Syllabus for

Academic year 2011/2012 >

MMT031 - Usability engineering

Syllabus adopted 2011-02-22 by Head of Programme (or corresponding)
Owner: TKDES
7,5 Credits
Grading: TH - Five, Four, Three, Not passed
Education cycle: First-cycle
Major subject: Industrial Design Engineering
Department: 44 - PRODUCT AND PRODUCTION DEVELOPMENT

Teaching language: Swedish

Credit distribution

Course module	Sp1	Sp2	Sp3	Sp4	Summer course	No Sp	Examination dates
0106 Examination 7,5 c Grading: TH		7,5 c					Contact examiner

In programs
TIDSL PRODUCT DESIGN ENGINEERING, Year 3 (compulsory elective)
TKDES INDUSTRIAL DESIGN ENGINEERING, Year 3 (elective)

Examiner:
Docent Oskar Rexfelt

Replaces
MMT030 Usability engineering

Theme:
MTS 5,0 hec

Eligibility:
For single subject courses within Chalmers programmes the same eligibility requirements apply, as to the programme(s) that the course is part of.

Course specific prerequisites
Prerequisites are knowledge corresponding to the learning outcomes of the courses MMT010 Design Ergonomics or IPE030 Man-Machine systems.

Aim
The aim of the course is that the student should develop knowledge on the development proccess, the methods and the design principles that characterise development work with the purpose to develop useful and easy-to-use products, i.e. products with high usability.

Learning outcomes *(after completion of the course the student should be able to)*
- explain the meaning of the following key concepts: usability, usefulness, and utility;
- explain the impact of the definitions of these concepts on development work;
- explain and in an actual development project be able to apply at least one methods for task analysis (HTA) and at least one method for theoretical evaluation (CW) of a user interface;
- plan and execute a usability test of a simple technical product (or service), e.g. a mobile phone, a web site, or a DVD player;
- analyse the results and draw conclusions regarding the design of the product/service and its user interface;
- apply the conclusions in a redesign of the user interface;
- describe and in a development project be able to apply cognitive theories (cognitive ergonomics) on the design of a user interface

Content
The course covers the following topics:
- the concepts of usability, usefulness, and utility;
- the iterative usability engineering process;
- usability methods and tools:
- theoretical methods and tools;
- empirical methods and tools;
- evaluations in different contexts;
- theory and practice of usability testing;
- cognitive ergonomics and design guidelines:

- heuristics and goldes rules for the design of user interfaces;
- the concepts of "affordance", "constraints", "mapping";
- cultural differences

Organisation

The course is organised as a series of lectures/seminars and a project in which theory is to become practice.

Examination

The examination is based on an individual written (short) exam and a project. The individual written exam will result in a grade Fail, or 3, 4, or 5. The project will result in a grade Fail, or 3, 4, or 5. The final grade is based on the result of the individual exam and the result of the project.