- Faculté des sciences
- www.unine.ch/sciences

Security: Advanced Topics (3IN2080)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
Master en informatique	**Cours: 2 ph** **Exercice: 2 ph**	**Voir ci-dessous**	5

ph=période hebdomadaire, pg=période globale, j=jour, dj=demi-jour, h=heure, min=minute

Période d'enseignement:

- Semestre Automne

Equipe enseignante

The course is given in English by Dr Hervé Sanglard, lecturer and director of UDITIS SA, accompanied by an assistant.

Contenu

The course is subdivided into a dozen chapters dealing with security and linked by a common thread: How to design, develop and operate a web platform while guaranteeing its security in terms of confidentiality (including protection of personal data), integrity and availability, in particular:

Introduction & Stakes
Legal Framework, Norms and Certification
Cryptography
Message Authentication and Digital Signature
Blockchain
IAM - Identity and Access Management
PKI, Certificates & Directories
Data Protection (Storage, Computing, Exchange)
Secure Infrastructure
OWASP & Web Security
Pentesting and Intrusion Detection
Operations & Quality of Service

Forme de l'évaluation

Oral exam of 30 minutes, covering the course and exercises, with topics to be communicated during the semester.
During the oral exam, the student will be randomly assigned a topic to present for 20 minutes, followed by a 10-minute discussion with the evaluation committee. The oral exam is closed-book, except for a presentation document that will be used as a visual aid for the oral presentation.

Modalités de rattrapage

Oral exam of 30 minutes, covering the course and exercises, with topics to be communicated by the professor.
During the oral exam, the student will be randomly assigned a topic to present for 20 minutes, followed by a 10-minute discussion with the evaluation committee. The oral exam is closed-book, except for a presentation document that will be used as a visual aid for the oral presentation.

Documentation

Slides shared by the teacher and numerous references

Pré-requis

Basic knowledge of computer security and cybersecurity, programming for practical work

Forme de l'enseignement

The course comprises 14 lectures of 2 periods of theory followed by 2 periods of practical work.