



GÖTEBORGS UNIVERSITET  
IT-UNIVERSITETET

**DECISION**

2008-03-11 Dnr G217/1084/07

## Computer Science and Engineering

### Fields of Specialisation

- Bioinformatics
- Computer Engineering
- Computing Science
- Language Technology
- Software Engineering

## Study Plan for Postgraduate Program in Computer Science and Engineering

The study plan was confirmed by the Faculty Board of IT University 2008-03-11.

### 1. Subject Matter and Goals

The aim of postgraduate education in the Department of Computer Science and Engineering is to give the student fundamental understanding of the various areas of computer science and engineering, and a broad understanding of current research issues and practical applications, with in-depth insight into one or more fields, and skills in research methodology. The licentiate program aims to make the student capable of independent participation in research and development work. The PhD program aims to make the student capable of critically and independently planning, carrying out, and presenting work in research and development.

#### 1.1 Fields of Specialisation

The Graduate Education can be in Computer Science and Engineering with one of the following optional specialisations:

- Bioinformatics
- Computer Engineering
- Computing Science

- Language Technology
- Software Engineering
- Telecommunication

## **2. Prerequisite Qualifications and Knowledge**

The basic qualification for admission to our postgraduate programs is a master's degree in computer science or engineering or in a related subject (“filosofie magister” or “civilingenjör”) including the master thesis, 15 higher education credits. Equivalent knowledge acquired by other means will also count as qualification.

## **3. Organization and Structure**

The PhD program comprises 240 higher education credits, and the licentiate program 120 higher education credits. These correspond to 4 years and 2 years respectively of full time study. Both programs consist of:

- preparatory courses (if necessary)
- general courses
- individual study
- participation in research seminars and guest lectures
- research or development leading to a scientific dissertation

Teaching is by supervision, lectures, and seminars. Lectures are offered mainly as part of the basic courses. The student participates in scientific activities through attendance at seminars and guest lectures even if these are not directly related to any part of the formal course.

## **4. Courses**

### **4.1. Preparatory Courses**

These courses ensure a solid background in fundamental areas of computing science and help the student choose an area of specialization for the dissertation. If equivalent knowledge was acquired during undergraduate studies, then these courses are not necessary. Which courses to take, and how many, is determined by the student together with the supervisor and examiner. The credits earned in these courses are not part of the mandatory course points for a licentiate (30 higher education credits), respectively, for a PhD (60 higher education credits).

### **4.2. General Courses**

The student must complete at least 12 higher education credits through regular graduate courses for a licentiate and at least 24 higher education credits for a PhD. Graduate courses offered by other departments at Gothenburg University may be counted towards this requirement, provided that they cover topics relevant to Computer Science and Engineering.

### **4.3. Individual Study**

The examiner and the supervisor together with the graduate student determine individual study courses amounting to at least 12 higher education credits for the licentiate and to at least 30 higher education credits for a PhD. These courses may include graduate courses given at University of Gothenburg or elsewhere. Undergraduate courses may also be taken provided that

the examiner approves. To take an undergraduate course, the graduate student must apply to the responsible teacher before the course begins.

#### **4.4. Overview of Course Requirements**

The course requirements of the previous subsections summarized in tabular form:

	Lic	PhD
General Courses	12	24
Individual Study	18	36
<b>Total Course Requirements</b>	<b>30</b>	<b>60</b>

### **5. Dissertation**

#### **5.1. Licentiate Thesis**

For the licentiate degree, the student must carry out independent work, write a thesis describing this work, and present the thesis at a seminar. The thesis is graded Passed ("Godkänd") or Not passed ("Underkänd").

#### **5.2. Doctoral Dissertation**

For the PhD degree the student must write a scientific (doctoral) dissertation, and defend it at a public examination. The dissertation should have the quality required for publication in its entirety or in summary in a scientific journal of high reputation. It is graded Passed ("Godkänd") or Not passed ("Underkänd"). The grade takes into account the content as well as the defence of the dissertation.

### **6. Requirements for the Degree**

#### **6.1. Licentiate Degree**

The requirements for the licentiate degree comprise 120 higher education credits, of which 30-45 higher education credits are acquired in postgraduate courses and 75-90 higher education credits in the licentiate thesis.

#### **6.2. Doctoral Degree**

The requirements for the doctoral degree comprise 240 higher education credits, of which 60-90 higher education credits are acquired in postgraduate courses, and 150-180 higher education credits in the PhD thesis.

### **7. Supervision**

Postgraduate students are entitled to supervision: full time students to four years of supervision for the doctoral degree, and to two years for the licentiate degree; part time students obtain the same amount distributed over a proportionally longer time period. The prefect of the department appoints an examiner who, together with the supervisor, determines the individual study courses. The examiner fixes the grade at the examination. It should be avoided that examiner and supervisor are the same person whenever there are enough active researchers in the subject of the thesis. In the beginning of the studies, the examiner, the supervisor, and the student together work out an individual study plan for the student's path of education. Each student has a follow-up group which comprises in addition to the supervisor at least two further persons, usually within the subject of the dissertation. This committee meets the student at least once per year to discuss progress towards the degree. After each follow-up meeting, an annual progress report signed by the student and supervisor is handed to the director of graduate studies.

## **8. Examination of Knowledge**

Courses are followed by written and/or oral examinations; the student's performance is graded Passed ("Godkänd") or Not passed ("Underkänd"). A licentiate thesis is graded by the examiner. A doctoral dissertation is graded by a committee, which is specially appointed for each thesis defence. Three months before the planned date of defence a draft of the dissertation must be given to the department's vice prefect for Postgraduate education and to the members of the student's advisory committee.

## **9. Further Directives**

With full time study, a doctoral degree is normally calculated to take four years, and a licentiate degree two years. The student must present his or her study results and future plans regularly.