



**100,000+ Students
have been Trained**

since
1997

Blockchain Development Web 3.0

Learn Core Technologies

Who can do?

- New Comers
- Students who would like to get and grab the knowledge Blockchain Development.
- Already working class who are willing to update and learn the new methodologies of Blockchain Development.
- Who would like to get great and reputable jobs in the market regarding Blockchain development.

**Program is
offered by**

3D EDUCATORS
INT
22 Years of
Excellence in
Training &
Development

**Invest in
People the
only Asset
that Appreciates**

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About the Program

The “Block chain Development” Program has been conducted by Certified Consultant who having the vast experience of training, development & consulting. They have worked with various large Government, National, and multinational organizations at local and abroad and involved the development of web 2.0 and web 3.0.

The Trainers who are conducting this program are have on the position of the following:

- Senior Developers
- E-Commerce Implementers
- ERP Deploy
- Blockchain developers

They trainers are foreign qualified and having the degree & certification of Ph.D, MBA, MSc, Microsoft Partner, MSCE, MCDBA, A+, Web Certified, CIW, Windows Certified.

Inauguration

The Training Program will be inaugurated by a senior member of 3D EDUCATORS

Program Structure

No of classes per week	02 - Class
Duration of each class	02 – Hour
Total Duration	6 Months

Other Learning Activities

Classroom Assignments	16
Presentations by Trainees	01

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Module 1:

Node.js

- Explore the components of back-end development, working with an MVC framework
- Apply concepts like data types, objects, methods, object-oriented programming, and classes in the context of backend development.
- Server-Side JavaScript
- Using Node on the command line
- NPM
- JavaScript Build Processes
- Event Loop and Emitters
- File System Interaction
- Modules
- Native Node drivers.

Express.js

- Understand how to install and use express in Node applications
- Creating Node and Express based servers
- RESTful Routing with Express
- Understand and use middleware for Node applications

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Module 2:

Application Programming Interface-APIs

- Understand what APIs are and how they work.
- HTTP in Depth
- Calling APIs
- Reading API documentation
- Basic API Authentication
- Server to server communication JSON vs. XML, sending data over the wire.

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Module 3:

Database Fundamentals

- Data Relationships
- Designing a Data Model
- Relational Databases
- Alternative Databases
- Entity Relationship Modelling (ERM) and Object Relational Mapping (ORM)

SQL Databases

- Working with Database Schemas
- Create-Read-Update-Destroy (CRUD)
- Database Joins
- Querying SQL databases

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Module 4:

Mongo-DB

- Serialization
- How to model NoSQL data
- Document Databases (MongoDB)
- Create-Read-Update-Destroy (CRUD)
- NoSQL Best Practices
- Mongo Shell and command line use
- Installing MongoDB
- Mapping relationships with MongoDB
- Using an object-data modelling library (Mongoose) to work easily with your data.

Week -4: Deployment

- Understand hosting and deployment.
- Hosting static websites with GitHub Pages.
- Deploying server based applications with Heroku.
- Deploying Databases with Mongo Atlas.

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Module 5:

Month -5

Building Restful APIs

- Understand REST and guiding principles behind API design.
- Learn to work with a MongoDB GUI Robo 3T
- Implementing GET, POST, PUT, PATCH and DELETE by creating a public API from scratch.
- Understand and use chained route handlers from Express.

Authentication and Security

- Understand the need for authentication and keeping user details secure.
- Learn about Encryption and use encryption to keep your database secure.
- Learn and implement Hashing and Salting with bcrypt Using Sessions and Cookies to persist user log in sessions.
- Setting up local authentication from scratch.
- Implementing Passport to authenticate users quickly and effectively.
- Understand and use environment variables to keep secret keys secure.
- Understand and use OAuth 2.0 to log in users using Google and Facebook.

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Module 5:

React.JS

- Learn front-end development with React.
- Understand when and how to use React Components.
- Learn to pass Props and work with them.
- Learn to write JSX and understand JSX syntax.
- Learn about the React DOM.
- Learn State Management in React.
- Learn about React Hooks.
- Learn about conditional rendering in React.
- Understand the difference between class and functional components

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Module 6:

Basics and Blockchain Development

- Understand Web3 and blockchain development.
- Understand a Canister
- Understand a Motoko actor.

