



# UNIVERSITY OF GOTHENBURG

## THE IT FACULTY BOARD

### **DIT551, Master thesis Software Engineering, 30,0 higher education credits**

Master thesis Software Engineering, 30.0 högskolepoäng

*Second Cycle*

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#### **1. Confirmation**

The course syllabus was confirmed by The IT Faculty Board on 2010-09-27 to be valid from 2011-01-17.

*Field of education:* Science 100 %

*Department:* Computer Science and Engineering

#### **2. Position in the educational system**

The course is either part of a Master's programme or a single subject degree course.

*Main field of studies*

Applied IT, Software Engineering and Management

*Specialization*

A2E, Second cycle, contains degree project for Master of Arts/Master of Science (120 credits)

#### **3. Entry requirements**

1. A Bachelor's Degree (180 hecs) and at least 60 higher education credits on advanced level in the chosen educational subject within the educational scope of the Department of Computer Science and Engineering.
2. At least 75 hecs in the chosen educational subject within the educational scope of the Department of Computer Science and Engineering at advanced level.
3. For the student studying according to the English version of this course, the student should have qualifications in English corresponding to English A or Certificate in Advanced English (CAE) or Test of English as a Foreign Language (TOEFL).

#### **4. Course content**

During this course the student will conduct a research study using methods and techniques appropriate for Software Engineering. The course should include both the design, execution and reporting of the study. The report might be in a format of a scientific publication (a.k.a. article format).

For the English version of the course the language will be English both spoken and written.

## 5. Learning outcomes

### 5.1. Knowledge and understanding

- constructively review and reflect upon the works of others in terms of: relevance, presentation, content, technical quality, credibility, novelty of results and methodology used

### 5.2. Skills and abilities

- apply and integrate knowledge and skills in a systematic and critical way to develop results that are original and innovative within a research or professional context
- design, execute and report a scientific study based on knowledge from previous courses within software engineering
- use software engineering research methods for designing and conducting the study and preparing the final report/thesis

### 5.3. Judgement and approach

- apply the accumulated knowledge and skills to a problem that is interesting from both a research and an industrial point of view
- communicate their results, and the knowledge and rationale underpinning these, to specialist and non-specialist audiences clearly and unambiguously
- judge the relevance of the results for the research community and software engineering industry

## 6. Literature

Required reading is partly defined by the supervisor, but the student is also expected to search for, and examine, relevant literature independently.

## 7. Assessment

Students work in pairs or on an individual basis with the master thesis work. The department will assign a supervisor to each thesis work. The assignment of the supervisor is based on the available competence and personal requests of students might not be fulfilled. The form of this written thesis could be as an article for a scientific journal.

The course consists of two parts consisting of 15 higher education credits each. The first part is a written planning report\* and a mandatory seminar where the planning report is presented. The supervisor grades this part of the course. The second part is a written thesis report, a defence of this and an opposition of another thesis report at a mandatory seminar of examination. An examiner grades the thesis, the opposition and the whole course. A student who has failed twice at the examination has the right to request the appointment of a different examiner. A written request shall be sent to the Department.

\*) The planning report contains the following:

- Description of the chosen subject
- Formulation of the problem including a preliminary question at issue
- Delimitation of the problem area
- A preliminary report of the literature studies
- Description of methods to be used including a detailed planned approach
- The planned approach shall be used in collecting material to attain a reliable result
- Expected outcome of the project

## **8. Grading scale**

The grading scale comprises Fail (U), Pass (G), Pass with Distinction (VG).

The planning report is graded in two marks: Pass (G) or Fail (U).

The second part is graded in the following marks: Opposition: Pass/Fail, The written thesis: Pass with distinction (VG), Pass or Fail.

To get Pass as complete course grade, the student must have passed both the first and the second part of the course. To get the mark Pass with distinction as complete grade, the first part must be passed with mark (G) and the second with mark (G) at the opposition and mark (VG) at the written thesis.

Regarding the application of ECTS scales, please see Vice-Chancellors decision 2007-05-28, dnr G 8 1976/07.

## **9. Course evaluation**

After completion, the course will be evaluated by the students. The results of the evaluation are reported to the program manager and discussed with the students. A summary of the evaluation results together with the suggestions for improvement is made available to students and teachers.

## **10. Additional information**

Language of instruction: English and Swedish.