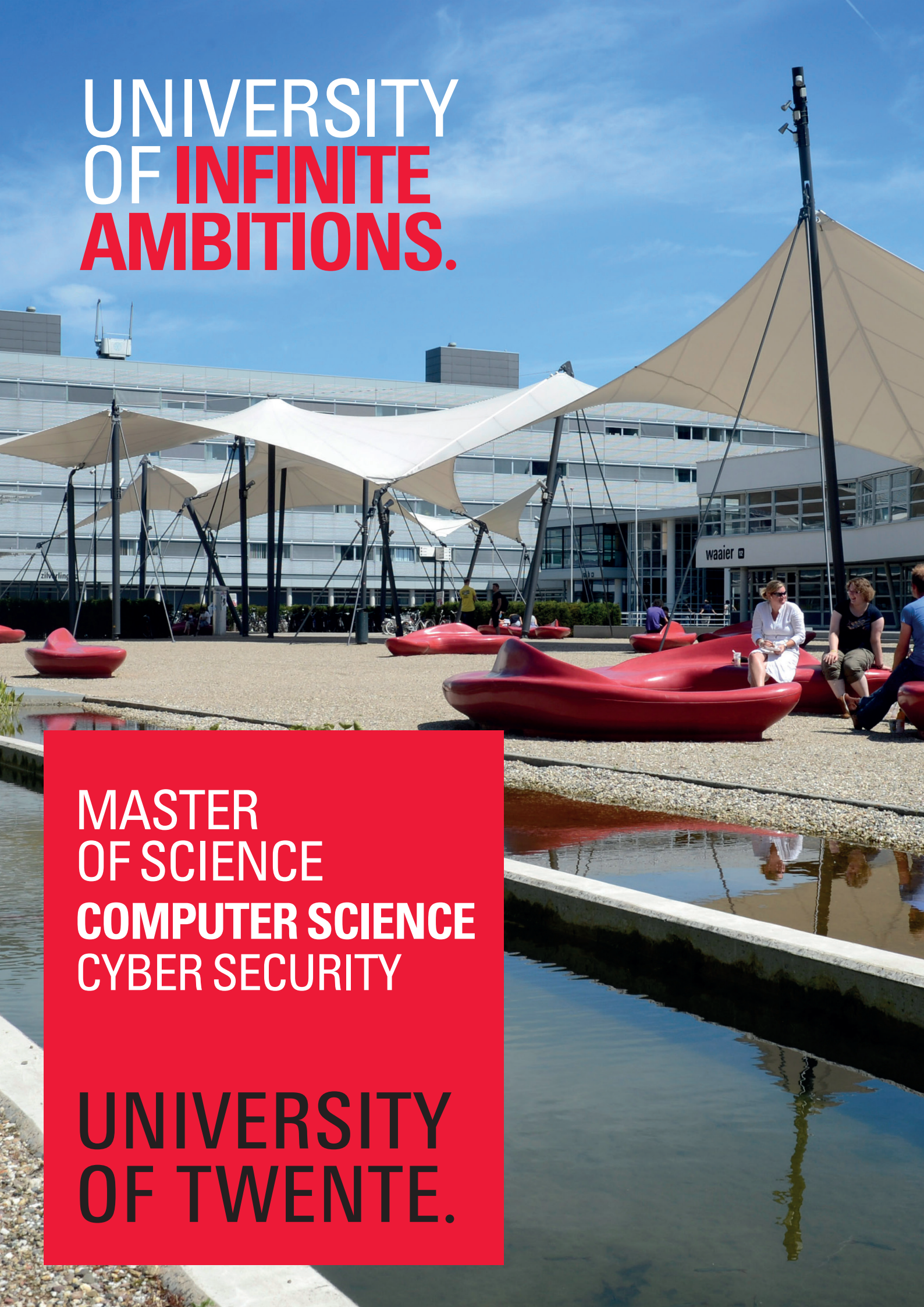
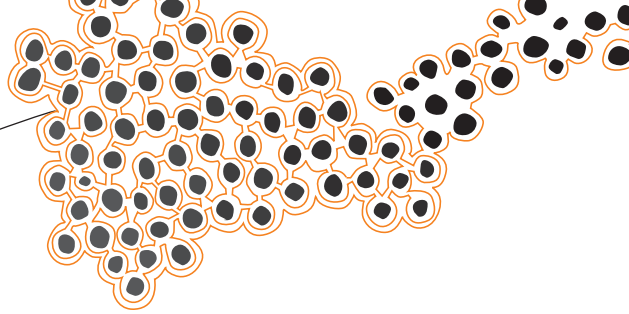


UNIVERSITY OF INFINITE AMBITIONS.

