



Direzione Ricerca,
Innovazione e
Internazionalizzazione

**UNIVERSITÀ
DI TORINO**

ID

VP_106_INF

Visiting Professor Program Academic Year 2025/2026

TEACHING COMMITMENT: 12 hours

COURSE TITLE

Blockchain, Distributed and Decentralised Systems

TEACHING PERIOD

II semester

SCIENTIFIC AREA

Computer Science (with Elements of Mathematics, Cryptography, Economy, Law).

LANGUAGE USED TO TEACH

English

COURSE SUMMARY

The innovation introduced by blockchain technology and the associated notion of decentralisation will be explored, both in its theoretical aspects, e.g. considering under-development models and theories, and in its multi-disciplinary applications, not limited to cryptocurrencies, which may have an impact on aspects like, e.g., digital identity, privacy, the relationship between censorship and moderation, freedom of expression, trust and reputation, central banks digital currencies, The course will be open to all interested students (numbers allowed) and it will strive to be self-contained at the PhD level, and accessible for students with different backgrounds. If possible, talks by colleagues from different disciplines, e.g. law and regulatory frameworks, will be considered.

LEARNING OBJECTIVES

- Understanding the core principles of blockchains;
- understanding the concept of decentralisation, in the context of blockchain-based applications and other relevant fields, like (de-)centralised social media;

- Being able to understand/assess decentralisation in real-world applications;
- Develop or practice research skills, as appropriate depending on students' expertise and background.

OTHER ACTIVITIES BESIDE THE COURSE

Colleagues from other relevant disciplines will be invited to give talks on specific topics. Some possibilities about law and regulatory frameworks are under considerations.

Where it is possible, and depending on students' background and expertise, some practical examples will be explored "hands-on".

VISITING PROFESSOR PROFILE

The Visiting Professor will have an expertise in theoretical computer science, such as, e.g., models of computation, logic, algebra, category theory, specification and verification of heterogeneous and distributed systems, and scalable solutions for blockchain-based technologies. Such a theoretical expertise will be suitable for studying relevant applications in and outside of computer science, e.g. in the socio-economic context.

CONTACT REFERENT

Andrea Bracciali
andrea.bracciali@unito.it