Week 2: Deploy Your Website onto a blockchain

- Set up a cycles wallet
- Obtain free cycles from Dfinity
- Understand how to manage the cycles balance of a canister
- Build and deploy a static, personal CV website to the Internet Computer
- Check how many cycles were used

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Module 6:

Working With react Front-end and Blockchain backend

- Use a React frontend in combination with the Internet Computer
- Allow users to create their own notes and persist these in a canister
- Learn to use CRUD style operations on a canister from the front end
- Learn to use the Candid interface to test the app

Create Your Own Crypto Token

- Understand the role of tokens in dapps and open internet services
- Create a token modelled on Ethereum's ERC-20 and deploy it on the Internet Computer
- Create a faucet contract that dispenses small amounts of the token.
- Understand and work with principal IDs to identify users and smart contracts
- Use the Plug wallet to track token balances
- Learn how to transfer the token between user accounts.

Create an NFT Marketplace

- Create a non-fungible token modelled on ERC-721 and deploy it to the Internet Computer
- Build a marketplace website like OpenSea to allow users to mint, buy and sell NFTs.
- The owner of the NFT can interact with the canister to transfer
- the ownership of the .jpeg to another account.

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TERMS & CONDITIONS

WITHDRAWAL FROM THE CERTIFICATION OR DIPLOMA

Students are not allowed to withdraw from the CERTIFICATION/DIPLOMA. If a student cannot continue the CERTIFICATION his/her fee will be forfeited.

CONDUCT AND DISCIPLINE

A disciplinary action, leading to rustication, will be taken against students whose conduct is found objectionable at any time during the course of study. Reference will be made to 3D Educators code of conduct.

EVALUATION AND GRADING

The performance of students is evaluated through continuous observation of a student's performance in the CERTIFICATION/DIPLOMA – class participation, submission of assignments, quizzes and exercises.

The student will be examined through three hourly exams conducted at the midterm and a final exam at the end of the program. Total marks for passing the CERTIFICATION/DIPLOMA will be 70 out of a total of 100.

Students who do not meet the attendance or any other eligibility criteria will not be allowed to appear in the final examination.

The following grading plan will be applicable for the CERTIFICATION/DIPLOMA:

A	B+	B	C+	C	F
87-100	81-86	72-80	66-71	60-65	Below 60

Students who are unable to appear for the final exam are required to submit a written application stating the reason for not appearing for the exam. 3D Educators reserves the right to approve or deny such applications. If approved, the student will be allowed to sit for the exam within one month. Failure to do so, the student will be resubmit the examination fee and sit the future schedule exam. Without passing of the exams no certification will be awarded.

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ONLINE LIVE CLASSES FACILITY AVAILABLE

- Instructor Led Training
- Real Time Presentations
- Interactive Classes
- Complete Notes and Other Stuff shall be provided through our Secure Student Login Member's Area
- For Online Live Classes, you may please download the Admission Form through our website <http://www.3deducators.com>. Fill it properly and attached the required document along with Picture and send back to info@3deducators.com with scanned fee submitted voucher in the bank.
- For Pakistan you may submit the fee at any MCB Branch with the title of "3D EDUCATORS-TRAINERS & CONSULTANTS".
- If you are outside Pakistan then you may transfer via Bank to Bank or any western union, Fast Track, Money Gram or else International Transfer Body.
- After Admission, if you don't have GMAIL Account then you are requested to kindly make one GMAIL Account and shared it info@3deducators.com. Then further correspondence shall be made by our institute official.
- Extra Bandwidth Charges shall be incurred.

DISTANCE NOT MATTER

You can join in the live classes Sessions of 3D EDUCATORS – TRAINERS & CONSULTANTS from anywhere of the world.

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PRECAUTIONARY MEASURES

- During Classes, you are requested to make sure that you are in isolated room, where no noise should be there except your voice.
- Kindly Switch Off your Cell Phone during the class, because it will disturb the quorum of class.
- If you have taken the admission in the course online lonely, then ethically it is recommended and suggested that you alone in the class.
- Recording of Lectures are not allowed at your end.

This world is emerging and growing in the 21st Century very rapidly because of latest and remarkable technologies and its advancement. Due to advancement of technology, we 3D EDUCATORS offer Live Interactive class sessions

3D EDUCATORS believe on Information Technology and its systems. Now you can also avail this facility at your home.

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Get the Admission Form

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