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# **General study plan - Medical Science**

**Resolved 29-08-2007 by the Board of the Faculty of Health Sciences (FSM)**

**Revision 10-12-2008 adopted by the Board of the Faculty of Health Sciences (FSM)**

**Linköpings universitet**

Hälsouniversitetet

## General Study Plan – Medical Science

From 1 July 2007, students admitted to the Faculty of Health Sciences (HU) will be offered one postgraduate studies discipline only: Medical Science. All postgraduate students accepted from this date onwards will therefore follow the same General Study Plan. In order to be able to defend their doctoral dissertations, postgraduate students at HU will need to achieve a course target equivalent to not less than 33 credits (38 credits for certain research students) for a doctorate and not less than 18 credits for a licentiate degree (23 credits for certain research students).

Postgraduate students at HU are trained in research, development work and other problem solving within the higher education, private and public sectors. HU offers qualitatively excellent masters and postgraduate courses designed to produce graduates and PhDs of a very high international standard.<sup>1</sup>

### 1. Admission, qualification requirements and selection for acceptance onto postgraduate level courses

According to the Higher Education Ordinance, the Faculty Board is responsible for admission to courses at postgraduate level. At HU this task is delegated to FUN.<sup>2</sup> Preparation for admissions is made by the respective departments. FUN is the deciding body regarding admission; it bases its decisions on those of the respective department boards.

The following is required for admission to a postgraduate course at HU:

- basic and specific qualifications
- the applicant is assessed to be capable of completing the course successfully
- an individual study plan (where appropriate<sup>3</sup> approved by an operations manager or equivalent) including a funding plan
- at least two proposed tutors, of which one is named as principal tutor
- completion of an admissions seminar

In evaluating an application, the board of the department has to assess whether candidates are able to dedicate sufficient time to their studies such that these can be completed within eight years in the case of a doctorate and four years in the case of a licentiate degree.<sup>4</sup> As a postgraduate student, employment must not exceed the corresponding time required for a full-time postgraduate level course of four years for a doctorate.<sup>5</sup> This is confirmed by the tutors and, as appropriate, the operations manager or equivalent when adopting and during the yearly follow-up of the individual study plan. A postgraduate student admitted to a PhD course has the choice to conclude the postgraduate studies with a licentiate degree on completion of not less than 120 credits that could be credited to a doctorate.<sup>6</sup>

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<sup>1</sup> From HU's strategic targets (resolved by the Faculty Board 30-08-2006).

<sup>2</sup> See Delegation from FSM to FUN d no: LiU 132/06-10

<sup>3</sup> When the postgraduate course is taken with the framework of employment within e.g. a county authority, local authority or company.

<sup>4</sup> HF 7 ch 7 § 36

<sup>5</sup> HF 5 ch 7 §

<sup>6</sup> HF Appendix 2 Degree Ordinance

To be admitted to HU as a postgraduate student, candidates must possess basic and specific qualifications and be assessed to be capable of completing the course successfully.

Specific qualifications include proficiency in English equivalent to an approved TOEFL test or having completed an admissions seminar in English.

Selection criteria for applicants are:

- capacity to complete a course at postgraduate level successfully

**Decision on acceptance onto a postgraduate course:** On completion of the admissions seminar and provision of the individual study plan (see Individual study plan), the board of the department decides to support or not support admission to the doctoral studies place. FUN then decides upon admission.

**Decision on acceptance onto a licentiate degree course:** Acceptance onto a postgraduate course with a licentiate degree entails that this degree is the final goal of the post graduate study. Admission to post graduate study with licentiate degree as the goal is in principle only possible when a permanently employed professional person requests competence development and further study within their subject/profession. As the postgraduate studies place is then tied to a professional position, the place need not be advertised. The proposal for the establishment of the postgraduate studies place, including information on the intended holder is established by the department in question and shall then be approved by FUN; the department then decides, in customary fashion, on the admission.

**For postgraduate students applying for doctoral studies places as from 1 January 2009, the following applies:**

- At least half of the sub works included in the doctoral dissertation must be published/accepted for publication following admission to postgraduate study
- The sub works that shall be included in the doctoral dissertation may be published, at the most, five years prior to admission for postgraduate study.
- Post graduate students shall, at the latest, during the term of their public defence have been registered doctoral students with a degree of activity corresponding to three years full-time study.

