Curriculum Statement for Graduate Level (Third Level) Education

Computer Science

Swedish title: Datavetenskap

TNDAVE00

Swedish Curriculum and English translation adopted by the Board of the Faculty of Science and Technology (Board for Third-level Education) on 2012-01-23.
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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 as well as 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) for different target groups in English and, in the case of Swedish-speaking doctoral students, in Swedish.

Subject description

Computer Science encompasses theory and experimental methodology for construction and programming of computers. Central to the subject is to develop and analyze—from both theoretical and practical points of view—concepts, methods, languages, and programs, that aim to make construction, programming, and utilization of computers easier,
more reliable, and more efficient. The subject area also includes theory that is directly motivated by problems in computer science.

Eligibility

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

Special Eligibility
Special eligibility for third level education in Computer Science is granted to persons who have passed courses in Computer Science or in areas relevant to Computer Science, covering at least 90 higher education credits. Persons who have acquired corresponding knowledge outside Sweden are also eligible.

Admission
Applicants to third level education in Computer Science must submit an application to the head of the Department of Information Technology. Positions within the third level education are normally appointed several times per year.

In connection with the admission, a plan for the financing of both the personal subsistence of the doctoral student, and her/his research, shall be supplied.

Program structure
In connection with the admission, each doctoral student and her/his supervisors shall prepare an individual study plan after consultation with the professor responsible for 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 annually, jointly by the doctoral student and her/his supervisors, and be provided with a summary of achieved results and plans for the coming year. Significant changes and possible disagreement concerning 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 insights into the subject as a complement to the specialist competence acquired through the research work.

A doctoral degree should include courses corresponding to normally 60–90 higher education credits. 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 doctoral degree at least 15 higher education credits should be for graduate level courses outside the area of Computer Science or outside the department. In addition, at least 15 higher education credits should be for courses in the area of Computer Science, but outside the area of the dissertation work. In addition, at least 15 higher education credits should be individual specialization courses where the student independently studies material connected to his/her own dissertation work.

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

Requirements for doctoral degree
The requirements for doctoral degree include passed examinations in the courses included in the approved individual study plan of the doctoral student, and 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 a wide international cooperation and requires a substantial international flow of information. It is necessary that the graduate student can understand and write texts in English.

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 another research group. The external examiner and the supervisor will make a joint decision about whether to recommend the doctoral student to continue according to the plan.