

Blockchain economics

**ECTS : 6**

**Description du contenu de l'enseignement :**

While this is a fairly recent technology, this class will take students through the fundamentals of blockchains as well as implications regarding financial, economic or social interactions. The class will start by some history needed to understand what led to the creation of Bitcoin, the first blockchain, in 2009. We will then review the detailed functioning of a blockchain. We will continue by discussing important current developments in the industry as well as implications for the economic environment. Lastly, we will discuss potential future developments and how blockchains will impact a broad range of industries. Students will also be introduced to recent academic work related to blockchains.

Students will be asked to pick a blockchain project from a list and present it briefly during the presentation session in front of the class (group presentation). When reaching this presentation session, students will be expected to be able to assess the pros and cons of a given blockchain project, and have a critical opinion on this project.

**Compétence à acquérir :**

The objective of this class is to give students a deep theoretical overview of what a blockchain is. Nonetheless we will also use mock-blockchains, write smart contracts and interact with them, through some computer sessions. This will help solidify the knowledge learned and de-mystify the functioning of a blockchain.

Students will gain a deep knowledge of how a blockchain works internally. They will also be very aware of the different issues and perhaps they will be able to spot new use cases for a blockchain.

**Mode de contrôle des connaissances :**

The evaluation is composed of a group presentation (1/3), homework (1/3) and a final exam (1/3). Class participation can be highly rewarded especially for students who struggle with homework. Students are encouraged to actively interact during the class.

**Bibliographie, lectures recommandées :**

Melanie Swan, Blockchain: Blueprint for a new economy, O'Reilly, 2015

Andreas Antonopoulos, Mastering Bitcoin, 2nd edition, O'Reilly, 2017

Andreas Antonopoulos / Gavin Wood, Mastering Ethereum, 1st edition, O'Reilly, 2018

Primavera De Filippi/ Aaron Wright, Blockchain and the Law: The Rule of Code, Harvard University Press, 2018

**Document susceptible de mise à jour - 17/02/2026**

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