



Course Syllabus

Course title in Swedish: Konceptutveckling och systemarbete

English title: Concept Development and Systems Engineering

Course code: 2MF002
Valid from: Autumn term 2019
Date of establishment: This course syllabus was established by the Research and Education Board's Course Syllabus Committee at the Swedish Defence University on 2019-01-28
Department: Department of Military Studies
Subject: Systems Science for Defence and Security
Level: Second cycle
Scope: 10.5 higher education credits

Prior knowledge requirements and other preconditions for admission to the course

Admitted to the Master's Programme in Defence and Security Systems Development.

Main field of study

Systems Science for Defence and Security

Gradual specialisation

A1N second cycle, with prior knowledge requirements consisting solely of first-cycle course(s).

Level of specialisation

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Course content and structure

The course builds on and applies systems theory and modelling and simulation methods from previous courses. Its purpose is to take a more in-depth look at concept development and systems engineering for developing capabilities in the defence and security sector. The course centres on the development of the student's understanding of the perspectives of client organisations, suppliers and specialist disciplines.

The course covers strategies and frameworks for capability analysis, concept development and systems engineering, with key concepts. The emphasis is on practical processes and methods for studying, developing and designing complex technical products in defence systems.

Date
01.11.2018

Teaching will be conducted in the form of lectures, independent study, seminars and laboratory/group work.

Intended learning outcomes

On completing the course, the student shall be able to:

- relate the central concepts, activities and processes of concept development and systems engineering to systems theory;
- compare various strategies for developing and designing complex technical products;
- apply important systems-engineering methods and techniques to complex technical products;
- evaluate designs from the respective perspectives of user organisations and designer (supplier) organisations;
- present written and oral analyses based on the course's theoretical perspective, with well-developed arguments and critical reasoning and a clear grounding in scientific literature.

Assessing knowledge and examination

Examination will be based on active and constructive participation in compulsory seminars, two laboratory reports, an individual written assignment and an oral presentation.

The examiner may decide that supplementary work is required in order for a pass grade to be achieved. Examination papers submitted late will not be graded, unless there are special reasons, which have been approved by the examiner. Supplementary assignments are to be submitted no later than five working days after the notification of results and the supplementary assignment for the examination in question, unless there are special reasons, which have been approved by the examiner.

Number of examination opportunities

There is no limit on the total number of examination opportunities. The total number is restricted to one ordinary examination and two retakes in any two-term period, unless special circumstances exist that are acceptable to the examiner.

Grades

Grades are set according to a three-grade scale: Pass with merit (VG), Pass (G) and Fail (U).

A pass (G) requires a pass for seminars, laboratory reports, the written assignment and the oral presentation.

A pass with merit (VG) requires a pass with merit for the individual written assignment.

Date
01.11.2018

Grading criteria are stated in the course description.

Course literature and additional teaching materials

See Appendix 1

Interim regulation

When a course is no longer provided or when the content of a course has been significantly altered, the student/participant retains the right to be examined in accordance with this course syllabus once per term during a three-term period.

Other

The course is held as a compulsory element of the Master's Programme in Defence and Security Systems Development.

The course may be held within the framework of contract education.

On the completion of the course, an evaluation will be conducted under the auspices of the course director which will form the basis for any changes to the course.

The course will be held in English. If no international students are admitted, parts of the course may be held in Swedish.