Master in Cybersecurity, 60 HE credits

Magister i cybersäkerhet, 60 hp

Programme code: TACYB
Higher education qualification: Degree of Master of Science (60 credits) with specialization in Cybersecurity
Cycle: Second cycle
Established: 2023-09-19
Established by: Department of Engineering Science
Applies for: Programme start autumn 2024

Entry requirements

Bachelor of Science in Computer Science, Informatics, Computer Engineering, Information Technology, or equivalent. Additionally, verified knowledge of English corresponding to the course English 6 in the Swedish Upper Secondary School (high school) or equivalent.

Language of instruction

The teaching is conducted in English.

Other regulations

A student who has been admitted to a programme with this programme syllabus is guaranteed a place on courses according to the study plan below, provided that the student follows the programme according to the study plan. The study plan and its courses may, however, be subject to change, within the framework of the qualitative targets, when revisions of education plans and syllabi are being made. Should the programme involve choosing a specialization, the student is guaranteed a place on courses concerning the chosen specialization.

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Qualitative target

National outcomes

Degree of Master (60 credits) [Master's degree]

Scope

A Degree of Master (60 credits) is awarded after the student has completed the courses required to gain 60 credits with a defined specialisation determined by each higher education institution itself, of which at least 30 credits are for specialised study in the principal field (main field of study) of the study programme. In addition, the prior award of a Degree of Bachelor, a Degree of Bachelor of Fine Arts, a professional or vocational qualification of at least 180 credits or a corresponding qualification from abroad is required.

The requirement of the prior award of a qualification may be waived for a student admitted to the programme without the basic entry requirement in the form of a qualification. This does not, however, apply if a waiver was granted during admission pursuant to the second paragraph of Section 28 of Chapter 7 on the grounds that the qualification had not yet been issued.

Outcomes

Knowledge and understanding

For a Degree of Master (60 credits) the student shall

- demonstrate knowledge and understanding in the main field of study, including both an overview of the field and specialised knowledge in certain areas of the field as well as insight into current research and development work, and
- demonstrate specialised methodological knowledge in the main field of study.

Competence and skills

For a Degree of Master (60 credits) the student shall

- demonstrate the ability to integrate knowledge and analyse, assess and deal with complex phenomena, issues and situations even with limited information
- demonstrate the ability to identify and formulate issues autonomously as well as to plan and, using appropriate methods, undertake advanced tasks within predetermined time frames
- demonstrate the ability in speech and writing to report clearly and discuss his or her conclusions and the knowledge and arguments on which they are based in dialogue with different audiences, and
- demonstrate the skills required for participation in research and development work or employment in some other qualified capacity.

Judgment and approach

For a Degree of Master (60 credits) the student shall

- demonstrate the ability to make assessments in the main field of study informed by relevant disciplinary, social and ethical issues and also to demonstrate awareness of ethical aspects of research and development work
- demonstrate insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used, and
- demonstrate the ability to identify the personal need for further knowledge and take responsibility for his or her ongoing learning.

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Independent project (degree project)
A requirement for the award of a Degree of Master (60 credits) is completion by the student of an independent project (degree project) for at least 15 credits in the main field of study.
Miscellaneous
Specific requirements determined by each higher education institution itself within the parameters of the requirements laid down in this qualification descriptor shall also apply for a Degree of Master (60 credits) with a defined specialisation.

Courses that the study programme comprises

Course	Course code	HE credits	Level	Main field of study
Cyber-physical Systems Security	SCS600	7,5	A1N	Computer Engineering
Principles of cybersecurity	PFC610	7,5	A1N	Computer Engineering
AI-based Risk Assessment and Management	AIR600	7,5	A1F	Computer Engineering
Cloud security	SIM600	7,5	A1F	Computer Engineering
Ethical hacking, penetration testing, and IT forensics	EHP600	7,5	A1F	Computer Engineering
Privacy, law, policy, and compliance in cybersecurity	SLP600	7,5	A1F	Computer Engineering
Master of Science Thesis in Computer Science	EXD600	15	A1E	Computer Engineering

Description of compulsory courses
The study path presents the order and weeks courses in the programme are given. To see the programmes preliminary study path, enter the programme name / programme code at hv.se/en/student/studies/program-and-course-information/study-path/.

Entry requirements within the programme
For admission to the course Master of Science Thesis in Computer Science 15 HE credits, completed courses of 22,5 HE credits within the program are required.

Work Integrated Learning (WIL)

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Work-Integrated Learning (WIL) has been a part of University West ever since it was founded and is our overarching profile. Our programmes, research, and collaborations all feature a WIL element, and it permeates all that we do here. Together with our collaborators, who come from private, public, and civic areas of society, we develop and exchange knowledge that will lead to a sustainable world. As a student at University West, you will encounter work-integrated learning in several ways. This may be, for example, in the classroom or lecture hall, in your practical work, or in something you are involved in outside of the university setting. WIL clearly integrates theory and practice. The advantage of WIL is that you earn an academic degree while also gaining work experience, make contacts, and acquire practical competence. You are better equipped for employment, and are prepared for life-long learning, new insights, and cutting-edge research. WIL is part of our programmes and takes on various forms as we continue to develop our methods of integrating theory and practical knowledge.

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