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1 (3)

Course Syllabus

Course title in Swedish: Vapenverkan och skydd mot vapenverkan

English title: Weapons Effect and Protection Against Weapons Effect

Course code: 2MF010

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 2020-02-06

Department: Department of Military Studies

Subject: Systems Science for Defence and Security

Level: Second cycle

Scope: 7.5 higher education credits

Prior knowledge requirements and other preconditions for admission to the course

Degree of Bachelor of Science in Engineering including a combined minimum of 15 HE credits in mechanics and solid mechanics at first-cycle level, or equivalent.

Main field of study

Systems Science for Defence and Security

Gradual specialisation

A1N

Level of specialisation

Second cycle

Course content and structure

The purpose of the course is to provide the student with an in-depth understanding of weapons effect and protection from a defence systems perspective.

The course deals with protection principles in a broad sense, according to models such as the survivability onion and kill chain. Perspectives on protection in addition to physical measures are addressed.

The threat and effect of various weapon systems used in a military context are dealt with in order to provide the student with the prerequisites for participating in capability development in the field of effect and protection. Functional principles for the delivery of weapons effect by systems such as artillery and missile systems are also dealt with.

The ability to withstand the types of effects dealt with in the above paragraph is studied. The purpose is to be able to protect a target of interest¹ against a given

¹ A target of interest may be a specific terrain, operation, unit, object or facility.

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threat or, alternatively, to attack a target of interest that has a given level of protection.

Intended learning outcomes

On completing the course, the student is expected to have gained a deeper understanding of the duel between effect and protection, and shall be able to:

- show an in-depth understanding of the duel between weapons effect and protection against weapons effect; and
- utilise scientifically structured methods to compare the capabilities of targets of interest to withstand a given threat, along with the capability of weapons systems to attack the target; and
- assess the capabilities and limitations of a given protective shield in withstanding a given weapons system, and vice versa.

Assessing knowledge and examination

The course is examined through a project assignment to be presented independently, orally and in writing, which will be graded on a scale of Fail (F), Pass (P) and Pass with Merit (VG).

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

The number of examination opportunities is unlimited.

Grades

Grades are set according to a three-grade scale: Pass with merit (VG), Pass (G) and Fail (U). Grading criteria are presented on the first day of the course, at the latest.

A pass (G) requires a pass for the project assignment.

In addition to the above pass (G), a pass with merit (VG) requires a pass for a specialised assignment in connection with the project assignment.

Course literature and additional teaching materials

See Appendix 1.

Interim regulation

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When a course is no longer provided or when the content of a course has been significantly altered, the student 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 an elective course in the Master's Programme in Defence and Security Systems Development.

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.