



# **Erasmus Mundus Master in Evolutionary Biology**

## **Research Projects at the University of Groningen**

### **Rules and Regulations**



Education and Culture

**Erasmus Mundus**

## Guidelines for Conducting a Research Projects at the RUG

All students of the Erasmus Mundus Master's Programme Evolutionary Biology (MEME) are required to complete two different research projects of at least 30 ECTS each. These projects may be viewed as the core of the MEME programme. The projects should be conducted at different universities and at least one of these projects must be a "thesis project". For projects executed at the University of Groningen (RUG) the distinction between "thesis projects" and "other research projects" is not relevant, since *all* 30 ECTS research projects are subject to the same rules and regulations. In particular, each research project has to be completed with a written Master's thesis that is presented and defended in a public session.

A research project gives students the opportunity to participate in original research, thereby providing hands-on research experience under realistic conditions. Students conducting a research project at the RUG are supervised individually, often by a team of supervisors; they are fully embedded in a research group, where they participate in all group activities (like weekly seminars, literature clubs, social activities); and they must get full exposure to all aspects of a research endeavour (*i.e.*, specifying research questions; planning experiments; executing experiments; data analysis and interpretation; presentation of data; writing a research report or publication). The Master's thesis resulting from a research project is an important piece of work. It is a tangible proof that the student has gained sufficient research experience to tackle a substantial research problem and to report on the results in a manner that is in line with common scientific practice. In many cases, parts of the Master's thesis are later published in a scientific journal.

In order to ensure that a high scientific standard is maintained, the RUG imposes a number of strict guidelines that affect every step in the process, that is, choosing the host research group and supervisor, the topic, the research plan, its execution and its final evaluation. The student's mentor plays a key role as both contact person and liaison. No project can start without explicit approval by the mentor and the RUG Board of Examiners. The mentor must also continuously monitor progress. This activity is particularly crucial to research projects being conducted outside of the Groningen Institute for Evolutionary Life Sciences (GELIFES).

To obtain a degree from the University of Groningen, at least one 30 ECTS research project performed at the RUG should be an "**internal project**". This means that the project is embedded within GELIFES or a closely associated institute at the University of Groningen. The primary supervision of an internal project is always in the hands of a professor from GELIFES. In exceptional cases, a degree awarded by the University of Groningen can also be based on an "**external project**" that is supervised from a distance by a GELIFES professor. An external project can be conducted at **Harvard** (associate partner of the MEME programme) or any research institution in the world, provided that the quality of the project and the supervision are approved by the mentor and the Board of Examiners. An external project must be supervised by a professor at the research institution where it is conducted. In addition to this "local supervisor", the RUG Board of Examiners will assign a "GELIFES supervisor", that is, a GELIFES professor who will guard the progress of the project and who is responsible for the final grading of the project, in coordination with the local supervisor.

The following procedural rules have to be followed for each research project conducted at the University of Groningen:

