

## Guide of the Examination Committee (EC) Physics Master to the module “Research Practice” and the “Master’s Thesis”

Prevailing validity is held by the current study and examination regulations

1. The module “Wissenschaftliches Arbeiten” (Phy-Ma-Warb, Research Practice) and the “Masterarbeit” (Master’s Thesis) should allow an independent entry into scientific work. The “Wissenschaftliches Arbeiten” requires 22.5 weeks to complete, the Master’s Thesis requires 26 weeks. Usually, the student begins both modules soon after completing all other exams. The student should select one topic to be the subjects of both modules with one supervising mentor, creating a continuous year-long scientific project. The official academic assessment of the research practice is the 45-minute scientific defense (presentation and discussion). This presentation should constitute a mid-term review of the year-long scientific project. For more background information, explanation and references to previous studies and defenses see the texts of the Dean of Studies, available online.

2. Time frames for “Wissenschaftliches Arbeiten” and “Masterarbeit”: The module “Wissenschaftliches Arbeiten” can begin at any time, assuming the prerequisites have been met. After completing this module, the prerequisites for the “Masterarbeit” are automatically met, and the Master’s Thesis must begin no later than one month after the last module exam (usually the one for the research practice).

- Prerequisites for “Wissenschaftliches Arbeiten”: as an orientation, the module description states: competence in the modules “Experimental Physics”, “Theoretical Physics”, “Main Seminar”, “Physics Specialisation” and “Non-physics Minor”.
- Recommendation of the EC: All exams should be completed at the onset of the scientific work, or, at minimum, the outstanding exams should be scheduled. Note that the estimated work time for the scientific work is 900 hours in 22.5 weeks, equivalent to 40 hours/week.

3. Qualified Supervising Mentors: Officially, “Wissenschaftliches Arbeiten” has one “examiner”, the Master’s thesis one “mentor” and two “examiners”. The two “examiners” of the Master’s thesis grade it; one of them should be the mentor. It is recommended to plan such that one of the two examiners of the “Master’s thesis” acts already as the examiner and mentor of “Wissenschaftliches Arbeiten”.

- According to the “Prüfungsordnung”, the mentor of the Master’s thesis can be: Professors, Junior Professors and Assistant Professors (“Privatdozenten”) that are members of the Physics Department of Technische Universität Dresden (including jointly appointed professors, honorary professors, professorships outside of the headcount (“außerplanmäßig”), and professors with second membership in the Physics Department).
- The mentor should be one of the two examiners. For the second examiner (and for the examiner of “Wissenschaftliches Arbeiten”) the same group applies, but of any university with the right to teach independently in physics. Persons with rights to teach independently in related fields can, in justified cases after formal request of the student, act as examiner.

#### 4. Course of Action

- The student should retrieve from the Examination Office a form entitled “Beginn Modul Wissenschaftliches Arbeiten”. In case of pending exams the student is informed about the above recommendation.
- The student selects supervising mentor/examiners (in the following we simply say mentor); topic and date for the onset of the research practice should be determined and entered in the form. The mentor should submit the form back to the Examination Office, giving a copy to the student.
- Mentor and student are requested to select a date for the scientific defense which at most 26 weeks (22-26 weeks are recommended) after the onset of the scientific work. The defense (ungraded) consists of a presentation and discussion taking in total 45 minutes (30+15 minute division is recommended).
- The student registers the defense with the Examination Office (for documentation purposes). At the registration, the student receives a form entitled “Anmeldung zur Masterarbeit”.
- After successful completion of the defense (and in the case that all exams are completed successfully), the student has one month to register and begin the work for the Master’s Thesis. Expectation: the mentor and topic of the Master’s Thesis is the same as for the scientific work.
- Mentor and student together complete the form “Anmeldung zur Masterarbeit”. The supervisor sends the form to the Examination Office, after retaining a copy for the student.
- The time frame for the Master’s Thesis is 26 weeks. In exceptional cases, the Examination Board can grant extensions for up to 6 weeks, for justified petitions.
- Within the first four weeks of the Master’s Thesis, the student should obtain the commitment of a secondary refereeing mentor (the second examiner) (or applies in writing for a secondary refereeing mentor, in consultation with the supervisor).
- The Master’s Thesis is written in English or German language and must be typed and bound. Two copies, and a digital version (CD or DVD with enclosure and labeling), and a printout of the title page including title and referees have to be submitted on time to the Examinations Office; the date of submission is recorded. Note that two copies are sufficient for the examinations office and examinations board, even though the official study and examination regulations require three copies. Upon submission, the student must declare in writing that the thesis is original, and he/she has not relied on any unspecified resources.