# COURSE DETAIL

## BLOCKCHAIN & CRYPTOCURRENCIES

**Country**
Italy

**Host Institution**
University of Bologna

**Program(s)**
University of Bologna

**UCEAP Course Level**
Upper Division

**UCEAP Subject Area(s)**
Computer Science

**UCEAP Course Number**
184

**UCEAP Course Suffix**

**UCEAP Official Title**
BLOCKCHAIN & CRYPTOCURRENCIES

**UCEAP Transcript Title**
BLOCKCHAIN&CRYPTO

**UCEAP Quarter Units**
6.00

**UCEAP Semester Units**
4.00

## Course Description

This is a graduate level course that is part of the Laurea Magistrale program. The course is intended for advanced level students only. Enrollment is by consent of the instructor. The course focuses on the relevant themes related to blockchain technologies, cryptocurrencies, smart contracts, and novel applications that can be built over the blockchain. Students in the course develop simple smart contracts that can be deployed on a blockchain. Bitcoin and novel cryptocurrencies gathered momentum in the last months. More and more investors look with interest at these technologies, while others label them as a dangerous speculative bubble. The truth is that the blockchain, and the alternative implementations of a distributed ledger, represent very interesting technologies, that can be exploited to build novel distributed applications. The underlying building blocks are related to many concepts and research areas of computer science in general. This course illustrates the main principles and conceptual foundations of the blockchain and the Bitcoin network. The course discusses topics including introduction to peer-to-peer systems, overlay topologies and decentralization, introduction to Crypto and Cryptocurrencies, the blockchain: how to achieve decentralization, transactions and transaction scripting languages, mining, attacks to the blockchain, anonymity, and smart contracts.

**Language(s) of Instruction**
English

**Host Institution Course Number**
90748

**Host Institution Course Title**
BLOCKCHAIN & CRYPTOCURRENCIES

**Host Institution Campus**
BOLOGNA

**Host Institution Faculty**
COMPUTER SCIENCE

**Host Institution Degree**

LM degree in Computer Science

**Host Institution Department**

COMPUTER SCIENCE

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