FAKULTÄT FÜR PHYSIK UND ASTRONOMIE

UNIVERSITÄT HEIDELBERG ZUKUNFT SEIT 1386

Information on the Organisation of Doctoral Studies in Physics and Astronomy at Heidelberg University

The admission to doctoral studies and to the final doctoral exam in physics and astronomy at Heidelberg University is governed by three layers of regulations, which are summarised here.

1. General rules on doctoral studies within the joint faculties of mathematics and the natural sciences[1]:

1. Admission is possible if the candidate can prove sufficient theoretical and practical knowledge in the field of the planned doctoral studies.
2. Admission is decided on by the Doctoral Committee[2]. It is effective from the date of signature and valid for five years. Upon substantiated request, the period of admission can be extended beyond this. Doctoral students are requested to enrol at the university.
3. The dissertation is evaluated by two reviewers. Their written reports must propose acceptance or rejection of the dissertation. Should the dissertation be accepted, the reviewers grade it with one of the marks 1 (very good), 1.5, 2, 2.5, 3, 3.5, or 4 (acceptable).
4. Reviewers should be professors or lecturers of the faculty[3]. Professors or lecturers of other faculties or other universities can be admitted if appropriate.
5. The doctoral exam is held by four examiners, two of which should be the reviewers of the dissertation. At least two of the examiners should be faculty members. The exam is chaired by a faculty member. It should last between 1 and 1.5 hours.
6. The four examiners represent at least three subjects, which should be chosen from experimental, theoretical, applied physics, practical or theoretical astronomy. Other subjects can be chosen if appropriate.

2. Requirements set by the department of physics:

1. The Doctoral Committee requires that the candidates satisfy three criteria:

   (1) They should hold an appropriate university degree (usually Diplom or Master in physics) with a final grade of 2 or B+ or better.

   (2) Their previous education should be comparable to a local Diplom or Master. Candidates should typically have solid knowledge in experimental and theoretical physics and have received practical training.

   (3) They should have written a thesis comparable to a local Diplom or Master's thesis.

   Exceptions to all three criteria are possible. Candidates with grades poorer than 2 or B+ should be supported by a written statement by their prospective advisor.

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1 *Naturwissenschaftlich-Mathematische Gesamtfakultät* (mathematics and computer science, chemistry and geosciences, physics and astronomy, biology)

2 *Promotionsausschuss*

3 *Professoren, Hochschul- oder Privatdozenten*; also admissible are junior group leaders who have been competitively selected after open advertisement and who participate in teaching at an average level of 2 teaching units per term (e.g. Emmy Noether, Helmholtz, or Max Planck group leaders).

Knowledge not covered by the proven educational record can be demonstrated in a dedicated exam[4]. Candidates who have not written a thesis may substitute it either through presentation of a refereed publication or through providing a written report after approximately one year of doctoral study at the University.

2. As the head of the Doctoral Committee, the Dean can admit candidates in obvious cases. Denial of admission requires the consent of the Committee.
3. A work plan coordinated with the advisor should be submitted at the latest six months after the beginning of the doctoral studies.
4. Doctoral students are obliged to attend lectures, seminars or courses at an expected level of 4 teaching units[5].
5. Admission to the doctoral exam in astronomy requires proof that the candidate has participated in a regular seminar, an advanced seminar and the astronomy practical.

3. Regulations within the Heidelberg Graduate School of Fundamental Physics:

1. Doctoral candidates are competitively selected according to their qualification after a yearly international advertisement or at several local admission rounds in between.
2. Together with the prospective advisors, representatives of the School's different fields of research select the candidates from among the applicants. The Doctoral Committee decides on the final admission.
3. Doctoral students are assigned a thesis committee consisting of the primary advisor and two additional members who must at least hold a doctoral degree and must not all be members of the same working group. The thesis committee meets regularly with the doctoral student to discuss the work plan, the progress achieved and the further training required.
4. Doctoral students are obliged to obtain professional education at the level of 4 teaching units on average during the first four terms, or 16 teaching units in total. At most 8 teaching units can be contributed through the attendance to seminars of the student's own working group or to colloquia. Attendance of doctoral schools is admissible. Students need not attend classes whose content they are already familiar with. Emphasis should be given to classes requiring the active participation of students, e.g. seminars or journal clubs.
5. The branches of the HGSFP may define additional requirements specific for their subject areas.

4. Additional remarks:

1. The formal procedures of the doctoral studies of students within or applying for the HGSFP are administered by the HGSFP, all others by the Dean's Office. Students applying for or accepted by the HGSFP should therefore turn exclusively to the Central Office of the HGSFP.
2. At its meeting on October 24, 2007, the Faculty Council of the Department of Physics and Astronomy decided to adopt rules 3.3 (thesis committee) and 3.4 (professional education). They will take effect faculty-wide once the corresponding changes to the regulations of the joint faculties of mathematics and the natural sciences have been approved by the Senate of the University.

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4 *Kenntnisstandsprüfung*

5 *Semesterwochenstunden, SWS*; hours per week during term time