- The project cannot start without consent of the RUG Board of Examiners. To this end, the student first has to find a supervisor (in case of an external project a local supervisor and a GELIFES supervisor) and arrive at an agreement about the topic of the research project. In consultation with the mentor, the student fills in the **yellow form**, a special form used for submitting a proposal for modules of the individual study programme to the Board of Examiners. This form can be downloaded from the Nestor community or obtained at the Education Support Desk; a special version for MEME students can be obtained from the MEME Office ([m.c.w.g.giesbers@rug.nl](mailto:m.c.w.g.giesbers@rug.nl)). Signed by the mentor, the yellow form has to be submitted at the Education Support Desk.
- The ultimate responsibility for a research project is always in the hands of a professor, although the daily **supervision** of a project is likely to be in the hands of an associate/assistant professor, a post doc, or a more senior PhD student. In all cases the responsible professor must have regular contact with the “floor” or “field” supervisors in order to monitor progress. In order to ensure that this actually occurs, a number of checkpoints have been built into the procedure as explained below.
- The first 2-4 weeks of the research project should be spent on a "theoretical pre-study" and result in a document (5-8 pages) that includes a description of the research question/problem to be addressed, a sketch of the relevant scientific background material and the methodological approach to be taken. Ideally, the pre-study will later form the introduction section (and part of the methods section) of the Master's thesis to be produced at the end of the project. The work plan has to be presented to the local research group in a brief talk with a subsequent discussion/feedback session. The pre-study will thereafter be discussed with the local supervisors (and, in case of an external project, with the GELIFES supervisor), who will provide detailed feedback for this first part of the project. For this purpose, they make use of the form **Feedback on Theoretical Pre-Study** (attached below).
- A mid-term evaluation of the project will be made 3-4 months after the start. Both the chief and daily supervisors must be present, and the GELIFES supervisor must be informed in case of an external project. The mid-term evaluation is centred on the practical work. It serves a double purpose. First, the supervisors give feedback on the student's performance (making use of the **Mid-Term Evaluation Form** attached below), allowing the student to improve on those aspects where this is still necessary. Second, it is a good opportunity to reflect on the project and to change the research plans if necessary. At the University of Groningen, the mid-term evaluation is considered a crucial ingredient of the research project. In fact, the project can be stopped by the RUG Board of Examiners if the intermediate evaluation is not executed. The GELIFES supervisor will send the signed form to the Education Support Desk.
- The project is completed with a **Master's thesis**, and a thesis defence. The Master's thesis is a detailed research report that is written in line with common scientific standards (abstract, introduction, materials & methods, results, discussion, references). It may be written in the form of a standard scientific article that can be submitted to a scientific journal. The Master's thesis is evaluated and judged by the chief supervisor and (independently!) by another professor who is not a member of the chief supervisor's research group. In case of an external project, the Master's thesis is judged by the local chief supervisor and the GELIFES supervisor.

- The **thesis defence** takes place in a public session, where the members of the local research group, the supervisors, and at least two professors unrelated to the project should be present. In an oral presentation with subsequent intensive discussion, the student presents, motivates and defends the research questions, methodology, results and conclusions of the project. In case of an external project, a second thesis defence must be given at the University of Groningen. It is possible to use telecommunication (e.g. Skype) for this purpose. In principle, it is possible to give the thesis defence presentation before the completion of the written Master's thesis. In fact, this can be useful, since feedback by the audience can be used to improve the Master's thesis.
- After the thesis defence, the student will be given detailed feedback by a small committee consisting of the supervisors, two additional professors not related to the project, a PhD candidate and a Master's student. Subsequently, the supervisors decide on a mark for the thesis defence and a mark for the research project as a whole. They fill in the **Final Assessment Form** (attached below) and discuss it with the student. In case of an external project, the final mark needs to be approved by the GELIFES supervisor. Since the criteria for giving a high mark (especially marks of 8.5 and higher) are very strict at the RUG, it is not uncommon that the final mark is lower than the mark proposed by the local supervisor. The GELIFES supervisor will communicate the final mark and the final assessment to the MEME Office and the Education Support Desk.
- It is mandatory for all students who wish to graduate with a diploma from RUG to submit the Master's thesis report to the electronic database [Theses Faculty of Mathematics and Natural Sciences](#). Instructions for uploading your reports to the database can be found on the [Student Portal](#). The final registration of the grade in ProgressWWW is coupled to the electronic submission of the report or essay. **Important:** A Master's thesis should only be uploaded after explicit approval of the uploaded version by the main supervisor or – in case of an external project – by the GELIFES supervisor.

Useful advice:

- *Before* starting with their project, students are advised to have a close look at the criteria used during the various evaluations. These criteria give a good idea of what is being expected from the student. If necessary, the supervisor can explain criteria that are not clear to a student. For example, the "logbook" criterion in the mid-term evaluation refers to the requirement (in fact the legal obligation) of keeping detailed and well-organized day-to-day records of the methods used and the results obtained (e.g. [http://en.wikipedia.org/wiki/Lab\\_notebook](http://en.wikipedia.org/wiki/Lab_notebook)). The "use of references" criterion in the final assessment refers to the fact that while there is a huge diversity of bibliographic citation styles (e.g. [http://en.wikipedia.org/wiki/Wikipedia:Citing\\_sources](http://en.wikipedia.org/wiki/Wikipedia:Citing_sources)) there are still clearly defined rules for citing the work of others in a consistent and transparent way, and for producing a consistent reference list. In fact, when applying for a job, appointment committees routinely check the citations and the reference list in the Master's theses of their candidates, since they provide useful (and reliable) information about the scientific maturity of a candidate.

