

Security fundamentals



ECTS
5 crédits



Hourly volume
77h

Introducing

Objectives

At the end of this module, the student will have understood and be able to explain:

- main concepts of operating systems, TCP/IP networks and language C and assembling programming;
- main concepts of dependability
- main concepts of cryptography

The student will be able to:

- describe the main components of an information system
- describe the main principles of the network protocols, analyse network traces and understand the flow encapsulation
- design and implement basic and advanced language C programs as well as basic assembling programs
- understand the different issues of the safety and security domains and correctly use the associated terminology
- distinguish the different cryptographic tools, understand when and how choose a specific tool, its capabilities and weaknesses
- find the main international cryptographic standards, and understand their content
- deploying high level security tools such as PKI, VPN, IPSEC tools or low-level security tools such as openssl, and choosing purposely the parametrisation of such tools

Practical info

Location(s)

 Toulouse