



Blockstream
Institute



Course description

Basic Concepts

Description

Before delving into the more complex and strictly financial applications of **Blockchain** and **Cryptocurrencies**, it is essential to **crystallize** some fundamental knowledge. The module aims to provide participants with an understanding of the fundamentals of how a **Blockchain** works, its intrinsic link to a native **Cryptocurrency**, as well as the crucial importance of the concept of **decentralization** and its fundamental units, represented by **Blocks** and **Nodes**. The module will examine the **mechanisms** of how a **blockchain** works, its **security** and **transparency** features, as well as the main **consensus mechanisms**, such as **mining** and **staking**.

Duration: 32:26

Methodology: e-learning

Contents

1. What is a cryptocurrency?
2. The importance of decentralization
3. What is blockchain and how does it work?
4. What is mining?
5. What is Staking?
6. Consensus Mechanisms in Blockchain
7. Public, Private, and Hybrid Blockchains
8. Blockchain Governance

Historical Aspects

Description

To fully understand the current context of **cryptocurrencies**, it is essential to retrace their history and significant events. At the end of the module, participants will be able to evaluate the historical evolution of **cryptocurrencies**, with a particular focus on the genesis of **Bitcoin** and **Ethereum**. Key events such as the **ICO** bubble and the **trends** that have characterized the market in recent years will be explored in depth, outlining the dynamics that led to their spread and **development**. The module also offers an initial overview **of the institutional adoption of cryptocurrencies**, illustrating how major financial and government institutions have begun to interact with this new **asset class**.

Duration: 34:16

Methodology: e-learning

Contents

1. The history of money, from barter to blockchain
2. The Global Financial System
3. The birth of Bitcoin
4. The birth of Ethereum
5. The ICO bubble
6. Megatrends
7. The institutional charge

Bitcoin and its principles

Description

In order to understand the mechanisms underlying **Blockchain** and **Cryptocurrencies**, it is essential to devote one of the first Modules to an in-depth study of **Bitcoin**, the first **Cryptocurrency** ever, which gave rise to the entire ecosystem. The module aims to illustrate the **functioning** of **Bitcoin** in a simple and understandable way, based on the key concepts presented in the previous modules, as well as to address some aspects related to its intrinsic value, **security**, and **transparency**, which over the years has transformed from a problem to a support in the fight against **money laundering**.

Duration: 1h:40

Methodology: e-learning

Contents

1. How does Bitcoin work?
2. What gives Bitcoin its value?
3. Bitcoin and money laundering
4. What makes Bitcoin secure?
5. Bitcoin as a financial instrument
6. Game theory in Bitcoin
7. The concept of Halving
8. How Halving Works
9. The concept of Security Budget
10. Halving and its impact on miners
11. Halving and its impact on the price of Bitcoin
12. Sustainability of the model and scenarios

False myths

Description

The relative youth of **cryptocurrencies** and the concept of **blockchain**, their **cryptographic** nature, although completely transparent in **pseudonymous** form, their use in certain **criminal activities**, albeit almost irrelevant when compared to cash, as well as lively discussions about their **environmental impact** and their **uncensorable nature**, have given rise to multiple **narratives** and, in many cases, outright **false myths**. Although many of **the critical issues** that emerge from these narratives are entirely justified and need to be addressed, some of them have now been overtaken by events. This module allows participants to approach the world of **blockchain** and **cryptocurrencies** in a critical manner, but without being influenced by certain now anachronistic points of view.

Duration: 21:20

Methodology: e-learning

Contents

1. Energy consumption
2. Bitcoin is anonymous
3. Bitcoin is a Ponzi scheme
4. Bitcoin is too expensive
5. Bitcoin is not secure