

General Information

Audience: Bachelor ICT 3rd year with experience in programming.
15 European Credits (10 weeks)

When

November – January
Class days: 3 to 4 days (1 day off)

Teachers

Teachers of the Computer Science Haarlem study program and various guest lectures and workshops by specialists from the field of ICT Security.

In this minor we work very closely with the Qbit company from Haarlem and the Securify company from Amsterdam. These companies are specialized in IT Security.

Details of assessments

- Project assessments
- Individual exams
- Security assessment

All assessments must be completed with a sufficient grade

Contact

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Domain TOI – Cluster ICT
Minor
Security



Security

Almost daily news reaches us that the government or companies are dealing with cyber-attacks by hackers. Today's software engineering professionals must understand the basic discipline of building secure software. Not because "it's a good idea", but because the nature of the internet mandates it.

This minor is highly practical and is divided into a number of courses. The first course covers penetration testing. You will learn how the target system works, the weaknesses of this system and how to practically exploit these weaknesses and hack into it. The second course is about secure programming. This course covers programming flaws and how to fix them. The third course is about networking security. This course provides an introduction to the core security concepts and skills needed for the installation, troubleshooting, and monitoring of network devices to maintain the integrity, confidentiality, and availability of data and devices. The last course covers the module Information Security Foundation and legal aspects of information security.

Goals

The student is able to:

- perform a security assessment on a web application.
- write a recommendation providing solutions for the vulnerabilities found.
- research the technical functioning, impact and solution of a self-selected vulnerability and to describe it in a report.
- make a web page in the language of choice with 2 or more vulnerabilities and to make the same page with the correct fixes.
- design and create a secure API
- perform a security assessment on an API

- Improve the security quality of the software to be developed.
- understand network security principles as well as the tools and configurations available.
- apply knowledge and skills to design, implement, and support network security.
- design and create a secure network.
- understand the code information security (ISO 27001)

Strategies and teaching activities

- Workshops by experts.
- Perform a security assessment with your project group.
- Do research with your project group.
- Lectures on theory combined with practical exercises.

Competences

- Analyse – describe security aspects of computer systems that are linked to or via (public) networks.
- Analyse – analyzing the security flaws of an existing application.
- Analyse – analyzing infrastructure-related incidents, problems and security threats.
- Advise – advising on the choice of software architecture or software frameworks in which quality characteristics such as availability, performance, security and scalability play a role.
- Design – design a network infrastructure that meets the security requirements.
- Implement – set up a network infrastructure that meets the security requirements.