



CARDANO ACADEMY

Staking Rewards & Calculation
Course Overview

Overview

Unlock the mechanics of Cardano's network with this technical mini-course from the Cardano Foundation. We've designed this program to demystify the proof-of-stake mechanism and champion transparency by open-sourcing the rewards calculation. Move beyond a surface-level understanding and explore the economic and technical mechanics that power a leading Proof-of-Stake network.

Course	Staking Rewards & Calculation
Track	Technical
Format	Free, Self-paced, On-demand E-learning
Audience	Developers, SPOs, Analysts, & Cardano Community Members
Outcome	Digital Badge & Foundational step towards CBCA Certification

Why This Course Matters

Just as innovations in distributed ledger technology present new opportunities, understanding the economic incentives that secure a network is crucial. This course provides a deep dive into the economic engine of Cardano, exploring the fundamentals of staking, the intricacies of how rewards are calculated and distributed, and the importance of the open-source approach in building trust and collaboration within the community. You will gain a clear understanding of the parameters that drive the system and the role of transparency in fostering a resilient and decentralized ecosystem.

Key Takeaways

In this program, you will:

- **Gain a comprehensive understanding** of Cardano's staking mechanism and its core components, from delegation to stake pool operation.
- **Understand key economic terms** and protocol parameters, building on knowledge from the CBCA.
- **Articulate the strategic importance** of the Cardano Foundation's decision to open-source the rewards calculation.
- **Grasp Cardano's hybrid architecture**, including its unique Account-based and eUTxO models.
- **Outline the future roadmap** for the open-source rewards initiative and understand how you can contribute.

Who Is This Program For?

This course is designed for individuals who wish to move beyond a surface-level understanding of blockchain and dive into the economic and technical mechanics that power a leading Proof-of-Stake network. Representative roles include:

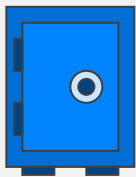
- **Cardano Community Members** who wish to deepen their technical understanding of the network's incentive mechanism.
- **Stake Pool Operators (SPOs)** seeking a clear, detailed explanation of the rewards calculation process.
- **Developers & Technical Professionals** interested in the economic and mathematical foundations of Cardano's protocol.
- **Students & Researchers** exploring the practical application of decentralized economic models.
- **Financial Analysts and Economists** interested in the tokenomics and monetary policy of decentralized systems.

Your Learning Journey

During this online journey, you will explore the practical mechanics of Cardano's rewards system through learning methods designed with you in mind. The course is delivered via our feature-rich platform, which includes on-demand e-learning, gamified reinforcement, and mobile access, allowing you to learn on the go. Each module offers the opportunity to apply the concepts taught through visual aids and detailed explanations.

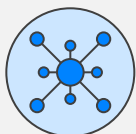
Our Fundamentals course achieves an exceptional **60 percent higher completion rate** than the eLearning industry standard, underscoring the effectiveness of our engaging training model.

Program Modules



Module 1: Staking Recap

This module provides a foundational recap of how staking works on Cardano. It covers the principles of Proof-of-Stake, the role of Stake Pool Operators, and the difference between pledged, delegated, live, and active stake. You will also learn about the epoch-based snapshot system that underpins the network's operation.



Module 2: Rewards, Reserve, and Parameters

Explore the economic engine of Cardano. This module details the two sources of consensus rewards—transaction fees and the reserve—and explains key protocol parameters like monetary expansion (ρ) and the pledge influence factor (a_0).



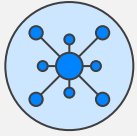
Module 3: How Rewards Are Distributed

Gain a comprehensive understanding of the entire rewards distribution process. This section breaks down how the total rewards pot is collected, how a portion is allocated to the treasury, and how the remainder is split between stake pools and their delegators based on performance and pool parameters.



Module 4: Why Open-Source the Rewards Calculation?

Discover the rationale behind the Cardano Foundation's initiative to open-source the rewards calculation. This module explains how this project enhances transparency, improves operational resilience, and serves as an educational tool for the community.



Module 5: The Rewards Flowchart

Visualize the entire process with a detailed walkthrough of the rewards flowchart. This module explains how funds move from the total rewards pot through the rewards equation to individual stake pools and delegators, including how the system handles special cases like unregistered stake accounts.



Module 6: Advantages of the Open-Source Implementation

This module outlines the key benefits of having a node-independent, open-source rewards calculation. Learn how it empowers public inspection, helps document edge cases, and builds greater trust in the Cardano infrastructure.



Module 7: Bringing Transparency to the Calculation

Delve into the importance of transparency for ecosystem health. This section discusses how the open-source project addresses historical discrepancies and documents edge cases like MIR certificates to ensure the community has a clear and accurate view of the treasury and rewards system.



Module 8: Cracking the Calculation

Get closer to the formula itself. This module explains how the open-source repository can be used to analyze the calculation, contribute data and insights, and understand the rules that govern the flow of funds, such as the "pool reap" rule.



Module 9: Test Reports and Next Steps

The final module reviews the stability and reliability of the project through unit tests and calculation reports. It also outlines the project's future roadmap and explains how you can contribute to this important ecosystem initiative.

