JÖNKÖPING UNIVERSITY
School of Engineering

COURSE SYLLABUS

Research Methods in Cybersecurity, 7.5 credits

Forskningsmetoder inom cybersäkerhet, 7.5 högskolepoäng

Course Code:	T2FICP	Education Cycle:	Second-cycle level
Confirmed:	Sep 01, 2025	Disciplinary domain:	Technology
Valid From:	Aug 31, 2026	Subject group:	Computer Technology
		Specialised in:	A1F Second cycle, has second-cycle course/s as entry requirements
		Main field of study:	Computer Science

Intended Learning Outcomes (ILO)

On completion of the course the student shall:

Knowledge and understanding

- display knowledge of research methodologies commonly used in cybersecurity studies, including both quantitative and qualitative approaches
- display knowledge of methods for conducting literature reviews in the cybersecurity domain
- display knowledge of designing research studies regarding research questions, methodology, data collection, analysis, and conclusion

Skills and abilities

- demonstrate the ability to systematically identify, evaluate, and synthesize research literature in cybersecurity
- demonstrate the ability to design and apply quantitative research methods, such as statistical analysis and experimental design, to cybersecurity-related problems
- demonstrate the ability to critically analyze and interpret research findings in cybersecurity and present them effectively in writing and orally

Judgement and approach

- demonstrate the ability to conduct a critical review of a cybersecurity-related scientific work regarding the problem definition, methodology, use of existing literature, data collection, analysis and conclusions

Content

This course provides students with a foundation in scientific research methods specifically tailored to the field of cybersecurity. It focuses on key principles and practices required to plan, conduct, and evaluate research within this domain.

The course includes the following elements:

- How to conduct a systematic literature review
- How to conduct experiments
- Design of a scientific report
- Quantitative methods, descriptive statistics, sampling and survey design, and regression analysis
- Qualitative methods, interviews, case studies, and thematic analysis

Type of instruction

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

Language of instruction is in English.

Entry requirements

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 U.

Registration of examination:

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

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

Course literature

Please note that changes may be made to the reading list up until eight weeks before the start of the course.