Software security

ECTS
4 crédits

Hourly volume
47h

Introducing

Objectives

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

- The different types of software vulnerabilities that are frequently encountered, especially in programs written in C language;
- The main memories protections to protect software from these types of vulnerabilities;
- The theory related to worms and viruses, especially the algorithms used by these malware to infect computer systems and spread on the internet; the protection against these malicious software and the methods employed by antivirus to detect worms and viruses;
- Best practices for developing software securely.
- Formal methods for security

The student will be able to:

- Develop software taking into account the risks associated with software vulnerabilities;
- Use formal methods to detect software vulnerabilities;
- Appreciate the challenges of viral protection, describe the different types of computer infection, viral and analyze the technical and antiviral éagir in case of infection.

Necessary prerequisites

Good programming skills in C and assembly language;
- A minimum of knowledge about the internals of the OS;
- Bases in algebra and the use of automata theory.

Practical info

Location(s)

Toulouse