



COURSE SYLLABUS

State-of-the-art and Research Methods in Cybersecurity , 7.5 credits

State-of-the-art och forskningsmetoder inom cybersäkerhet, 7,5 högskolepoäng

Course Code: TFCS24	Education Cycle: Second-cycle level
Confirmed by: Dean Mar 1, 2024	Disciplinary domain: Technology
Revised by: Director of Education May 28, 2024	Subject group: DT1
Valid From: Aug 1, 2024	Specialised in: A1F
Version: 3	Main field of study: Computer Science

Intended Learning Outcomes (ILO)

After a successful course, the student shall:

Knowledge and understanding

- display knowledge of state-of-the-art and emerging areas in cybersecurity
- demonstrate comprehension of contemporary research methods in cybersecurity

Skills and abilities

- demonstrate the ability to understand state-of-the-art and emerging areas in cybersecurity
- demonstrate skills in applying contemporary research methods in cybersecurity

Judgement and approach

- demonstrate the ability to draw conclusions about state-of-the-art and emerging areas in cybersecurity
- demonstrate the ability to choose and apply suitable research methods in cybersecurity

Contents

The course provides knowledge and skills in state of the art in cybersecurity. This includes both state-of-the-art and emerging knowledge areas in cybersecurity, best practices, work procedures, and contemporary scientific methods in the area.

The course includes the following elements:

- Scientific cybersecurity methods with an emphasis on quantitative methods, descriptive statistics, sampling and survey design, and regression analysis
- State-of-the-art and emerging areas in cybersecurity

Type of instruction

The teaching in the course consists mainly of lectures, assignments, tutoring, and seminars.

The teaching is conducted in English.

Prerequisites

Passed courses at least 90 credits within the major subject in Computer Science, Informatics, Information Systems, Computer Engineering, or the equivalent, and taken course Cybersecurity Overview, 7,5 credits or the equivalent. Proof of English proficiency is required.

Examination and grades

The course is graded 5,4,3 or Fail.

Registration of examination:

Name of the Test	Value	Grading
Assignment ¹	3 credits	5/4/3/U
Project	2.5 credits	U/G
Seminar	2 credits	U/G

¹ Determines the final grade of the course, which is issued only when all course units have been passed.

Course literature

The literature list for the course will be provided eight weeks before the course starts.

One chapter from the following book

Title: ISC2 CISSP Certified Information Systems Security Professional Official Study Guide, 10th Edition

Author: Mike Chapple, James Michael Stewart, Darril Gibson

Publisher: Wiley

ISBN: 978-1-394-25469-9

Title: Discovering Statistics Using IBM SPSS Statistics

Author: Andy Field

Publisher: University of Sussex, UK

ISBN: 9781526445780

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