



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

DIT837 Bachelor Thesis in Software Engineering and Management, 15 credits

Kandidatarbete inom Software Engineering and Management, 15 högskolepoäng
First Cycle

Confirmation

This course syllabus was confirmed by Department of Computer Science and Engineering on 2019-04-15 to be valid from 2020-01-20, spring semester of 2020.

Field of education: Science 100%

Department: Department of Computer Science and Engineering

Position in the educational system

The course is compulsory within Software engineering and Management Bachelor's Programme.

The course can be part of the following programme: 1) Software Engineering and Management Bachelor's Programme (N1SOF)

Main field of studies

Software Engineering

Specialization

G2E, First cycle, has at least 60 credits in first-cycle course/s as entry requirements, contains degree project for BA/BSc

Entry requirements

To be eligible for this course, students must have successfully completed 110 higher education credits (hec) in Software Engineering. In addition, students must have successfully completed DIT831 Research Methods in Software Engineering, 7.5 hec.

Learning outcomes

On successful completion of the course the student will be able to:

Knowledge and understanding

- identify a research topic and research question within the software engineering domain
- explain the use of a research method for planning a research project
- describe the current practice within the software engineering domain and the way in which practical problems and academic research may be related

Competence and skills

- formulate a research question relevant in the software engineering domain
- systematically solve a research problem relevant in the software engineering domain
- apply a research method for solving a problem relevant to the topic
- combine theories, models and/or methods relevant to the topic
- plan and conduct a research project and document this in a written thesis report
- integrate knowledge in a systematic and critical way in order to achieve and present knowledge relevant to the software engineering domain
- communicate this knowledge in an academic environment, i.e. to present the research results to an academic audience

Judgement and approach

- discuss research areas relevant to the software engineering domain
- reflect on the importance of how research can be communicated in an academic environment
- use the knowledge from this course as a basis for entering the research community within the software

Course content

The course involves an investigation of a relevant problem in the Software Engineering domain. The problem is identified by the students and shall have practical and/or theoretical relevance for the SE domain. Students work individually or in pairs preferably within a company setting in which the problem they address is investigated. The investigation shall be documented in the form of a written thesis report.

Form of teaching**Initiation**

The students write a thesis proposal according to the guidelines on the study program software engineering and management. The thesis proposal shall provide a detailed

description of the problem/task. The thesis proposal must also contain the background, purpose, objective, scope, and method. The thesis proposal is submitted to the examiner for approval.

The examiner will ensure that the proposed topic for the thesis meets the general learning outcomes for theses.

The Head of the Programme ensures that the thesis falls within the software engineering domain, and that the research question is academically relevant.

Supervision

The students are entitled to regular supervision during the course of their work.

Progress report

Halfway through the thesis work, the students must report the status of their work to the examiner through a progress report. The progress report shall describe the achievements within the thesis work up to the halfway point, and include a plan for completing the remainder of the thesis work.

Written thesis report

The thesis report must be written in English.

The thesis report must be checked for plagiarism, typically using anti-plagiarism software.

The University of Gothenburg's policies regarding open access and confidentiality apply to the work on the thesis and to publishing the report.

When two students work jointly on a thesis, the division of the work must be clearly stated in the thesis report.

Oral presentation

The oral presentation begins with the students presenting their work. This is followed by opposition (guided by other students) and discussion (guided by the examiner).

The oral presentation must be made in English.

At the time of the oral presentation, the written thesis report must be completed but not published. This is to make it possible to include viewpoints that arise during the oral presentation, from the written opposition report, and from the examiner, to be incorporated into the written thesis report.

The oral presentation and the opposition must be done at University of Gothenburg.

Opposition report

The students must write an opposition report according to the guidelines on the study program software engineering and management. The opposition report is submitted to the examiner for approval.

Language of instruction: English

Assessment

For the thesis to be approved, the following stages must be completed:

- an approved thesis proposal
- an approved progress report
- an approved written thesis report
- an approved presentation and defense of the thesis during the oral presentation
- an approved opposition of another thesis
- an approved opposition report

If a student, who has failed the same examined component twice, wishes to change examiner before the next examination, a written application shall be sent to the department responsible for the course and shall be granted unless there are special reasons to the contrary (Chapter 6, Section 22 of Higher Education Ordinance).

In cases where a course has been discontinued or has undergone major changes, the student shall normally be guaranteed at least three examination occasions (including the ordinary examination) during a period of at least one year from the last time the course was given.

Grades

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

A pass grade (G) for the entire course requires a pass grade for all stages in the course.

The requirement to Pass (G) the the written thesis report is that the student in the written thesis report demonstrates the ability to formulate and investigate a research problem relevant to the software engineering domain. The student is expected to show abilities in systematically solving this problem by applying a research method and to plan and conduct a study in an appropriate way. The student has to be able to discuss the research problem and the fundamentals of the topic in a relevant and critical way. In the written thesis report, the student needs to use terminology common within the problem domain and show the ability to apply theories and models relevant to the topic, i.e. related research that add to the investigation of the research problem. An attempt to critically reflect on the research problem and the literature describing this is required.

To be awarded Pass with Distinction (VG) for the entire course, the student must, in addition, receive a VG on the written thesis report. The requirement to Pass with Distinction (VG) in the written thesis report is that the student in the written thesis report demonstrates the ability to formulate and investigate a research problem relevant to the software engineering domain. The student is expected to show abilities in systematically solving this problem by applying a research method and to plan and

conduct a study in an appropriate way. Furthermore, the student has to be able to discuss the research problem and the fundamentals of the topic in an efficient and exhaustive way. In the written thesis report the student needs to critically reflect on the research topic, to critically reflect on theories and models, i.e. related literature and to critically assess the strengths and weaknesses that characterize the study that is conducted. This includes using a wide range of highly relevant references to support an argument, to discuss and analyze potentially contradicting aspects and to illustrate a deeper understanding of the complexities involved in the research problem by synthesizing information relevant to solve the problem.

Course evaluation

The course is evaluated through meeting after the course between teachers and student representatives. Further, an anonymous questionnaire is used to ensure written information. The outcome of the evaluations serves to improve the course by indicating which parts could be added, improved, changed or removed.

Additional information

Course literature to be announced the latest 8 weeks prior to the start of the course.