




Cardano Developer Professional

Become a Proficient Cardano developer with Haskell, Plutus, Marlowe and expertise in the Cardano Toolchain.

 | **150 Hours**

About EMURGO Academy

One of the founding entities of **Cardano**, EMURGO Academy was established in support of EMURGO's global mission to further build a community and increase awareness about the Cardano blockchain technology. Our goal is to bridge the gap between **industry and educational skills**, while exploring new ways to apply Cardano technologies in business.

With a global footprint in countries such as the **USA, India, Japan, Indonesia** and headquartered in **Singapore**, we, at EMURGO Academy, are dedicated to providing world-class education and enhancing learning at a fundamental level. Our premium portfolio of iconic brands, including **Cardano, Trevala, Ergo**, and more, are driving strong growth for us today. But we are relentless, and never content with the status quo.

We have established close connections with industry experts as well as our expertise in **Cardano blockchain R&D** allows us to curate business and technical programs for **entrepreneurs, students and developers, business heads and CXOs** of all levels.

Cardano Developer Professional

This monolithic program is inclined towards serious **developers** and is designed for individuals with proficiency in any **programming language** and who are comfortable with building working applications. The learner, after completion of this program, will be able to understand the various features of the **Cardano Blockchain** platform, gain proficiency in **Haskell programming**, its pertinence to **Cardano smart contracts** and be proficient in **Smart Contract** development on **Cardano** using **Plutus**.



Focal Points of the program

Cardano Developer
Professional



Sound grasp on Blockchain fundamentals such as cryptography, consensus protocols, tokenization, scalability solutions, use case analysis and design.



Deeper understanding of Cardano protocol internals such as PVSS, VRF and a clear view of the various Ouroboros versions and why they exist.



Solid Proficiency in Haskell programming.



Emphasis on smart contract development using Plutus.



Overall 360 degree view of Cardano ecosystem right from a deep understanding of the protocol mechanisms, tool-chain, third party frameworks and much more.



Program Curriculum Overview

Blockchain Architecture & Design

- What is Blockchain?
- Cryptography
- Why is blockchain so revolutionary?
- History of Money
- Bitcoin, PoW, UTXOs and everything, Discussions
- Bitcoin Design
- Cryptocurrency Aspects

Consensus Algorithms

- Classical - RAFT, PAXOS
- Classical - PBFT, TENDERMINT
- Modern

- Basic & Programmable Blockchains, Account based models
- Tokens - Concepts, Uses, Economics
- Blockchain Universe - High level view
- DAOs, Oracles
- Blockchain Scalability Solutions
- Compliance & Regulation
- Use Cases (Metaverse)
- Use Case Analysis & Design Discussion

Cardano Overview

- Introduction to Cardano
- Importance of Cardano

- Introduction to Cardano Algorithm-Part 1
- Introduction to Cardano Algorithm-Part 2

- Introduction to Cardano Wallet-Part 1
- Introduction to Cardano Wallet-Part 2

- Concepts related to **Cardano-Part 1**
- Concepts related to **Cardano-Part 2**

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- Intro To Haskell
 - Data Types
 - Recursive Patterns And Polymorphism
 - Higher Order Functions

Haskell In Depth

- Type Classes
- Laziness
- Monoids
- IO
- Functors
- Applicatives

- Monads
- Monad Transformers
- Finale

- Project Mentoring & Presentation
- Project Mentoring
- Project Presentation

Marlowe Overview

- Marlowe Concepts & Demo

- Marlowe Concepts & Demo

Cardano + Plutus

- Introduction to Cardano Toolchain
- Cardano binaries Setup
- Developer Tools

Deep Dive

- Cardano Concepts
- Transaction Structure
- Plutus Smart Contracts
- Transaction Metadata
- Native Tokens

- Overview - Plutus Build Tools
- Overview - Various Forms of Plutus

Plutus

- Prerequisites Setup - Linux Commands
- Playground - Demo
- Samples Walkthrough
- Advanced Samples Walkthrough
- PAF, PAB, DApp Connector

- Overview - KEVM / Milkomeda Sidechain
- Glow, IELE, K-Framework
- Plutus Project Assignment
- Project Mentoring & Presentation

What makes us different?



Hand-curated internationally aligned curriculum and courses for a **blended learning approach**.



Synchronized Learning Platform (SLP), with features like collaborative learning, discussion forum, recorded lectures, evaluation, and screening.



Post-training support and guidance to ensure learners stay updated with the latest version/release.



Live projects to implement the skills learning during training programs to provide the experience of an actual working environment.



Digital Certification for participants to gain a competitive edge in the job market and to help kick-start their entrepreneurial journey.



Programs designed by **CTOs, CXOs, & product heads** to build talent at all levels.

2000+

Professionals Trained

18+

Countries Learners Across The Globe



Our Partners





SIGN UP NOW

education@emurgo.io

