Translation of Subject Curriculum (Study Plan) for Third-cycle (PhD) Education

Physics

Swedish title: Fysik

TNFYSI00

Swedish curriculum adopted by the Board of the Faculty of Science and Technology (Third-cycle Educational Board) on 2008-10-01, revision, on 2016-10-05 and 2021-05-12. Translations approved 2021-05-12.

The Study Plan for third-cycle studies consists of three parts: a general part, this subject specific study plan, and each doctoral student's individual study plan.

Objective

Starting from basic education in the subject the third-cycle education shall give further insights into the important parts of the subject and more thorough knowledge of at least one sub subject. By supervision and thesis work the doctoral student shall become well prepared for critical and independent research activities or other professional work, where strong demands on thorough subject knowledge and research competence are formulated.

The doctoral student shall also be able to present her/his own goals and results both orally and in writing to different target groups in English and, in the case of Swedish-speaking doctoral students, in Swedish.

Subject description

Physics is the discipline where matter, energy, forces and force fields, and how these are related in space and time, at all relevant length- and time scales, are studied. The research and research education in Physics is mainly carried out at the Department of Physics and Astronomy. The work is both experimental and theoretical and covers basic research, applied research and the development of new methods.
and instrumentation in most fields of Physics, including Physics Education Research.
Research in physics is conducted with a close interaction between theory and experiment and a high degree of interdisciplinary, both locally, nationally and internationally.

Information on the research areas that are relevant to the program can be obtained through seminars and lecture series and discussions with teachers in postgraduate education, see [http://physics.uu.se](http://physics.uu.se).

**Eligibility**

**Basic Eligibility**
The basic eligibility for third-cycle studies is described in the general part of the study plan.

**Special Eligibility**
Note: According to Higher Education Ordinance, the special eligibility requirements demanded shall be indispensable for the student’s ability to benefit from the studies.

The requirements may refer to knowledge gained from higher education or equivalent education, specific professional experience, and necessary language skills or other conditions imposed by the education.

A person meets the special eligibility requirements for doctoral studies in Physics if she/he has passed examinations in courses in Physics or in courses in areas of relevance to Physics, covering a minimum of 90 higher education credits, or if she/he has acquired the equivalent knowledge abroad.

**Admission**
Applicants for third-cycle studies in Physics shall contact the relevant research group at the Department of and Astronomy. Admission to doctoral studies takes place continuously throughout the year.

Upon admission to postgraduate education, the Swedish title of the degree is to be specified in the application. Postgraduate education in Physics shall lead to a filosofie doktorsexamen or, alternatively, a teknologie doktorsexamen. The English rendering will, in both cases, be a licentiate/doctorate degree of philosophy. According to decision (TEKNAT 2012/215) the degree title should be determined by the
contents of the postgraduate education and not by the undergraduate degree of the postgraduate student.

Program structure

At the time of admission, each doctoral student and her/his supervisor shall draw up an individual study plan after consultation with the professor in charge of third-cycle studies. The plan is to be approved by the Head of the Department (by delegation of the Faculty Board) at the time of admission.

The individual study plan shall be annually reviewed by the doctoral student and her/his supervisor jointly, and supplemented with a summary of the achieved results and the plans for the coming year. Significant changes as well as any disagreement on the individual study plan shall be reported to the Head of the Department or, if deemed necessary, to the Third-cycle Educational Board.

Doctoral students in Physics are strongly advised to pursue a licentiate degree.

Courses

The courses and literature studies are intended to provide wider insights into the subject as a complement to the specialist competence acquired in the research work. The courses included in the individual study plan may be selected from individual literature courses at the advanced level in physics, as well as from a range of doctoral/graduate courses given in Sweden or abroad.

A course in research ethics of at least 2 higher education credits is mandatory for licentiate and doctoral degree. A course in university educational theory is also mandatory for doctoral students who teach at basic and advanced level.

The range of courses offered is revised continuously, see http://physics.uu.se and http://www.teknat.uu.se/utbildning/forskarniva/ for more information.

Requirements for doctoral degree

The requirements for the doctoral degree consist of passed examinations in the courses included in the approved individual study plan of each doctoral student, as well as a passed public defense of the
degree project. The studies awarded a doctoral degree comprise 240 higher education credits (four years of full-time studies), of which the doctoral thesis comprises a minimum of 120 higher education credits and the course part a minimum of 40 higher education credits.

Requirements for licentiate degree
A doctoral student who has acquired at least 120 higher education credits (two years of full-time studies) is eligible for a licentiate degree. The requirements consist of passing the examinations included in the program stage and receiving a passing grade on an academic paper of at least 60 higher education credits. The part of the course amounts to a minimum of 30 higher education credits.

Other
Research in Physics is pursued in extensive international collaborations and presumes a widespread global information exchange. It is therefore important that the doctoral student can make efficient use of scientific texts in English.

Further information can be obtained from http://physics.uu.se and http://www.teknat.uu.se/utbildning/forskarniva/.