**Please note however the following cases:**

1. Anyone wishing to be admitted to a PhD course where, according to the individual study plan earlier postgraduate studies in Sweden or elsewhere are to be credited, is to be registered and actively engaged in postgraduate study at HU for a period corresponding to not less than two years full-time study before applying to defend their dissertation. The department in question establishes the postgraduate studies place; advertising is, however, not necessary.<sup>7</sup>
2. Postgraduate students admitted onto a licentiate degree course will complete their studies with this degree. On completion of a licentiate degree, the individual concerned can apply for admission to subsequent postgraduate studies leading to a PhD. However, in such cases, the same terms and conditions apply as for new admissions to postgraduate studies for a PhD. The admissions seminar will then though be in the form of a midpoint review (see Midpoint review).

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<sup>7</sup> See HF ch 7 § 37

## 2. Content and structure of postgraduate studies

Postgraduate study entails four years (two years for a licentiate degree) full-time study after taking a degree at advanced level or completed course requirements of not less than 240 credits, including not less than 60 credits at advanced level. For a PhD, the postgraduate student is to have had a scientific dissertation (doctoral dissertation) of not less than 120 credits approved. For a licentiate degree, the postgraduate student is to have had a scientific dissertation of not less than 60 credits approved.

To defend a dissertation for a licentiate degree at HU the general study plan for Medical Science stipulates the following approved course requirements for PhD and licentiate degrees:

### Elements of postgraduate study

### Minimum credits (cr)<sup>8</sup>

	PhD	Licentiate degree
Basic general science courses of which the following are mandatory: <ul style="list-style-type: none"> <li>- Scientific Methodology, 5 cr</li> <li>- Bioethics and research ethics, 3 cr</li> <li>- Scientific communication and information retrieval, 3 cr</li> </ul>	18 cr	11 cr
Mandatory courses for certain research students	5 cr	5 cr
Other postgraduate study courses	9 cr	4 cr
Other credit giving elements	6 cr	3 cr
<b>TOTAL</b>	<b>PhD: min 33 cr</b> (38 cr for some postgraduate students)	<b>Licentiate degree: min 18 cr</b> (23 cr for some postgraduate students)

### 2.1 Basic general science courses

#### Basic general science courses: 18 credits (11 cr for licentiate degree)

The mandatory basic general science courses (11 cr) are to be completed before the midpoint review can be performed or licentiate degree taken. Basic general science courses passed make up not less than 18 cr (11 cr for licentiate degree), with a maximum 5 cr from any one subject. Courses in bold type are mandatory:

<sup>8</sup> 1 credit from the previous system corresponds to 1.5 credits in the Bologna system

- **Scientific methodology, 5 cr**
- **Bioethics and research ethics, 3 cr**
- **Scientific communication and information retrieval, 3 cr**
- Basic biostatistics, 5 cr
- Multivariate statistics, 5 cr
- Epidemiology, 5 cr
- Good Clinical Practice (GCP), 2 cr
- Good Laboratory Practice (GLP), 2 cr

## **Mandatory courses for certain postgraduate students**

Postgraduate students who are to use laboratory animals are to have passed the applicable course no later than two years after starting their work.<sup>9</sup>

- Laboratory animal science, 5 cr

## **2.2 Other postgraduate study courses**

**Other postgraduate study courses: min 9 cr for PhD (4 cr for licentiate degree)**

- Approved participation in and examination passed in subject-specific courses at postgraduate level in which the postgraduate student needs to acquire adequate knowledge, such as set out in the individual course plan or annual review of the postgraduate studies. These courses are to be approved by FUN or in the case of external courses, credited by FUS.
- Approved participation in elements in department wide research study programmes with clear credit specifications, such as research institutes.
- Other adequate courses, including approved clinical specialist courses (SK courses) that clearly have direct relevance to the research project in the individual study plan (max 5 cr in total).

## **2.3 Other credit giving elements**

**Other credit generating elements: min 6 cr for PhD (3 cr for licentiate degree)**

- Participation in international conferences with a presentation by the candidate, such as postings or lectures (max 2 cr per conference, max 3 cr in total).
- Time spent with a research group at another university (gives 1.5 cr per week, max 3 cr in total).
- Participation in a series of seminars, journal clubs etc. at the department (1-2 cr per term depending on intensity, to amount to min 3 cr or max 4.5 cr in total).

## **2.4 Dissertation (scientific paper)**

To be awarded a degree, a postgraduate student is to have had a scientific paper worth not less than 120 credits or 60 credits (licentiate degree) approved.

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<sup>9</sup> Central Research Commission proclamation (SJVFS 1992:11) with directives and general advice on training requirements when using animals for scientific purposes etc (L 32).

## Doctoral dissertation

Most dissertations at HU are **compilation dissertations** based on a number of sub works. Such sub works are to be set in an explanatory framework which together with the sub works forms the dissertation.

