



K B A

KERALA
BLOCKCHAIN
ACADEMY

Blockchain Certification Training Course

Ethereum Developer Program

<https://kba.ai/ethereum-developer>



Introduction

The Kerala Blockchain Academy, a centre of excellence under Digital University Kerala, specialises in Blockchain Research, Development, Training and Consultancy. We partner with esteemed academics and industry professionals to offer immersive training programs designed to build a future-ready workforce of Web3 leaders and innovators. Our hands-on courses prepare students for exciting Blockchain Development careers with a highly relevant curriculum to industry needs.

Our Mission

We are committed to developing cognitive thinkers and future-oriented innovators dedicated to sustainability and technological advancement.

Our Associates



Hyperledger
TRAINING PARTNER



Hyperledger
ASSOCIATE MEMBER



K-DISC
Kerala Blockchain Academy
Blockchain Education Network

**U
S
T**



ben
BLOCKCHAIN EDUCATION NETWORK

intel.



ibfnet

r3.



Grant Thornton



BOSCH



**InterWork
Alliance**
A Global Blockchain
Business Council Initiative



Course Overview

The Ethereum Developer Program is designed for blockchain enthusiasts interested in computer programming or aspiring to start their software development career as a Blockchain Developer with a specialisation in the Ethereum platform. The learner will gain an in-depth conceptual understanding of Blockchain technology with clarity on the components and architecture of the Ethereum platform and hands-on experience in Solidity programming language to write Smart Contracts and develop Decentralized Applications (DApps) focused on real-life use cases.

Duration

3 Months (60 Hours of Instructor-led Sessions + 1 Month Project + 1 Month Extended Support)

Objective

Equip aspirants with in-depth knowledge of Blockchain and expertise in the Ethereum platform, focusing on Solidity and decentralised application (DApp) development.



Course Highlights



Ethereum Fundamentals

Gain mastery over the core principles, network architecture, and operations of the Ethereum blockchain.



Ecosystem Expertise

Understand major components and key players within the Ethereum ecosystem, along with current trends.



Solidity Skills

Acquire the ability to write secure, optimised, and well-structured smart contracts with confidence.



Web3 Toolkit Proficiency

Learn to use essential tools and frameworks for developing and testing decentralised applications.



DApp Architecture

Design and implement robust and fully decentralised applications from conception to deployment.



Decentralisation-First Approach

Critically evaluate the use cases to leverage decentralisation in the solution-building processes.



Development Ecosystem




SOLIDITY

Solidity




ethereum

Ethereum



METAMASK

Metmask Wallet



Remix IDE



echidna

Echidna




SLITHER

Slither




MythX

Mythril



Hardhat



BuildBear



WalletConnect

WalletConnect



ethers.js

Ether.js



Etherscan

Etherscan

Program Curriculum

01 Ethereum Basics

Explore Ethereum's programmability, operational aspects, protocol, transaction lifecycle, and upgrade history.

02 Smart Contracts

Dive into the behind-scenes of Smart Contract- compiling, bytecode, ABI, and code execution payment models.

03 Decentralised Applications (DApps)

Illustration of different EVM-compatible wallets. Introduction to basic tools and frameworks for DApp development.

04 Solidity Programming

A deep dive into the Solidity programming. Mastering data structures, control structures, and advanced features in Solidity.

05 DApp Development & Testing

Design and develop DApps using tools like Hardhat and MetaMask, focusing on UI and smart contract interactions.

06 Network Interaction

Exploring the Ethereum network and client architecture. Understand network participation, node setup, and Ethereum consensus.

07 Tokens & Standards

Study the evolution and implementation of token standards. Learn asset representation through ERC20, ERC721 and ERC 1155 standards.

08 Advanced Concepts and Best Practices

Discuss Layer-2 solutions, ZKP, and Upgradeable Contracts. Learn services like Wallets, Node Providers, Communication Libraries & Interoperability Options.

Course Coordinators

Prof. Sandeep Kumar Shukla

**Rajiv and Ritu Batra Cyber Security Chair Professor,
Indian Institute of Technology Kanpur**

Prof. Sandeep Kumar Shukla is distinguished in computer science, holding the prestigious position of Rajiv and Ritu Batra Cyber Security Chair Professor at the Indian Institute of Technology, Kanpur. His academic journey began with a B.E. degree from Jadavpur University in 1991, followed by an M.S. and a Ph.D. from the University at Albany, SUNY, completed in 1997. Currently, he leads as the Editor-in-Chief of the ACM Transactions on Embedded Computing Systems and is an associate editor for the ACM Transactions on Cyber-Physical Systems. Additionally, he holds the role of joint director of the C3i Centre at IIT Kanpur, collaborating closely with Manindra Agrawal to advance research in cyber and physical security.



Prof. Asharaf S.

**Director- Kerala Blockchain Academy,
Dean Development , HR, Digital University Kerala**

Prof. Asharaf S is a computer engineer/scientist with extensive exposure to algorithms for machine learning. In addition to his current role as a Professor at Digital University Kerala (DUK), he also serves as a visiting faculty for MDP programs at Indian Institute of Management, Kozhikode and as a Mentor in Kerala Startup Mission. He received his PhD and Master of Engineering in Computer Science from the Indian Institute of Science, Bangalore. He graduated in Computer Engineering from Cochin University of Science and Technology. He is a recipient of the IBM Outstanding PhD student Award 2006, IBM Shared University Research Grant 2015, IBM Open Science Collaboration Programme Grant 2017, and DBT/BIRAC/Bill & Melinda Gates Foundation Research Grant under the Grand Challenges India program in 2019. His areas of interest include technologies and business models related to data engineering, machine learning, information retrieval and blockchains.



Blockchain Certification Training Course
Ethereum Developer Program

Contact Us



+91 623 8210 114



kba.admin@duk.ac.in



<https://kba.ai/ethereum-developer>