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

Computer Science with specialization in Human-Computer Interaction

Swedish title: Datavetenskap med inriktning mot människa-datorinteraktion

TNDBIB00

Swedish Curriculum adopted by the Board of the Faculty of Science and Technology (Board for Third-level Education) on 2012-03-07.

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 field’s most important areas 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 for critical and independent research or other professional activity where deep subject knowledge and research abilities are required. 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
Research in Human-Computer Interaction (HCI) concerns humans’ use of information technology and the interactions between computers, technology and users. The objectives are to better understand problems that can occur when humans are using technology as well as the possibilities to develop better IT systems that contribute to high benefits, usability, efficiency and safety.

HCI is a multi-disciplinary subject where research competencies from different areas are integrated in order to develop new theories and
methods. Examples of such areas are technology, computer science, behavioural sciences, work environment, pedagogy, sociology, organisational sciences and economy.

The research shall especially study use of IT in working life, in order to contribute to better methods and processes for requirements, design, development, deployment and evaluation. Future methods should enable support of human competencies and contribute to usability, efficiency, safety and a sustainable work.

HCI research can concern more basic investigations of humans in interaction with technology and development of methods and techniques, or be more applied to different areas. The applied research, using action research methods, can concern different areas of working life or other contexts where humans interact with technology such as in the home or in society at large and how technology can support people with special needs.

Eligibility

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

Specific Eligibility
Specific eligibility for third-level education in Human-Computer Interaction (HCI) encompasses passed examination in courses relevant for HCI corresponding to at least 90 higher education credits. Out of these at least 30 credits must be from courses on an advanced level. A master thesis or similar achievement with relevance for HCI is also required. Persons who have acquired corresponding knowledge outside Sweden are also qualified.

Admission
Applicants for third-level program in HCI must submit an application to the head of the Department of Information Technology. Admissions to places in third-level programs normally take place when relevant research projects and financial resources are available.

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 head of the department (by delegation of the Faculty Board) is to approve the plan, in connection with the admission.

The individual study plan shall be reviewed jointly by the doctoral student and her/his supervisor, annually, and be extended 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 types, 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. Therefore, the courses should include those which cover human-computer interaction methods with sufficient depth and breadth.

The third-level course offerings in HCI are continuously revised. Examples of courses are:

- Theory of science and scientific methodologies.
- Research methods in HCI
- Perception and cognition relevant for HCI
- Cognitive work environment
- Humans in complex work
- Design and development of user interfaces
- User centred systems development
- IT and ethics

In addition to these courses, courses offered in adjacent third-level programs, or on advanced level in relevant topics, may, after permission from the main supervisor, be included in the individual study plan.

It is also desirable to include some course in a subject relevant for the application area of the student’s research project, for instance in behavioural sciences, medicine and health care, process control etc.
Requirements for doctoral degree
The requirements for doctoral degree consist of examinations in the courses included in the approved individual study plan of each doctoral student, and on passed public defence 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 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 academic publications amounting to a minimum of 60 higher education credits passed. The course part amounts to a minimum of 45 higher education credits.

Other
Research in HCI is conducted in extensive national and international cooperation and requires an extensive global information flow. It is necessary that the graduate student can understand and write texts related to HCI in English.