Translation of Curriculum Statement for Graduate Level (Third-level) Education

Computer Science with specialization in Computer Science Education Research

Swedish title: Datavetenskap med inriktning mot datavetenskapens didaktik

TNDAVE05

Swedish Curriculum adopted by the Board of the Faculty of Science and Technology (Board for Third-level Education) on 2008-07-02. Translation approved on 2010-08-10.

The Curriculum Statement for Third-level Education consists of three parts: a general part, this subject specialized curriculum statement, and each doctoral student's individual study plan.

Objective

In relation to the first- and second-level education in the subject area, the graduate level education shall give additional insight into the central parts of Computer Science and deep knowledge in at least one subarea. This includes training in research methodology, along with good insight into the issues that exist in the research area and its applications. Through supervision and thesis writing the doctoral student should become well prepared to critically and independently plan, execute, and present orally and in writing research and development projects of high international quality.

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

Subject description

In Computer Science Education Research, education and learning in various areas of Computer Science are subject to research. To successfully conduct such research requires solid knowledge in Computer Science in combination with thorough familiarity with and skills in application of research methods from the social sciences, for the study of learning. Issues that are addressed concern for example

students' understanding of subject matter and their experiences of the various aspects that together constitute the learning environment. The results of the research provide insight about relations between on one hand students' learning and on the other hand form and content of Computer Science education.

Eligibility

Basic Eligibility

The basic eligibility for third level education is described in the general part of the curriculum statement.

Special Eligibility

Special qualification to education at research level in Computer Science is granted to persons who have passed examination in Computer Science courses or in courses relevant for Computer Science, covering at least 60 higher education credits. Persons who have acquired corresponding knowledge outside Sweden are also qualified.

Admission

Applicants for third level program in Computer Science must submit an application to the head of the Department of Information Technology. Admissions to places in third level programs take place normally several times per year.

In connection with the admission it must be stated how it is planned to finance both the personal maintenance of the doctoral student, and her/his research.

Program structure

In connection with the admission, each doctoral student and her/his supervisor shall draw up an individual study plan after consultation with the professor in charge of the third level program. The plan is to be approved by the head of the department (by delegation of the Faculty Board), in connection with the admission.

The individual study plan shall be reviewed jointly by the doctoral student and her/his supervisor, annually, and be provided with a summary of the achieved results and the plans for the coming year. Significant changes and any disagreement on the individual study plan shall be reported to the head of the department or, if deemed necessary, to the Board for Third-level Education.

Courses

Courses in third level education may be of different kinds, such as lectures, literature studies, practical exercises, field studies, etc. The courses and literature studies are intended to provide wider insight into the subject as a complement to the specialist competence acquired in the research work.

A PhD degree should include courses corresponding to normally 60–90 higher education credits, 75 higher education credits in the typical case. The exact number of credits is specified in the individual study plan. A Licentiate degree should include courses corresponding to 30 higher education credits.

For a PhD degree at least 30 higher education credits should be for graduate level courses in areas of Computer Science outside the specialization Computer Science Education Research. Moreover, there should be at least 30 higher education credits in Education/Pedagogy. In addition, at least 15 higher education credits should be individual specialization courses where the student individually studies material connected to his/her own dissertation work.

At most 15 higher education credits form courses on undergraduate level education can be included.

Requirements for doctoral degree

The requirements for doctoral degree consist of on one hand passed examinations in the courses included in the approved individual study plan of each doctoral student, and on the other hand a passed public defense of the doctoral thesis. The program leading to the doctoral degree amounts to 240 higher education credits (four years of full-time studies), of which the thesis part amounts to a minimum of 120 higher education credits and the course part to a minimum of 60–90 higher education credits.

Requirements for licentiate degree

A stage of at least 120 higher education credits (two years of full-time studies) in the third level program may be completed with a licentiate degree. The requirements for this are that the doctoral student both has passed the examinations included in the program stage and has got an academic paper amounting to a minimum of 60 higher education credits passed. The course part amounts to a minimum of 30 higher education credits.

Other

Research in Computer Science is conducted in extensive international and interdisciplinary cooperation. It is necessary that the graduate student can understand and write texts in English. In addition the ability for interdisciplinary cooperation including computer science, humanities, and social sciences, is emphasized.

After each period corresponding to one year of full-time studies, the doctoral student shall give a public seminar presentation of the accumulated research results and plans for continued research. (The licentiate seminar and thesis defense procedure may be counted in this context; since the third level education amounts to four years of full-time studies, this means that at least two additional seminar presentations should be given.)

For the seminars besides the licentiate seminar and thesis defense, the doctoral student should present written material, for example in the form of a proposal for licentiate or doctoral project, containing a summary of results and a plan for continued work. An external examiner shall review the written material and the seminar presentation. This examiner should normally be a senior researcher from an other research program. The external examiner and the supervisor will make a joint decision about whether to recommend the doctoral student to continue according to the plan.