Bitcoin Fundamentals Bundle 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: 34:02

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: 45:01

Methodology: e-learning

Contents

1. The birth of Bitcoin
2. The birth of Ethereum
3. The ICO bubble
4. Megatrends
5. The institutional charge
6. Historical prophecies about the birth of Bitcoin
7. The Paperwork Crisis of 1967

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:28

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. What is Halving?
8. Halving and its Impact on Miners
9. The consequences of Halving on the price of Bitcoin
10. What is Bitcoin's Security Budget and how does it work?

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: 22:54

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

Bitcoin, from payment tool to strategic asset

Description

In just over 16 years, Bitcoin has transformed in terms of **market perception**, evolving from **a** pure peer-to-peer **payment system** to an investment asset, to the point where it is now considered a **strategic asset** by companies and even **sovereign states**. The module aims to outline this **evolution,** exploring different points of view and the **potential developments** of the ecosystem that is emerging around **Bitcoin,** with all its contradictions and, in the background, the crucial issue of **protocol scalability.**

Duration: 59:02

Methodology: e-learning

Contents

1. The emergence of a new asset class
2. Bitcoin as a payment system
3. The adoption and institutional custody of Bitcoin
4. Bitcoin in an investment portfolio
5. Bitcoin as a strategic reserve
6. Ways to gain exposure to Bitcoin
7. The evolution of the Bitcoin ecosystem

Cryptocurrencies and Environmental Impact

Objectives

The environmental impact of **cryptocurrencies**, and **Bitcoin** in particular, has been the subject of much debate for years, sometimes with specious arguments, but undoubtedly in light of the impressive energy consumption data associated with **mining**. With the support of two important studies by **MIT** in **Boston** and **GAMA for Africa,** as well as a series of data updates by **Federico Rivi,** the module provides participants with an overview of the costs and benefits of **Bitcoin mining,** in light of a narrative that is gradually changing and increasingly interesting updated data.

Duration: 37:04

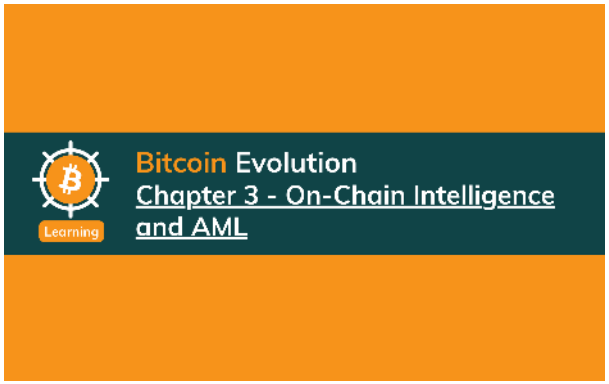
Methodology: e-learning

Contents

1. Climate impact of Bitcoin mining in the US
2. Bitcoin and energy in Africa
3. Updated data and direction of Bitcoin mining
4. Critical issues and risks
5. Prospects and potential developments

On-chain intelligence and anti-money laundering

Description



This **module** explores the application of **on-chain business intelligence** as an advanced tool for **monitoring** and **analyzing transactions on the blockchain.** Participants will learn about the main **on-chain intelligence** techniques used to identify suspicious activity, track fund flows, and support **regulators** and **law enforcement agencies** in combating **financial crime.** As always, practical cases, analysis methodologies, and international collaborations will be discussed in a very concrete and structured manner.

Duration: 19:52

Methodology: e-learning

Contents

1. On-chain intelligence, a new analysis tool
2. Collaboration with the authorities
3. Limitations of on-chain intelligence
4. Future Opportunities and Innovations

Scalability and Security: an issue toward Adoption

Description

The scalability of a **blockchain**, which in some ways is an indirect factor in its **security**, has always been one of the most discussed and debated topics. In light of **the** progressive **development** of the market in terms of **applications** and **use cases**, which suggest the beginning of a path towards more widespread adoption, it has grown significantly in terms of relevance and sense of urgency. The module aims to enable participants to understand the relevance of this aspect and its interconnection with the related concepts of **security** and **decentralization,** the so-called "**Blockchain trilemma**," by illustrating the **operating mechanisms** of the main **Blockchains** in terms of block management and fees definition,

Duration: 18:12

Methodology: e-learning

Contents

1. The Blockchain trilemma
2. Block size and frequency
3. Transaction costs and the concept of gas fees
4. Scalability solutions on Bitcoin