## Grading system at the University of Groningen

Marking follows the standard Dutch system and ranges from 1 (lowest) to 10 (highest):

10.0	truly outstanding; a remarkable performance (top 0.1%)
9.5	excellent+ (top 1%)
9.0	excellent (top 5%)
8.5	very good to excellent (top 10%)
8.0	very good (top 20%)
7.5	good to very good (top 33%)
7.0	good (top 50%)
6.0	satisfactory
below 6.0	unsatisfactory

With the exception of a 5.5 (which should never be given), “intermediate” fractional marks (like 8.5) are given as often as “full” marks (like 8.0). An “unsatisfactory” sub-mark (*e.g.* for the theoretical pre-study) serves as a warning sign. A mark below 6.0 for the complete research project means that deficiencies have to be remedied until a 6.0 or higher is achieved.

## MEME Research Project – Feedback on Theoretical Pre-study

Evaluation criteria	excellent	very good	good	satisfactory	unsatisfactory
<b>Written report:</b>					
outline of question/problem					
review of relevant literature					
proposed methods					
proposed data analysis					
feasibility of research plans					
organisation of report					
writing style					
(consistency of) layout					
<b>Oral presentation:</b>					
organisation of talk					
presentation skills					
design/organisation of slides					
ability to handle questions					
<b>General:</b>					
independence of student					
interaction with supervisors					
time spent on pre-study (too little?, too much?)					

## MEME Research Project – Mid-term Evaluation



Student name: ..... Student number: .....  
 Project supervisor: ..... Date of evaluation: .....  
 Project title: .....

Topics to be discussed:	excellent	very good	good	satisfactory	unsatisfactory
planning and organization					
theoretical skills, insight, integration					
technical skills, quality of work					
data management, logbook					
working pace, attitude, punctuality					
motivation, dedication					
creativity					
initiative, independence					
response to feedback					
interaction with supervisors & mates					
communication skills					
safety, neatness					

Is the research progressing well and according to schedule? Yes/No

Are any major changes required to the initial planning? Yes/No

Please indicate any major changes (if applicable) on the back side of this form (<100 words).

**As a result of the midterm evaluation, the research project may be extended by 5-10 ECTS [1 ECTS = 28 hours of study]. Modifications after this evaluation will not be accepted.**

Date of project start: .....

Original date of project end: ..... Original credits (ECTS): .....

New date of project end: ..... New credits (ECTS): .....

### Signatures:

Date: .....

Date: .....

Signature supervisor:

Signature student:



## FINAL ASSESSMENT FORM – MASTER RESEARCH PROJECT

Credits (ECTS): ..... Date: .....

Name: ..... Student number: .....

Master programme: .....

Title research project: .....

Research group: .....

Name project supervisor: ..... Name second evaluator: .....

Research skills: practical work	fail	sufficient	satisfactory	good	excellent
Commitment/enthusiasm for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Initiative/independence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Self-critical attitude in the collection of data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quality and accessibility of data (data management)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social skills (interaction with colleagues and supervisor)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Research skills: theoretical skills					
Definition of hypothesis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Research approach or design concept	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Critical analysis and interpretation of results	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Placing research in scientific context	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Familiar with pertinent literature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ability to improve after feedback	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grade Research skills :					

Written report	fail	sufficient	satisfactory	good	excellent
Presentation of data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Presentation of conclusions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Structure of report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Argumentation skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of references	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Writing/expression skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grade Written report:					

Oral presentation	fail	sufficient	satisfactory	good	excellent
Contents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Technical aspects/presentation materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Discussion skills/ability to answer questions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clarity of expression/expression skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grade Oral presentation:					

Student's strengths:

Future points for improvement:

Final grade (1-10): .....

Please, round off to the nearest 0,5. (A 5,5 is not accepted)

Signature project supervisor:

Signature second evaluator:

Copy for student

Right of Inspection: see Teaching and Examination Regulations (OER). Appeal: Board of Examiners and / or CLRS (Central Portal for the Legal Protection of Students Rights) at: [www.rug.nl/students/clrs](http://www.rug.nl/students/clrs)