Cyber Security for Cloud Computing

from Zero to Hero

Lecturer

Lecturer	Email	Office
Alessandro Carrega	alessandro.carrega@unige.it	TNT-Lab, Building (Padiglione) E, 3rd floor, via Opera Pia 13, 16145 Genova (GE), Italy

General information

Aim and scope

The course will describe the advanced technologies and solutions for cyber-security for the cloud computing.

The knowledge provided by this course covers various fields such as telecommunications, computer science, software engineering, and electronics, and includes some hints at economic aspects.

Content

The content of the course will cover different aspects of the cyber security for cloud computing. The main key areas are *theoretical foundations*, *Cloud-Specific Security Challenges*, *Research Methods and Techniques*, and *Emerging Trends and Technologies*.

Language

English

Assessment Method

Final work agreed with the lecturer to be completed in two weeks after the assignment.

Bibliography

Title	Author(s)	Year
Cloud Security Architecture: Design, Implementation, and Management	Ronald Cross	2018
Cloud Security: A Comprehensive Guide	Ronald Cross and Jim Reavis	2020
Cloud Security: Principles, Practices, and Technologies	Neil J. Dougherty and James A. Clark	2019
Cloud Security: A Holistic Approach	James A. Clark and Neil J. Dougherty	2018

Registration

Send an email to: alessandro.carrega@unige.it with subject: “PhD Course: CSCC02H Registration”.

Schedule

#	Topic	Day	Time
1	Introduction to Cloud Computing & Security	21/01/2025	14:00 - 16:00
2	Fundamental Network Security Concepts	23/01/2025	14:00 - 16:00
3	Network Security Protocols	30/01/2025	14:00 - 15:00
4	Cryptography & Cryptographic Algorithms	30/01/2025	15:00 - 16:00
5	Systems Security & Vulnerabilities	31/01/2025	14:00 - 16:00
6	Virtualization & Container Security	05/01/2025	14:00 - 16:00
7	Data Privacy & Protection	06/02/2025	14:00 - 15:00
8	Identity & Access Management (IAM)	06/02/2025	15:00 - 16:00
9	Cloud Service Provider (CSP) Security	11/02/2025	14:00 - 14:40
10	Cloud-Native Application Security	11/02/2025	14:40 - 15:20
11	Security Analysis & Testing	11/02/2025	15:20 - 16:00
12	Vulnerability Discovery & Exploitation	17/02/2025	11:00 - 12:00
13	Penetration Testing & Ethical Hacking	17/02/2025	12:00 - 13:00
14	Security Incident Response & Forensics	19/02/2025	14:00 - 15:00
15	Cloud Security Automation & Orchestration	19/02/2025	15:00 - 16:00
16	Artificial Intelligence (AI) & Machine Learning (ML) in Security	20/02/2025	14:00 - 15:00
17	Zero-Trust Security Architectures	20/02/2025	15:00 - 16:00
18	Internet of Things (IoT) Security	25/02/2025	14:00 - 15:00
19	Blockchain & Distributed Ledger Technology Security	25/02/2025	15:00 - 16:00

Exam schedule

Date	Where
Agreed with the lecturer and with a time of 2 weeks to deliver the work.	Personal office for the work assignment. No restrictions on where to do the work.