



A1: Determination of teaching objectives and development of the training outline

Training Outline



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1. Introduction

This teaching content is a draft training outline prepared for the purpose of creating an interactive self-learning book for VET educators, who are the target audience of the BLUEDU project. The topics that will be included in this context are presented.

1.1. Blockchain Technologies for VET Education

1.1.1. Blockchain Technology

1. Introduction
 - 1.1. Blockchain Fundamentals
 - 1.1.1. Tools: Explorer, Wallet, Faucet, and Bot
 - 1.2. Blockchain History
 - 1.3. Blockchain Advantages and Limitations
2. Consensus Algorithms
3. Cryptography Fundamentals (Basic algorithms and protocols, Advanced algorithms and protocols)
4. Blockchain Platforms/Networks (Platforms Types and Samples, Ethereum Mechanics, Bitcoin Mechanics)
 - 4.1. Layer2 Architectures (State channels, Side chain, Bridges, Oracles)
 - 4.2. Decentralized Application Development
5. Blockchain Programming
 - 5.1. Blockchain Integration Technologies
6. Blockchain Transactions, Mining, and Wallets
 - 6.1. Blockchain Governance
7. Smart Contracts
8. Blockchain Security
 - 8.1. Dapp-Smart contract audit
 - 8.2. Wallet Safety and Security, Custody, Backup, Recovery
9. Blockchain Privacy
10. Issues and Trends in Blockchain Technologies
 - 10.1. Blockchain Regulations
 - 10.2. Non-Fungible Tokens
 - 10.3. Tokenomics (Finance and Economics)



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- 10.4. Blockchain Application Domains and Real world samples (Blockchain Feasibility Analysis, Introduction to Cryptocurrency, Cryptocurrencies, Currencies, Tokens, and Stablecoins, Decentralized Finance (DeFi), ICO, STO, Central Crypto Exchanges, Central Bank Digital Currencies, Supply chains, Metaverse, Blockchain Gaming (GameFi), Decentralized Identity Management, Self-Sovereign Identities, Health)
- 10.5. WEB3
- 10.6. Decentralized Autonomous Organizations (DAOs) and Decentralized Applications (DApps)
- 10.7. Initial X Offering (Coin, Dex, Security, etc.)
- 10.8. Blockchain Scalability
- 10.9. Blockchain Labs (Solidity Smart Contract Development, Development Tools, Blockchain Node Installation)

1.1.2. Teaching Approaches for Blockchain Education

- 1. Introduction
- 2. Active learning approach.
- 3. Learner-centered learning approach.
- 4. Collaborative learning approach.
- 5. Experiential learning approach.
- 6. Problem-based learning approach.
- 7. Interdisciplinary learning approach.

1.1.3. Teaching and Evaluation Methods and Tools for Blockchain Education

- 1. Introduction
- 2. Small Group Instruction
- 3. Student-Centered / Constructivist Approach
- 4. Project-Based Learning
- 5. Cooperative Learning
- 6. Game-Based Learning
- 7. Formative Evaluation
- 8. Process Evaluation
- 9. Outcome Evaluation
- 10. Impact Evaluation



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11. Summative Evaluation
12. Goals-Based Evaluation