MASTER
OF SCIENCE
COMPUTER SCIENCE
CYBER SECURITY

UNIVERSITY
OF TWENTE.



MASTER'S PROGRAMME COMPUTER SCIENCE - CYBER SECURITY

This is a specialization of the master's programme in Computer Science. The Cyber Security specialization at the University of Twente offers Computer Science Master's students state-of-the-art education and an opportunity to contribute to our cutting-edge research. This is a joint Master's specialization offered by the Delft University of Technology (TUD) and the University of Twente (UT).

WHY CYBER SECURITY?

Our society critically depends on cyber space for almost everything, including banking, transport & logistics, air travel, energy, telecommunications, flood defence, healthcare, email, 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 space is probably the largest and most complex engineering artefact that humanity has ever created. Nobody understands the whole structure because it is just too complex. We cannot even turn it off. The adversaries in cyber space play a strategic game; we often do not know who the adversaries are, nor what their motives are. Arguably nature has created more complex structures, but there are no strategic adversaries in nature. Securing cyber space is therefore very challenging.

WHAT IS CYBER SECURITY?

Cyber security is about the assessment of cyber risks and the design & implementation of counter-measures. Good cyber security measures start with the prevention of attacks (for example, using firewalls and awareness campaigns). As '100% security' is unaffordable, the next stage of cyber security is the timely detection of attacks (for example, using intrusion detection tools and data analytics). The third stage is the recovery from attacks (for example, using incident response methods and backups). Cyber risk management is the process used to make sure that the right resources are allocated. It is all about balancing the three types of possible cyber security measures in order to reach states of acceptable risk levels in various cyber domains.

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 law, economics, criminology, management, and psychology.

JOINT PROGRAMME / 4TU MASTER SPECIALIZATION

The 4TU Cyber Security Master's specialization offered by the Delft University of Technology and the University of Twente gives students taking a Master's in Computer Science the opportunity to become a highly sought after cyber security specialist.

As a student of the 4TU Cyber Security Master's specialization, you can enrol in the Computer Science Master at the Delft University of Technology or at the University of Twente. Most courses are taught via tele-lecturing, so that travel between the universities is minimal to non-existent. The programme takes two years and consists of 120 EC courses and project work. You can start in September and in February.

Note: The Master's specialization in 4TU Cyber Security is not a double degree programme.

QUICK FACTS

Starting date	**1 September or 1 February**
Degree	**Master of Science**
Language	**English**
Duration	**2 years, 120 credits**
Website	**www.utwente.nl/go/csc**
	or: www.4tu.nl/cybsec

JOINT PROGRAMME

A specialization of Computer Science in Twente and Delft.

4TU. Federation

PROGRAMME CYBER SECURITY

The programme consists of:

- Five core courses (cryptography, cyber data analytics, cyber risk management, network security, and software security)
- An off-site summer school, during which you will solve a real cyber security problem
- A choice of electives (e.g. biometrics, cybercrime science, cyber security management, e-law, economics of security, privacy enhancing technologies, secure data management, security verification, software testing and reverse engineering, system security and quantum cryptography)
- An individual final-year project

