animal Behaviour, Behavioral Ecology, or Applied Animal Behaviour Science, depending on which aligns with your topic.

- **Title page** - Title (should be clear, descriptive and short), your name, date, Behavioural Ecology Group, Wageningen University, supervisor(s), registration number, course reference (BHE 803...).
- **Abstract** - Summarises the contents of the thesis. It needs to stand on its own and should end with a conclusion and implications for practice and/or science.
- **Introduction** - Theoretical background of the topic and previous research (literature) leading to the research problem and aim of the study with hypotheses.
- **Methods** - Contains a detailed description of the study site and the animals studied, research methodology, experimental setup or descriptive data collection, techniques and way of (data) processing and analysis. The information provided should be precise, allowing others to replicate the project.
- **Results** - Report results, including the statistical analyses, and point out the meaningful findings without interpreting them. Do not include default raw outputs from statistics programs, but instead format the tables and figures in the style of your chosen journal (default figures usually do not have a very good format). Check that the axis labels are informative and the units meaningful.
- **Discussion** - Start with a brief summary of the issue at hand and key findings. Address topics that are meaningful from a biological and scientific perspective, and compare and contrast findings from the present study with earlier studies (i.e. as reported in literature). A scientific and critical interpretation of the results is part of the discussion. At the end of the discussion, provide a brief summarizing paragraph with the key conclusions.
- **References** - An alphabetical list of the cited literature. Check a guide for authors of a relevant journal for appropriate citation formats. Be consistent and ensure that the references match citations in the text (we recommend using reference management software such as Endnote or Mendeley).
- **Appendices** - Provide additional background material if relevant (e.g. observation sheets, additional figures, etcetera).

In general, the writing should be **factual** (e.g. explain what was done and found in earlier studies), **precise, concise** and **explicit**. Make transparent what was done in your study, and what underlies the claims and statements made in earlier studies.

Plagiarism will be reported to the exam committee and can have serious consequences!

After approval of the thesis by the supervisor, a Word file of the final version is sent to both examiners at least one week before the final examination. All data files (e.g. Excel files etc.) must also be submitted for archiving at this stage. Download the Folder structure zip file from the BHE website (see Thesis downloads) and organize your thesis files along this structure.

Final examination

The final examination is a discussion about the content of the thesis, in which knowledge, understanding, insight, but also creativity and scientific attitude are evaluated. The final examination will be conducted by your supervisor and one of the other staff members. The final mark of the thesis will be based on several criteria:

- 1) Research competence – 40%
- 2) Thesis report – 40%
- 3) Colloquium – 10%
- 4) Examination – 10%

The grading is based on the WUR rubric for assessment of the MSc thesis (<http://webdocs.alterra.wur.nl/internet/soq/education/Thesis%20assessment%20rubric.pdf>)

If you have any questions please contact Bonne Beerda (bonne.beerda@wur.nl) or Nienke Huisman (office.bhe@wur.nl).

More information: <http://www.wageningenur.nl/en/Expertise-Services/Chair-groups/Animal-Sciences/Behavioural-Ecology-Group/Education/Theses.htm>