Försvarshögskolan

Course Syllabus

Course title in Swedish: Cyberoperationer i antagonistisk miljö

Course title in English: Cyber Operations in an antagonistic environment

Course code: 2MF016
Valid from: Autumn 2020
Date of establishment: This syllabus is established by the Research and Education Board's Course Syllabus Commitee at the Swedish Defence University on 2020-02-07
Department: Department of Military Studies
Subject: Systems Science for Defence and Security
Level: Second cycle
Scope: 7,5 ECDS

Prior knowledge requirements and other preconditions for admission to the course

Admitted to a second cycle programme at the Swedish Defence University.

For freestanding courses: A bachelor's degree with a minimum of 180 credits, including a minimum of 90 credits in the field of defence, crisis management and security, alternatively, a bachelor's degree in Engineering or equivalent.

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

Based on the students' prior knowledge and experience, the cyber domain is problematised in order to be able to describe and discuss threats, risks and events. The course starts with an introduction to computers and networks in order to provide a common frame of reference for the remainder of the course. The second part of the course deals with the Internet, automated systems and the actors that

operate in the cyber environment. The distinctive features of the cyber domain compared to traditional military methods are highlighted.

The course consists of two modules. Introduction to Computers and Networks (1.5 credits) and Cyber Operations (6 credits).

Module 1, Introduction to Computers and Networks:
1. Basic concepts and operating principles for computers and networks.

Module 2, Cyber Operations:
1. Function and Governance of the Internet.
2. Threats, risks and opportunities regarding automated systems.
3. The main actors and their general approach to cyber operations.

Teaching takes the form of lectures, self-study, laboratory work and seminars.

Intended learning outcomes
After completing the course, the student is expected to be able to:

Module 1, Introduction to Computers and Networks (1,5 hp):
- Explain basic concepts and methods for computers and networks as well as operating principles for the Internet.

Module 2, Cyber Operations (6 hp):
- Describe the processes and organizations that govern the Internet.
- Describe and discuss automated technical systems from a vulnerability and user perspective.
- Describe and discuss different actors' actions in the cyber domain.

Assessing knowledge and examination
Module 1, Introduction to Computers and Networks:
Examination takes place through a single written laboratory report.

Module 2, Cyber Operations / Cyber Operations:
Examination takes place through a single written home exam.

Late examinations are not graded unless special examiner-approved reasons exist.

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.

If the student has a decision from the Swedish Defence University stating the need for extra pedagogical support because of a functional disability, the examiner may decide on alternative examination forms for the student.

Number of examination opportunities
There is no limit on the total number of examination opportunities.

Grades
Module 1, Introduction to Computers and Networks:
Grades are set according to a two-grade scale: Pass (G) and Fail (U).

Module 2, Cyber Operations:
Grades are set according to a three-grade scale: Pass with merit (VG), Pass (G) and Fail (U).

A Pass (G) requires a pass (G) for the written laboratory report and a pass (G) on the written home exam.

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 an elective course in the Senior Officers Programme and the Master's Programme in Defence and Security Systems Development.

The course can also be read as a freestanding course.

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.