CERTIFICATE

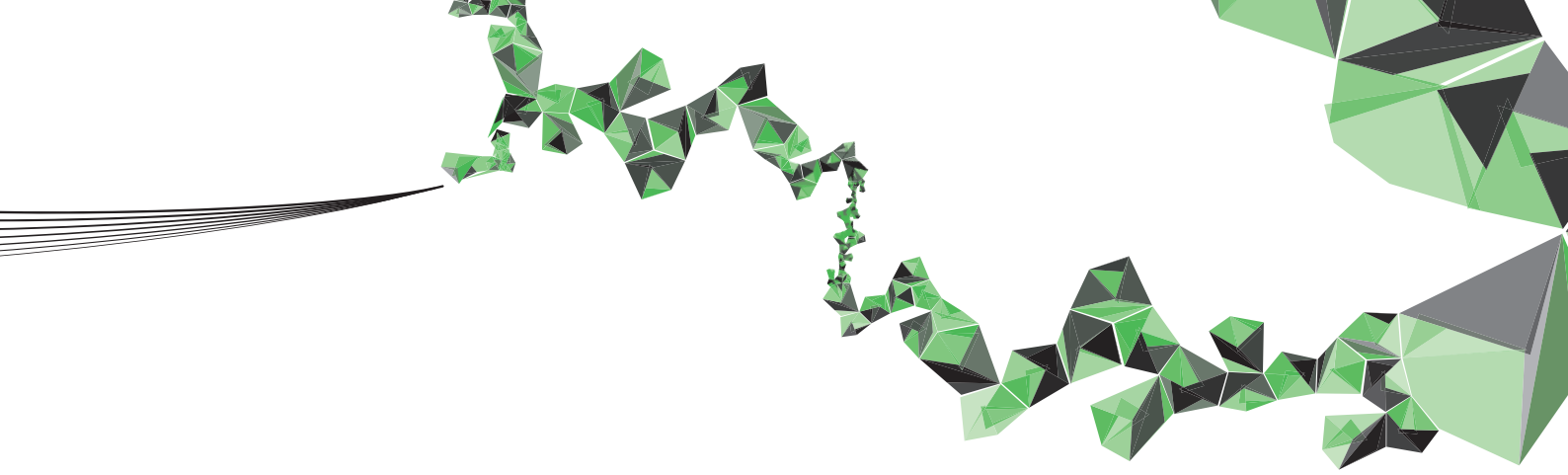
Computer Science Master's students who take at least 80 cyber security related credits will be considered as cyber security professionals and they will receive an appropriate certificate to testify to this accomplishment.

ADVISORY BOARD

The cyber security Master's specialization is supported by an advisory board made up of senior leaders from industry and government.

EIT DIGITAL MASTER SCHOOL

Another way of meeting the requirements for our specialization in Cyber Security is to complete the Security & Privacy programme at the EIT Digital Master School, one year of which takes place at the University of Twente. See: masterschool.eitdigital.eu



RIGHT FOR YOU?

If you wish to join the specialization Cyber Security, you are required to have a Bachelor's degree (BSc) in computer science or equivalent and an interest in disciplines other than computer science.

PRE-MASTER

For students without a university level computer science bachelor a pre-master's programme is available. In Delft this includes Calculus, Linear Algebra, Bachelor seminar, Reasoning and Logic, Algorithm Design, and Information and Data Modeling (5 EC each). In Twente the pre-master's programme includes Calculus (7 EC), Linear Algebra (5 EC), Probability and Statistics (3 EC), Algorithms (8 EC), and Academic Skills (7 EC).

ADMISSION

As a student of the 4TU Cyber Security Master's specialization, you can enrol in the Computer Science Master's programme at the Delft University of Technology or the University of Twente.
To do so, you must first sign up for the Computer Science Master's programme in either Delft or Twente.

MORE INFORMATION

Please visit our website at **www.4tu.nl/cybsec** and follow us on Facebook at **facebook.com/4TU.CybSec**

CAREER OPPORTUNITIES

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.

Examples include:
* Computer and network security specialist
* Digital expert police
* Entrepreneur and security consultant
* Ethical hacker
* Information security advisor
* PhD student
* Security analyst
* Teacher

ELIGIBILITY CHECK

Our eligibility check is designed to assist you as a student holding a non-Dutch diploma. It will give you an indication of your eligibility to be admitted to the Master's programme Computer Science. The check will take about five minutes to complete. Please note that this is not part of the official admission procedure. No rights can be obtained from the outcome of the eligibility check.

Check your eligibility: **https://www.utwente.nl/go/csc/eligibility-check**