Blekinge Institute of Technology
Department of Software Engineering

COURSE SYLLABUS

Programvaruprojekt i grupp

Small Team Software Engineering Project

15 ECTS credit points (15 högskolepoäng)

Course code: PA1416
Educational level: First cycle
Course level: G1F
Field of education: Technology
Subject group: Computer Technology

Subject area: Software Engineering
Version: 10
Applies from: 2014-01-20
Approved: 2013-12-11

1 Course title and credit points
The course is titled Small Team Software Engineering Project/Programvaruprojekt i grupp and awards 15 ECTS credits. One credit point (högskolepoäng) corresponds to one credit point in the European Credit Transfer System (ECTS).

2 Decision and approval
This course is established by School of Computing 2013-12-11. The course syllabus was revised by School of Computing and applies from 2014-01-20. Reg. no: BTH-4.1.1-0940-2013

3 Objectives
Developing software demand considerable technical skills. It have to be a good programmer and need understanding and knowledge in designing the architecture of major software. One must also have knowledge of third party software and the ability to integrate these with own software.
In this course, the student get to use several of the abilities acquired during previous studies. The course intends to tie together this flora of knowledge within the context of a group project where a major software will be developed. The course is structured to, as closely as possible, imitate a project that would normally be carried out out in the industry.
Software development means to apply systematic, disciplined and measurable methods for development, usage and maintenance of software. In this course the student practise methods that support this engineering working approach. Software development groups also imposes requirements on the organisation, management, teamwork and verbal as well as written communication with colleagues, customers and other interested parties. As part of this course, the student is given the opportunity to further develop knowledge within these softer pieces of the art to succeed with software development.
In total the student develops his abilities within software development to further prepare for working in the software developing industry.

4 Content
The course includes the following elements:
•Software development: pre-study work, design and analysis, prototyping, architecture, construction, testing, and delivery
•Planning, organizing and follow-up of a team software development project: undertaking culture, project organization, different project roles, development models, project planning and follow-up, test planning and reporting, delivery planning, configuration management, documentation
•Analysis and reflection on the work of the individual and the team: report writing
•Verbal presentation: exercise

5 Aims and learning outcomes
On completion of the course the student will:
•within the context of software developing in group, have acquired the skill and ability for the role as a professional in business and industry
•demonstrate good technical knowledge in software developing through independently in detail account for a finished software product and its components.
•demonstrate ability to develop a software in team by, in groups, actively participate in planning, organization and implementation of such a project.
•through practical work experience acquired experience of organizational and communication problems as typically occur when software developing in groups.
•have established an understanding a professional approach and way of working based in an undertaking culture, regarding both the group as a whole as the individual in group.
•through practical work, obtained insight in the meaning and importance of quality assurance and

supply assurance when developing software.
•be able to plan and conduct verbal presentations
•be able to collect and detailed analyse measured values of a software project.

6 Generic skills

7 Learning and teaching
Principally, the course is made up by a project assignment where the students are to develop a customer ordered software. In parallel with the project assignment, regular teaching and training with lectures, seminars, tutoring and reporting, is performed on a limited scale.
At lectures various theories are presented and discussed with the purpose of increasing the student's theoretical understanding. Various aspects of the project and its execution are discussed at seminars and tutorials. Individual report writing allows the student to summarize knowledge and experiences in writing while reflecting on the practical work being done in the project and the student's own contribution to that work. In the context of the course the collection of experimental data for this software project are carried out. A part in this course is to practice in verbal presentation.
The implementation of the projects are normally done in groups of 4-6 people. The project assignments are mandatory and must be solved as teamwork at a fixed budget and within given time frames. The project can be located in a venue other than campus.
The customer is the purchaser of the whole project. The students commit to do the assignment from the client. The customer can have more or less a precise idea of the assignment and what it means. Customers can place demands on which technology to use. Students propose the client a solution based on customer preferences. Through discussion, requirement specifications and contracts, customers and students agree on the final scope on the assignment.
The Students organize themselves into project teams and manages the planning. During this process they will be in contact with several of the aspects of software development the course emphasizes. Each project has a supervisor, Head of Department (HoD), who functions as head of the project. The project team reports to HoD and check weekly progress towards set goals. If problems arise the project team try to solve them with the help of their HoD.
Swedish but teaching in English may occur.

8 Assessment and grading
Examination of the course

Code	Module	Credit	Grade
	Project	12 ECTS	G-U
	Individual final report[1]	2 ECTS	A-F
	Oral presentation	1 ECTS	G-U

1 Determines the final grade for the course, which will only be issued when all components have been approved.
The course will be graded A Excellent, B Very good, C Good, D Satisfactory, E Sufficient, FX Fail, supplementation required, F Fail.

9 Course evaluation
The course coordinator is responsible for systematically gathering feedback from the students in course evaluations and making sure that the results of these feed back into the development of the course.

10 Prerequisites
Admission to the course requires completed course equivalent of 40 ECTS-credit in subject area software engineering, subject area of computer science and/or subject area electrical engineering including the courses Programming 7.5 ECTS-credit, Software design 7.5 ECTS-credit, Database techniques 7.5 ECTS-credit

11 Field of education and subject area
The course is part of the field of education and is included in the subject area Software Engineering.

12 Restrictions regarding degree
The course cannot form part of a degree with another course, the content of which completely or partly corresponds with the contents of this course.

13 Additional information
Replaces PA1201.

14 Course literature and other teaching material
Main Literature
1. Software Engineering, 9th edition
Author: Ian Sommerville
Publisher: Addison-Wesley
Published: 2010, Pages: 792
ISBN-10: 0137035152
ISBN-13: 978-0137035151
2. Projects in Computing and Information Systems. A Student's Guide, 2nd revised edition
Author: Christian Dawson
Publisher: Pearson Edu Ltd
Published: 2009, Pages: 304
ISBN-10: 0273721313
ISBN-13: 978-0273721314
3. Scrum and XP from the Trenches
Author: Henrik Kniberg
Published: 2007
ISBN10: 1430322640
ISBN13: 9781430322641
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