COM-301 Computer security and privacy

Troncoso Carmela

Cursus	Sem.	Туре	Language of	English
Communication systems	BA5	Obl.	teaching Credits 4 Session Winter Semester Fall Exam Written Workload 120h Weeks 14	Linghon
Computer science minor	н	Opt.		4 Wintor
Computer science	BA5	Obl.		Fall
Cyber security minor	Н	Opt.		
HES - IC	Н	Opt.		120h 14
			Hours	4 weekly

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

The goal of this course is to introduce students to security engineering. The course will help students to think as an adversary so that they can analyse systems and establish security policies. We will cover a number of common security mechanisms at all layers, and learn their properties and limitations. Core topics:

- Security design principles
- Access control
- Authentication mechanisms
- Applied cryptography
- Sotware and Network security
- Privacy

Keywords

Security Privacy

Learning Prerequisites

Recommended courses

CS-233a or CS-233b Introduction to Machine Learning (for programming) COM-208 Computer Networks CS-323 Introduction to operating systems

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:

Analyze systems for security

2 weekly 2 weekly

Courses

Exercises Number of positions

- Decide on security mechanisms to apply
- Establish a security policy

Teaching methods

Pre-recorded lectures

Practical assignemnts interactivel resolved in class using the concepts learned in the lectures Written exercises to reaffirm the learning of the course Practical programming homeworks to develop attacks and defenses

Expected student activities

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

Assessment methods

- Take home exams (80%)
- Practical homeworks (20%)

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 / Anderson
- Computer Security / Stallings & Brown
- Computer security / Gollmann

Moodle Link

• https://go.epfl.ch/COM-301