### **For admissions as from 1 July 2007 and for applications for public defences prior to 1 January 2009**

The number of sub works in a compilation dissertation is to be not less than 3-4 original pieces depending on the quality and scope, of which not less than 2 have been accepted for publication in referee-reviewed publications and another 1-2 submitted for publication at the latest when the grade board is appointed. In the case of sub works included in a dissertation, the postgraduate student's work shall be clearly discernible.

### **For admissions as from 1 July 2007 and for application for public defences as from 1 January 2009**

A compilation dissertation for a PhD shall comprise at least two sub works, and normally not more than four. The exact number depends on the quality and scope of the sub works as well as, not least, the role of the doctoral student in creating the respective sub works. The postgraduate student's contribution must be clearly discernible. Assessment as to whether the presented dissertation work with completed courses equates to four years full-time study and attains a good international standard is done through the grade board's preview and conclusively by FUN.

At least two sub works shall be accepted/published in referee-reviewed publications with international distribution, or be open access publications with referee procedures. The postgraduate student shall be the principal author of at least one of the works. The postgraduate student shall have participated in all parts of the publication process for scientific articles.

If fewer than four sub works are involved in the dissertation, the summary, so-called kappa, is included in the application for the public defence. (This last condition applies for application for public defences as from 1 July 2009.)

All dissertations at HU are to adhere to the LiU/HU graphic profile. For further information on format please see [www.liu.se/hu](http://www.liu.se/hu).

### **For postgraduate students applying for doctoral studies places for a PhD as from 1 January 2009, the following applies:**

- At least half of the sub works included in the dissertation must be published/accepted for publication after admission to postgraduate study
- The sub works that shall be included in the dissertation may be published, at the most, five years prior to admission for postgraduate study.
- Postgraduate students shall, at the latest, during the term of their public defence have been a registered postgraduate student with a degree of activity corresponding to three years full-time study.

The opportunity is also given to defend a monograph dissertation.

Studies begun with a PhD as the goal can finish at the point of gaining a licentiate degree.

## Licentiate dissertation

### For students admitted as from 1 July 2007 and for applications for public defences prior to 1 January 2009

The number of sub works in a compilation dissertation is to be not less than two original articles, of which at least one has been accepted for publication in a referee-reviewed publication and the other submitted for publication at the latest when the grade board is appointed. In the case of sub works included in a licentiate dissertation, the postgraduate student's work shall be clearly discernible. Sub works are to be set in an explanatory framework which together with the sub works forms the licentiate dissertation.

### For admissions as from July 1 2007 and for application for public defences as from January 1 2009

A compilation dissertation for a licentiate degree shall comprise at least one work, and normally not more than two. The exact number depends on the quality and scope of the sub works as well as, not least, the role of the doctoral student in creating the respective sub works. The postgraduate student's contribution must be clearly discernible. Assessment as to whether the dissertation work including completed courses equates to two years full-time study and attains a good international standard is done through the grade board's preview and conclusively by FUN.

At least one sub work shall be accepted/published in referee-reviewed publications with international distribution, or be an open access publication with referee procedures. The postgraduate student shall be principal author of at least one of the works.

### For postgraduate students who have applied for a doctoral studies place for a licentiate degree as from 1 January 2009, the following applies:

- At least half of the sub works included in the dissertation must be published/accepted for publication after admission to postgraduate study
- The sub works that shall be included in the dissertation may be published, at the most, five years prior to admission for postgraduate study.
- Post graduate students shall, at the latest, during the term of their public defence have been registered postgraduate students with a degree of activity corresponding to one and a half years of full-time study.

A licentiate dissertation can also be presented in the form of a monograph dissertation.

## 3. Review points

The following review points are mandatory in order to perform a public defence of a doctoral dissertation:

- Approval of the number of credits required for courses and other elements in the postgraduate study (see 2.1-2.3). Credits are to be registered in Ladok on applying for a public defence.
- A midpoint review takes the form of an open seminar, and is to be done by every postgraduate student taking a PhD. The seminar shall take place **at the latest** during the term after **one** of the conditions, a or b, has been met:
  - when **one** manuscript is accepted for publication and **one** manuscript is submitted for assessment.
  - when the equivalent of 1.5 years of postgraduate study has been completed

- Preview of the dissertation

The following review points are mandatory for a licentiate seminar:

- Approval of the number of credits required for courses and other elements in the postgraduate study (see 2.1-2.3). Credits are to be registered in Ladok on applying for a licentiate seminar.
- Preview of the licentiate dissertation.