Master Computer Science
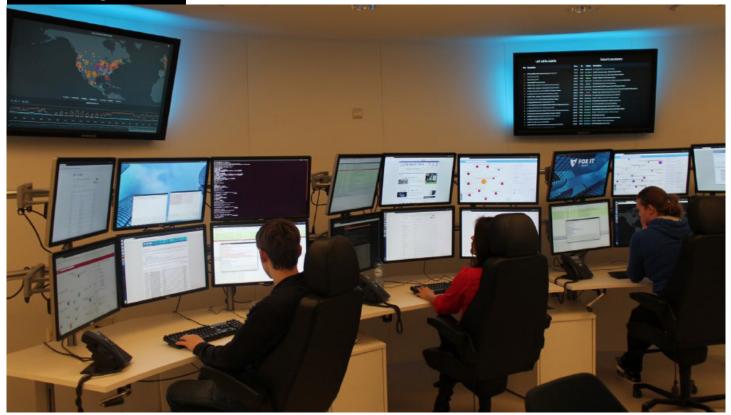## 4TU Cyber Security

The 4TU Cyber Security Master specialisation is offered by Delft University of Technology and the University of Twente. Cyber security is a multidisciplinary field with computer science at its core. For example, it involves cryptography, formal methods, secure software engineering, and machine learning. It also touches on a broad range of supporting disciplines, such as ethics, law, economics, criminology, management, and psychology.

Degree	Master of Computer Science
Starts	September
Type	full-time
Credits	120 ECTS, 24 months
Language	English
Application deadline	15 January (International BSc degree) 1 July (Bridging programme*) 1 September (Dutch BSc degree)
Tuition fee	€ 18.750 (non-EU applicants) € 2.168 (EU applicants)
Scholarships	scholarships.tudelft.nl

Our society critically depends on cyber space for almost everything, including banking, transport & logistics, air travel, energy, telecommunications, flood defences, health care, social networks, and even warfare. The consequences of cyber security failures could be disastrous and the demand for cyber security specialists is therefore high and rising. Cyber security is about the assessment of cyber risks and the design & implementation of countermeasures. Good cyber security measures start with the prevention of attacks, using for example firewalls and awareness campaigns. Since "100% security" is far too expensive, the next stage of cyber security is the timely detection of attacks using for example intrusion detection tools and data analytics. The last stage is the recovery from attacks using for example incident response methods and backups. Cyber risk management is about balancing these three stages of cyber security measures, in order to reach acceptable risk levels in various cyber domains.

What you will learn

This specialisation will give you a broad and strong background in cyber security. Developing secure and privacy friendly systems is a challenging task. Analysing the security and privacy of existing systems is challenging as well.

*The bridging programmes are only available for applicants with a Bachelor degree of a Dutch University of Applied Sciences (HBO) or a Bachelor's degree of a (Dutch) University (WO).
*More information:
https://www.tudelft.nl/studenten/faculteiten/ewi-studentenportal/onderwijs/schakelprogrammas/

TUDelft

Master Computer Science
4TU Cyber Security

FIRST YEAR		SECOND YEAR	
1ST SEMESTER	2ND SEMESTER	3RD SEMESTER	4TH SEMESTER
THE FOLLOWING COMMON CORE COURSES ARE COMPULSORY FOR TU DELFT STUDENTS			
SECURITY AND CRYPTOGRAPHY, CYBER DATA ANALYTICS, CYBER RISK MANAGEMENT, DYNAMIC AND STATIC PROGRAM ANALYSIS FOR SOFTWARE SECURITY. NETWORK SECURITY.			
1ST QUARTER	2ND QUARTER	3RD QUARTER	4TH QUARTER
CYBER RISK MANAGEMENT (5EC) SECURITY AND CRYPTOGRAPHY (5 EC) SECURE DATA MANAGEMENT (5 EC) FUNDAMENTALS OF QUANTUM INFORMATION (5 EC) ECONOMICS OF SECURITY (5 EC)	BIOMETRICS (5 EC) CYBER SECURITY MANAGEMENT (5 EC) COMPUTER ETHICS (5 EC) DYNAMIC AND STATIC PROGRAM ANALYSIS FOR SOFTWARE SECURITY (5 EC) BLOCK CHAIN ENGINEERING (5 EC)	APPLIED SECURITY ANALYSIS (5 EC) CYBER CRIME SCIENCE (5 EC)) (ADVANCED) NETWORK SECURITY (5 / 10 EC) SOFTWARE TESTING AND REVERSE ENGINEERING (5 EC)	CYBER DATA ANALYTICS (5 EC) SYSTEM SECURITY (5 EC) E-LAW (5 EC) PRIVACY ENHANCING TECHNOLOGIES (5 EC)
YEAR ROUND OR INDIVIDUALLY SCHEDULABLE : SECURITY VERIFICATION (5 EC), CAPSTONE CYBER SECURITY (5 EC)			
GRADUATION PROJECT (45 EC)			

1 EC = 28 hours of study, according to the European Credit Transfer System (ECTS).

Total number of credits in the Cyber Security specialisation: 120 EC

For more information on all courses, please visit: https://www.4tu.nl/cybsec/

You will acquire scientific knowledge combined with practical skills. Security graduates have a profound understanding of security and privacy risks in ICT systems and are able to model and evaluate these risks. Security graduates have also gained insight into the multi-disciplinary aspects of security and privacy such as ethics, psychology, law, and governance. Specialist knowledge and understanding of certain sub-fields are also aspects of the security and privacy discipline, e.g. cybercrime or security in mobile systems and practical experience conducting scientific research into security and privacy.

Career prospects

As a cyber security student, you will not have any problems finding a job. You can work for a variety of organizations, including the police, ministries, the IT security industry, auditors, research organizations and universities, both in the Netherlands and abroad.

Curriculum

To enrol in the specialisation Cyber Security at TU Delft, you need to apply for the master Computer Science and choose either the Data Science & Technology track or the Software Technology track. In order to meet the Cyber Security requirements, you need to choose 5 out of 10 common core courses from the track you are following, as well as the Cyber Security courses mentioned in the curriculum below.

3th
Faculty ranking in the world

60%
International MSc students

Career perspective

82%
Job within 6 months

42%
Working abroad