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

Earth Science with specialisation in Mineralogy, Petrology and Tectonics

Swedish title: Geovetenskap med inriktning mot mineralogi, petrologi och tektonik

TNGEVE06

Swedish curriculum adopted by the Board of the Faculty of Science and Technology (Third-cycle Educational Board) on 2014-05-14

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 the basic education within the topics the research education shall give further insights in the more important parts of geophysics and deeper knowledge within an area of specialization. Through supervision and thesis work the doctoral student shall be well prepared for a critical and independent research career or for another career requiring detailed topical knowledge and research capacity.

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

The field includes the following research programs: Mineralogy and Petrology
Geodynamics and Tectonics

The research fields include theoretical, experimental and field-based studies of geological processes in bedrocks and Earth's interior. The overall goal is a deeper understanding of Earth's dynamic evolution. The research is aimed at experimental geochemistry at high pressure,

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volcanology, mineralogy, theoretical modeling, diagenetic processes and tectonic modeling.

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.

Special eligibility to the research education in mineralogy, petrology and tectonics has he/she who has taken approved courses in basic education in geoscience or courses in topics relevant to mineralogy, petrology and tectonics corresponding to 90 higher education credits or who has acquired sufficient knowledge in other ways. Even students who have acquired other relevant education in natural sciences can be accepted to the research education in this field.

Admission

Applicants for third-cycle studies in Mineralogy, Petrology and Tectonics must submit an application to the Head of the Department of Earth Sciences. Admission to doctoral studies takes place normally two times per year.

At the time of admission, the department must provide a financial assistance plan demonstrating sufficient support to cover the maintenance of the applicant as well as her/his research.

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

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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.

Courses

The third-cycle studies may include different kinds of courses, such as lectures, literature studies, practical training, field studies, etc. The courses are intended to provide a wider insight into the subject as a complement to the competence acquired during research. The courses included in the individual study plan may be selected among the courses offered in mineralogy, petrology and tectonics, partly among courses in other geosciences and natural sciences disciplines, both nationally and internationally.

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

A certificate from the course responsible is required in order to acknowledge course's credits.

The range of courses offered is revised continuously. A selection of the following courses shall be included in the studies:
Analytical Methods in Earth Science
Diagenesis and reservoir-quality evolution of clastic deposits
Kinetics of metamorphic processes
Geodynamics and structural analysis
Field course
Phase petrology
High pressure mineralogy
Technical writing and presentation
Volcanology

Depending on the specialisation, it may be desirable to select a not insignificant number of courses in the individual study plan from other

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areas such as geophysics, chemistry, physics, mathematics, information processing, historical geology and paleontology.

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 20 higher education credits.

Other

Research in Earth Science with specialization in Mineralogy, Petrology and Tectonics is conducted in the frame of international cooperation and involves an extensive flow of information on the global level.