The Cardano Academy Platform Learning Experience

Our programs are designed to meet the needs of individual learning styles while also leveraging the power of expert-verified information. This is achieved through a user-friendly learning platform that enables participants to easily navigate the program content.



On-demand E-learning:

Learn at your own pace, on your own schedule.



Gamified Reinforcement:

Engage with the material through quizzes, achievements, and interactive elements that aid retention.



Mobile Access:

Access your courses anytime, anywhere, on any device.



Open-Source Materials:


Benefit from our commitment to open-source education.

Technical and Business Learning Tracks


Cardano Blockchain Certified Associate (CBCA)


08:30 hrs 4 Modules

Intermediate Technical Certified



Available in English and Portuguese

 Business
Generative AI & Blockchain

 Technical
Aiken: Smart Contracts on Cardano

Coming soon

Validate your skills and expertise with digital badges

What Our Learners Say About Our CBCA Certification Course

“ Wow...awesome and interactive lessons. ”

“ The concept was well delivered. ”

“ The course provides me with a deep understanding of hash functions and their critical role in information security. ”

“ I really enjoyed studying the Hard Fork Combinator application. ”

“ I was captivated by the analysis of the story about the Nakamoto coefficient when measuring the decentralization of a blockchain network. ”

“ Very valuable information about Cardano's architecture and operation. ”

“ I fully understand the course and am very excited about these highly technical and in-depth topics... ”

Your Path to Certification

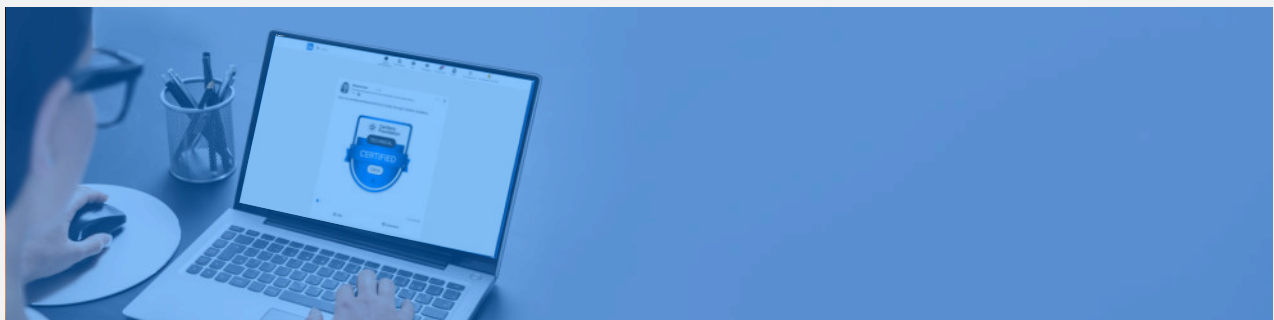
1. Complete the Course & Earn Your Badge



Upon successful completion, the Cardano Foundation grants a **verified digital badge**. This LinkedIn-compliant credential validates your new skills and expertise.

2. Advance to a Certified Associate (CBCA)

For learners wishing to advance their knowledge, the next step is the Cardano Blockchain Certified Associate (CBCA) exam. This recognized professional certification validates your technical and strategic blockchain knowledge.



Practice Exam and Completion Badge



Certification: \$99,
Online, 90 min., 50 Questions



LinkedIn-Compliant
Credential via Credly

In Partnership with Pearson VUE and Credly



Meet Your Academic Team and Subject Matter Experts

The Academy team is made of Education, Enterprise, and Technical Talent, with 15-20+ years of experience each. We work closely with our subject matter experts to ensure quality, accuracy and relevance.

The Academic Team



Nadia Mannell
Director



Andrea Derman
Business
Development
Manager



Vanessa Hurhangee
Education Manager



John Greene
Technical Blockchain
Writer



Heidi Staples
Editor & Instructional
Designer



Niklas Göke
Business Blockchain
Writer

The Subject Matter Experts



Thomas Mayfield
Team Lead -
Decentralized Trust
and Identity Solutions



Michiel Bellen
Core Integrations
Team Lead



Denicio Bute
Community Manager



Matthias Benkort
Technical Director of
Open Source
Development



John Wright
Senior Legal Counsel



Nicolas Cerny
Governance Lead



Fabian Bormann
Team Lead -
Ecosystem
Engineering

Trusted by Global Partners



10,000+ registered learners

About the Cardano Academy

The Cardano Academy provides **quality-verified, up-to-date blockchain education and enablement**. Our offerings are designed to empower individuals and enterprises with the knowledge and skills needed to succeed in the evolving world of blockchain.

We provide a range of learning opportunities, from self-paced online courses and corporate masterclasses to diploma programs and professional certifications. Our mission is to foster a global community of educated, capable, and innovative contributors to the Cardano ecosystem.

Ready to Begin?

Unlock the power of Cardano and take the next step in your blockchain education.



Register for Free at:

<https://cardanofoundation.org/academy>



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