General syllabus for third-cycle/doctoral education in the subject of Medical Science

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Karolinska Institutet

General syllabus for third cycle/doctoral education in the subject of Medical Science

This is a translation of the Swedish version. In the event of any discrepancy, the Swedish version has preferential interpretation.

1. The subject

Karolinska Institutet (KI) has opted for a very broad doctoral subject, to which all doctoral students are admitted. To clarify the demands placed on the students regarding breadth and depth of subject knowledge, three levels have been defined: 1) the doctoral education subject, 2) the research field and 3) the individual project.

The doctoral education subject

All research at KI takes place at the medical faculty and is conducted in the field of medical science, from cell to society. Therefore all doctoral students at KI, if the conditions are in place for them to pursue doctoral education of a high standard, are admitted to the doctoral education subject Medical Science.

On completing his or her education, a doctoral student is expected to have a grounding in medical science.

The research field

Doctoral students and their supervisors are to define the research field(s) in which their research will be conducted. The relevant field is to be clearly stated in the individual study plan.[1]

On completing his or her education, a doctoral student is expected to have acquired broad knowledge and systematic understanding of his or her research field.

The project

The scientific project is described in the individual study plan. A project is unique to each doctoral student and is confined to within a four-year (or two-year) period of education.

On completing his or her education, a doctoral student is expected to have acquired advanced and up-to-date specialised knowledge in his or her project and the surrounding context.

2. Content and outcomes

KI awards two kinds of third-cycle degrees: the Degree of Doctor (PhD degree) and the Degree of Licentiate. A PhD at KI is obtained after a student has successfully completed 240 higher education credits[2], equivalent to 4 years' full time study. A Licentiate covers 120 higher education credits, equivalent to 2 years' full time study.

Doctoral education consists of:

1. Supervised research
2. Courses and other educational activities

An individual study plan is established for each doctoral student stating the university's and the student's commitments and how the student plans to achieve the objectives/outcomes for doctoral

[1] The research field is normally identical to the national research subject (as per the SCB classification), which is stated in the individual study plan (ISP). If there is no suitable SCB subject or if the project covers more than one research field, this is to be described and defined elsewhere in the ISP, ideally in the appended research plan.

[2] 1.5 higher education credits (HEC) are the equivalent of one week's full-time studies.

education[3], both through his or her research and by attending courses and other educational activities. The fulfilment of these outcomes is monitored continuously as well as in connection with the doctoral student's thesis defence.

3. Courses and other credit-bearing activities

Total credits from courses and other educational activities		
Degree of Doctor	**min 30 credits**[a]	At least 10 credits should be obtained by half time
Degree of Licentiate	**min 15 credits**	

[a] Higher education credits (HEC) (*Swedish: högskolepoäng, hp*)

By "courses" is meant doctoral courses with a syllabus established by KI. Other courses may also be credit-transferred if they are relevant and have a standard of content and quality that corresponds to doctoral education at KI.

3.1 Compulsory courses

Any formerly acquired knowledge can be tested for credit-transfer in accordance with the prevailing rules.

Obligatory courses for all doctoral students		
Statistics	**min 1.5 credits**	By half time
Research ethics	**min 1.5 credits**	By half time
Science communication[a]	**min 1.5 credits**	
Project-specific courses and/or research-field-specific courses[b]	Doctoral degree: **min 6 credits**	
	Licentiate degree: **min 3 credits**	

[a] Includes courses in scientific/popular science writing, oral presentations of research and presentation skills.

[b] The student's needs determine the courses chosen. A maximum of 4.5 credits may be transferred from clinical specialist competence courses ("SK"-courses).

[3] See Higher Education Ordinance, Annex 2 - Qualifications ordinance.

Obligatory courses for doctoral students as determined by the nature of the research project			
Laboratory animal science[a]	For students who are to use laboratory animals in their research	Species-specific competence as required by Swedish law	Before any animal experiments may begin
Laboratory safety	For students who are to conduct all or part of their research in a laboratory	**min 1.5 credits**	By half time
Quality assurance of clinical research	For students who are to conduct clinical research[b]	**min 1 credit**	By half time

[a.] The courses required and their scope depend on the animal species, the research project and the student's role in the project.

[b.] Applies to students conducting clinical research as defined thus: Research on living humans or research requiring the handling of sensitive personal data. For students conducting research on human biological material only, this course is recommended but not obligatory.

Obligatory courses for doctoral students without a higher medical education	
Course/courses providing a grounding in human biology/physiology and/or pathology [a]	**min 3 credits**

[a.] The nature of the course(s) may depend on the student's needs.

3.2 Compulsory educational activities

Doctoral students are required to engage in other educational activities besides courses and research.

Total credits from other educational activities	
Degree of Doctor	**min 4.5 credits**
Degree of Licentiate	**min 3 credits**

Obligatory educational activities		
Introduction for new doctoral students arranged by the Board of Doctoral Education		During first year
Research seminars, journal clubs, etc. (1-1.5 credits per term, depending on frequency)	**min 1.5 credits** max 6 credits [a]	
International conferences including own presentation (1.5 credits per conference)	**min 1.5 credits** max 3 credits [a]	

[a.] Maximums refer to the number of credits that may count towards the obligatory 30.

3.3 Optional courses and educational activities

Doctoral students are also required to select a combination of the following, according to their individual needs, in order to attain the 30 credits minimum (15 credits for Licentiates):

1. ***Project- and/or research-field-specific courses:*** Many students might need additional courses to achieve the required breadth and depth of knowledge in their project/research field.

2. ***General science/generic courses:*** Many students might need additional general science/generic courses in order to attain the objectives/outcomes for doctoral education.

3. ***Other educational activities:***

Optional credit-bearing educational activities	
Visit to a research group at another university (1.5 credits per week)	max 6 credits[a]
Teaching in own research field for practical pedagogical training (40 working hours, including preparation = 1.5 credits)	max 4.5 credits[a]

[a.] Maximums refer to the number of credits that may count towards the obligatory 30.

4. Entry requirements for doctoral education

General entry requirements

Higher Education Ordinance, chapter 7:

§ 39 A person meets the general entry requirements for doctoral education if he or she:

1. has been awarded a second-cycle qualification
2. has satisfied the requirements for courses comprising at least 240 credits of which at least 60 credits were awarded in the second-cycle, or
3. has acquired substantially equivalent knowledge in some other way in Sweden or abroad.

The higher education institution may permit an exemption from the general entry requirements for an individual applicant, if there are special grounds.

Specific entry requirements

From the Admissions procedures for doctoral education at Karolinska Institutet:

All applicants must show proficiency in English equivalent to the course English B/English 6 (with a passing grade) at the Swedish upper secondary school.

Applicants who meet the general entry requirements (as per chapter 7, § 39, points 1 and 2 above) through academic credentials from a Nordic higher education institution are assessed to meet the special entry requirements.

For other such assessments, the assessment manuals issued by the Association of Swedish Higher Education apply for Swedish and foreign education and for foreign academic credentials.

Other special entry requirements associated with a specific doctoral place are decided by the relevant head of department.

5. Other regulatory documents

Advertising, selection and admission procedures are regulated in *Admissions procedures for doctoral education at KI*. These and other regulatory documentation pertaining to doctoral education can be found in *Rules for doctoral education at Karolinska Institutet.*[4]

[4] The latest version can always be found on the KI website via the "Doctoral Education" page.