Information security in society

Offered by: Department of Mathematics and Computer Science
Department of Industrial Engineering and Innovation Science

Language: English

Primarily interesting for: all Bachelor students

Contact person: dr. B.M.M. de Weger (b.m.m.d.weger@tue.nl)
Website: http://www.win.tue.nl/ISiS

Content and composition
This package will provide a broad introduction to Information Security Engineering, from the perspective of an individual person’s (employee’s) needs and responsibilities. It is to be expected that engineers in their future work environments will encounter digital fraud, integrity issues and legal issues related to digital information. In all three courses Information Security will be viewed from both technical and societal perspectives. In this package the following disciplines come together: cryptography, digital security engineering, social psychology, law. The overall objective of the package is to let the student develop a personal / professional Information Security Roadmap.

Course code  Course name                                      Level classification
---             ------------------------                                      -------------------
2AC10          Information security basics                      1. Basic
2AC20          Digital security engineering                        2. Intermediate
2AC30          Information security roadmap engineering             3. Advanced

It is strongly recommended to follow all three courses, and in the order as displayed. The combination of all three courses is considered a coherent package.

Course descriptions
Information security basics
This course lays the foundations of knowledge and competences needed for developing an Information Security Roadmap. The basics of Information Security Engineering, in particular the concepts of information risk, confidentiality, integrity, authenticity, availability, and policy, are explained. Introductions to social psychology, applied cryptography and crypto law are given. A framework for the roadmap will be set up, and the technical and legal details – as far as they were covered in the lectures – will be filled in.

Digital Security Engineering
The foundation of knowledge and competences from the first course is expanded and completed with topics from system level security (computer security, network security, web security, security architecture, hacking), and general penal and civil law.

Information security roadmap engineering
The third course is a project course in which the basic knowledge acquired in the first two courses is further applied and integrated in fully developing a detailed personal Information Security Roadmap for use in both a personal and a professional environment. Such a roadmap not only describes environmental (e.g. legal) constraints, operational rights and duties and intended behavior of the individual, but also contains a concrete plan of security measures and their technical realization.