

COM-301

Computer security

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Cursus	Sem.	Type
Communication systems minor	H	Opt.
Communication systems	BA5	Obl.
Computer science minor	H	Opt.
Computer science	BA5	Obl.
Cyber security minor	H	Obl.
UNIL - Sciences forensiques	H	Opt.

Language of teaching	English
Credits	4
Session	Winter
Semester	Fall
Exam	Written
Workload	120h
Weeks	14
Hours	4 weekly
Courses	2 weekly
Exercises	1 weekly
TP	1 weekly
Number of positions	

Summary

This is an introductory course to computer security and privacy. its goal is to provide students with means to reason about security and privacy problems, and provide them with tools to confront them.

Content

- Security principles
- Access control
- Authentication mechanisms : biometrics, tokens, passwords
- Applied cryptography : basic notions and algorithms
- Privacy in a digitalized world

Learning Prerequisites**Recommended courses**

CS-233 Introduction to Machine Learning (for programming)
COM-208 Computer Networks

Important concepts to start the course

Basic notions TCP/IP, basic notions programming

Learning Outcomes

By the end of the course, the student must be able to:

- Recognize security properties of systems, as well as formulate security policies, and model the threats they may face.

Teaching methods

Lectures with real world examples, and complementary exercises to reinforce basic concepts.
Practical homeworks to better understand adversarial behavior

Expected student activities

Attending lectures, solving exercises, reading and demonstrating understanding of provided materials.

Supervision

Office hours	Yes
Assistants	Yes
Forum	Yes

Resources

Bibliography

Computer security by Dieter Gollmann

Security Engineering by Ross Anderson

Computer Security: Principles and Practice by Stallings and Brown

Ressources en bibliothèque

- [Security Engineering by Ross Anderson](#)
- [Computer Security: Principles and Practice by Stallings and Brown](#)
- [Computer security by Dieter Gollmann](#)

Prerequisite for

- COM-402 Information security and privacy
- CS-523 Advanced topics on privacy enhancing technologies