1 Course title and credit points
The course is titled Software Design/Programvarudesign and awards 7,5 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 Head of Department of Software Engineering 2014-02-17. The course syllabus was revised by Head of Department of Software Engineering and applies from 2014-02-17.

3 Objectives
In order to produce software that meets right requirement for right cost within deadline and with right quality it is required to follow a controlled process and put time on early planning of software production (modelling and design). In this course, the student is expected to acquire understanding of a development process for software and the basic activities and artefacts that are retrieved during the development process. In addition, the student is expected to acquire understanding of object-oriented modelling and design. This joins together in that the student is expected to demonstrate acquired knowledge by developing a smaller system.

4 Content
The course includes the following elements:
• Introduction to Software Engineering
• Introduction to systems development process
• Introduction to Requirements Engineering
• Time, size, resource and complexity estimates
• Planning of work
• System Test.
• Object Oriented Design
• Basic concepts in object-oriented modelling
• Use Cases
• Conceptual model and system behaviour

• Collaboration Chart
• Class Chart
• Design Pattern
• Transfer of design into application code

5 Aims and learning outcomes
On completion of the course the student will:
• at a basic level in group be able to produce requirements for a software and put them in a requirements specification
• in group produce an overall development plan based a requirement specification
• in group be able to create a detailed object-oriented design for a software program
• in group be able to implement a software program in a timely manner, based a requirement specification and an object-oriented design
• at a basic level in group be able to plan and conduct testing of produced software, based on a requirement specification

6 Generic skills
The general ability is trained in the course:
• Teamwork

7 Learning and teaching
The course is organized around a series of lectures where the students are expected to participate actively by discussing, questioning, and contribute with their own experiences. The lectures are given early on in the course to provide a solid foundation for the following assignments. The laboratory sessions are designed to exercise students in the different course objectives. The teaching language is Swedish. However, the teaching could be carried out in English.

8 Assessment and grading
Examination of the course

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<th>Code</th>
<th>Module</th>
<th>Credit</th>
<th>Grade</th>
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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 Insufficient, 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 feedback into the development of the course.

10 Prerequisites
Admission to the course requires completed Programming, 7.5 ECTS-credits

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, for example: Object-oriented Systems Development 7,5 ECTS credits

13 Additional information
Replaces PA1106.

14 Course literature and other teaching material
1. Applying UML and Patterns -- Introduction to Object Oriented Analysis and Design & Iterative Development, third edition
   Författare: C. Larman
   Förlag: Prentice Hall
   Utgiven: 2005, Antal sidor: 703
2. Software Engineering, 8th ed.
   Författare: I. Sommerville
   Utgivare: Addison Wesley
   Utgiven: 2006, Antal sidor: 864
   ISBN10: 0321313798