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

Civil and Structural Engineering with specialization in Soil Mechanics

Swedish title: Byggtetnik med inriktning mot geoteknik

TNBYTE01

Swedish Curriculum adopted by the Board of the Faculty of Science and Technology (Board for Third-level Education) on 2008-07-02, revised 2017-03-08 and 2020-01-15. Translation approved 2020-01-15.

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

On the basis of the undergraduate level curriculum within the subject area, the graduate (Third-level) curriculum will give additional insight into the subject’s central areas together with increased knowledge within at least one field. The doctoral student shall be given the opportunity to undertake critical and independent research studies within the subject area, or for other professional activities with similar requirements, through supervision and thesis work.

The doctoral student shall also be able to present his/her 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

Civil and Structural Engineering involves methods for design and production of buildings, roads, dams and other constructions using the building materials timber, concrete, steel or geological materials. Important fields of the graduate level education are building construction, soil mechanics and foundation engineering, road and dam building.
Civil and Structural Engineering at Uppsala University focuses on the constitutive properties of building materials as well as on design methods based on analytical and numerical methods. The subject soil mechanics focuses on the mechanical and geohydrological properties of soils with application to e.g. foundation of buildings, slope stability and landslides. Road and dam building deal with the geomechanical and geohydrological properties of road and dam embankments including design, bearing capacity and stability.

Eligibility

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

Special Eligibility
Special eligibility is assigned to a candidate who has taken courses within all relevant areas in the subject with sufficient breadth and depth. Thus, special eligibility is considered a candidate that has passed a Master of Science in Structural and/or Civil Engineering or has passed a Bachelor in Building Engineering and has extended this with courses comprising at least 90 higher education credits in Building Engineering, Mathematics and Physics or has otherwise acquired the equivalent knowledge.

Admission
Applicants for Third-level program in Civil and Structural Engineering with specialization in Soil Mechanics must submit an application to the head of the Department of Engineering Science. Admissions to places in third level programs take place normally six times per year.

Upon admission to postgraduate education, the Swedish title of the degree is to be specified in the application. According to decision (TEKNAT 2012/215), postgraduate education in Civil and Structural Engineering with specialization in Soil Mechanics shall lead to a filosofie doktorsexamen or teknologie doktorsexamen. The English rendering will in either case be a licentiate/doctorate degree of philosophy.

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

Within the Third-level program there may be different kinds of courses, such as lectures, literature studies, practical training, field studies, etc. The courses are intended to provide wider insights into the subject as a complement to the specialist competence acquired in the research work.

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 courses included in the individual study plan may be selected partly from among specific doctoral courses, through summer school or equivalent courses, or as individual literature courses. The choice of courses within the host department is limited and doctoral students can choose relevant courses from other departments or even with other places of learning.

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 other hand 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 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
It is necessary that the doctoral student can read and understand text and literature in English.

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