

Guidelines for Individual Research Trainings (IRTs)

Individual Research Training (IRT) courses, aka “lab rotations” or “research courses”, allow students to gain hands-on-experience by working in a lab group and carrying out a short, independent research project. In the curriculum of the master’s program in Evolution, Ecology and Systematics, IRTs (designated as IRT1, IRT2, and IRT3) are offered in each of the first three semesters. Each IRT is part of a module that also includes a skills course. EES-students are required to conduct either IRT1 or IRT2. They may elect to take both IRT1 and IRT2. All students are required to complete IRT3.

General requirements for all IRTs

- Students apply directly to the professor or primary investigator in order to arrange topic, time, and specific requirements.
- IRTs conducted by one student have to take place in at least two different labs.
- No ECTS credits can be awarded for research courses for which students receive pay.
- During the IRT, students are in principle allowed to attend classes. The duration of the research course will be prolonged accordingly.

For all IRT-projects with start on August 1, 2024 or later

Rules for the use of artificial intelligence (AI) tools for examination-relevant activities

1. The use of AI tools for examination-relevant performances is possible.
2. The use of AI tools to optimize, translate and correct the spelling and grammar of self-generated texts and to optimize self-generated illustrations is permitted without indication.
3. Text sections and illustrations de novo generated by AI tools and used in research and thesis projects must be clearly marked by footnotes/annotations at the appropriate places and the AI tool must be indicated analogously to literature sources. The prompts used are listed in the appendix.
4. Sections of the text generated through iterative use of AI tools should be marked.
5. The author is responsible for the correctness and proper presentation in written performances and presentations.
6. Sources / references must be cited in accordance with the rules of good scientific practice.

Specific requirements for the different IRTs

IRT1

- **IRT1** is offered in the first (winter) semester and is accompanied by the **skills course *Scientific Writing***.
- The IRT-portion of the module is credited with 7 ECTS credits and the skills-parts with 2 ECTS credits. Upon satisfactory completion of **both** portions the module will be credited to the transcript of records.
- Duration of the IRT1-portion: (equivalent of) 6 weeks full-time lab work + 1-week preparation of project report = 7 weeks in total. Full-time: 5 days per week, 8 hours per day. Depending on the project and the schedule of other courses, the IRT1 could be done e.g. over 14 weeks of half-time work.
- An approved and graded (by the supervisor) written report (15-25 pages) that follows the format of a research paper (Abstract, Introduction, Materials and Methods, Results, Discussion, Literature Cited), as is taught in the *Scientific Writing* course, is a requirement for successful completion of the course.
In addition, the student must present the research project within the research group they do their IRT1 in and/or at the annual IRT1-conference.

IRT2

- **IRT2** is offered in the second (summer) semester and is accompanied by the **skills course *Poster Presentation***.
- The IRT2-portion of the module is credited with 10 ECTS credits and the skills-part 2 ECTS credits. Upon satisfactory completion of **both** portions the module will be credited to your transcript of records.
- Duration of the IRT2-portion: (equivalent of) 8 weeks full-time lab work + 1-week preparation of project report = 9 weeks in total. Full-time: 5 days per week, 8 hours per day. Depending on the project and the schedule of other courses, the IRT2 could be done e.g. over 18 weeks of half-time lab work.
- An approved and graded (by the supervisor) written report (15-25 pages) that follows the format of a research paper (Abstract, Introduction, Materials and Methods, Results, Discussion, Literature Cited) as is taught in the *Scientific Writing* course and/or according to prior agreement with the supervisor, is a requirement for successful completion of the course.
- In addition, the student must present the research project within the research group that they do their IRT2 in and/or at the poster session during the annual EES-conference.

IRT3

- **IRT3** that is mandatory for all students is offered in the third (winter) semester and is accompanied by the **skills course *Grant Writing***.
- The IRT3-portion of the module is credited with 10 ECTS credits and the skills-part is with 2 ECTS credits. Upon satisfactory completion of **both** portions the module will be credited to your transcript of records.
- Duration of the IRT3-portion: (equivalent of) 8 weeks full-time lab work + 1-week preparation of project report = 9 weeks in total. Full-time: 5 days per week, 8 hours per day. Depending on the project and the schedule of other courses, the IRT3 could be done e.g. over 18 weeks of half-time work.
- An approved and graded (by the supervisor) written report that follows the format of a grant proposal (e.g. of the Deutsche Forschungsgesellschaft DFG) as is taught in the *Proposal Writing* course is a requirement for successful completion of the course.
- In addition, the student must present the research project within the research group that they do their IRT3 in and/or at the annual IRT3-conference.
- It is recommended that IRT3 is carried out with the same supervisor as the master's thesis. Thus, the project and the proposal can serve as preparation for the master's thesis.

Internal or external IRT

- **Only one out of the two mandatory IRTs may be completed in an external (non-faculty) lab.** In case of three IRTs, the student is free to decide to conduct the non-mandatory IRT internally or externally.
- Whether a research course is considered to be an external or internal one depends on your supervisor: If your supervisor is included in the *list of internal supervisors*, that can be found in the "download" section or the master's website, the IRT will be regarded as internal - even if the course does not take place directly in the Biocenter or another building of the LMU Faculty of Biology.

Internal IRT

It is not required to register an internal IRT prior to starting it. Upon satisfactory completion of the internal research course, the supervisor notifies the Examination Office (bpa@bio.lmu.de) and the IRT will be credited to the transcript.

External IRT

It is also not required to apply for approval of an external IRT. However, **prior to officially starting a research course** with an external supervisor, **the student is responsible for finding an internal supervisor** to sign for the course, ensuring that its content and execution meet the faculty standards. For this, student and external supervisor should provide a short outline of the research course goals.

The internal supervisor is to attend the oral project presentation, even in the case of an external IRT and is responsible for the grading. Upon satisfactory completion of the external IRT the internal supervisor notifies the Examination Office (bpa@bio.lmu.de).