upGrad & iiit-b

International Institute of Information Technology Bangalore

ज्ञानमुत्तमम्

PG Diploma in
Software Development Specialisation in Blockchain

11 Months | Online with Offline Basecamp

upGrad

up Grad is an online education platform to help individuals develop their professional potential in the most engaging learning environment. Based on industry trends, we have identified Blockchain as one of the fastest growing technologies with an exponential increase in demand for skilled professionals.

With our meticulously designed PG Diploma in Software Development Specialization in Blockchain, we promise to equip you with the perfect mix of conceptual knowledge and hands-on experience to help you kickstart a successful career in this industry.

Ronnie Screwvala

Co-founder & Chairman
upGrad

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iiit-b
ज्ञानमुक्तमम्

International
Institute of Information
Technology Bangalore

IIIT-B is one of the leading institutes of higher education in the country which has outstanding world class faculty, with years of experience in the latest technologies.

We are excited to partner with upGrad to offer a one-of-its-kind, academically rigorous and industrially relevant PG Diploma in Software Development Specialization in Blockchain. Our strong placement and alumni network, along with the credibility of a PG Certification will provide you just the right push to accelerate your career in this field.

Prof. S. Sadagopan

Director
IIIT Bangalore

WHY **BLOCKCHAIN**

290%

increase in number of cryptocurrency and blockchain jobs posted from May to November 2017

~Indeed

$9.7 bn

Total Blockchain spending by 2021 with a compund annual growth rate(CAGR) of 82%

~International Data Corporation

40-60%

increase in salaries of Blockchain skilled professionals compared to peers

~Randstad

> "
>
> *Disruptive technologies such as Blockchain and the Internet of Things will have a profound impact in the way we live and work. They will require rapid adaptation in our workplaces.*

Narendra Modi

Hon'ble Prime Minister of India

WHOM IS THE PROGRAM FOR?

Whether you want to transition into a Blockchain Role or acquire the right skill-set to grow in your current role, this program is just right for you.

- **Developers & Sr Developers**
- **IT/ITeS Project Leads & Managers**
- **Technical Leads**
- **Blockchain Start Up Professionals**

WHY BLOCKCHAIN
WITH IIIT-B AND UPGRAD?

PG DIPLOMA FROM IIIT-B

Earn a reputed Post Graduate Diploma without leaving your

1:1 INDUSTRY MENTORSHIP

Receive 1:1 mentoring from Industry Experts to understand your career pathway

HANDS ON LEARNING OPPORTUNITIES

Receive industry certificates on completing industry projects and participate in action workshops

DEDICATED STUDENT SUPPORT

Dedicated Student mentor along with teaching assistants for academic or other doubts.

RESUME FEEDBACK

Feedback on your resume and profile building to kickstart your career

GET PERSONALIZED FEEDBACK

Grading and personalized feedback on your assignments

STRONG PEER-TO-PEER INTERACTION

State-of-the-art platform to connect with the entire network of accomplished peers

ON-THE-GO LEARNING

Learning squeezed into smaller learning sessions; anytime - anywhere

INSTITUTE
FACULTY

DR. T K SRIKANTH
Professor - Computing
IIIT Bangalore

PROF. K V DINESHA
Professor
IIIT Bangalore

PROF. TRICHA ANJALI
Associate Professor
IIIT Bangalore

PROF. MURALIDHARA
Associate Professor
IIIT Bangalore

PROF. MEENAKSHI
Associate Professor
IIIT Bangalore

PROF. SUJIT
Assistant Professor
IIIT Bangalore

PROF. THANGARAJU
Professor
IIIT Bangalore

PROF. R. CHANDRASHEKHAR
Dean (Academics)
IIIT Bangalore

PROF. JAYAPRAKASH LALCHANDANI
Assistant Professor
IIIT Bangalore

PROF ASHISH CHOUDHARY
Assistant Professor
IIIT Bangalore

INDUSTRY
EXPERTS

NITIN GAUR
Director
IBM Blockchain Labs

SUDIN BARAOKAR
Chief Mentor - Bankchain
Blockchain Alliance

PRASANNA LOHAR
Head Technology
DCB Bank

SEAN HAN
Author
Blockchain Demo

ROHAN KAPADIA
Software Developer
Swiggy and ex-Amazon

VARUN SEHGAL
Director | Program Management
Zomato

CHENG-HAN LEE
Program Manager
ex-Microsoft

SUNIL SHARMA
Co-founder
SquadX

KARTIK MANDAVILLE
Founder & CEO
SpringRole

SANACHIT MEHRA
CEO
Cateina Technologies

PROGRAM
CURRICULUM

PRE-COURSE
(Duration : 3 weeks)

We have built this pre-course for people who don't have prior programming/ coding experience. In 3 weeks, you will be given a strong foundation in order to prepare for the intensive learning experience of the program. We strongly encourage learners to take this up if they don't have a background in computer science

Topics Covered:

- Computational Thinking

- Programming foundations in Java (loops, functions and variables)

FOUNDATIONS OF SOFTWARE DEVELOPMENT
(Duration : 12 weeks)

Professional full-stack developers use these practical concepts every-day to write high-quality code. Mastery of these concepts will help you crack job-interviews at tech companies and make you stand-out among other developers. Not only that, you will stay forever in demand, as you can easily pick up new languages, libraries and frameworks.

Topics Covered:

- Object Oriented Programming (OOP) - Classes, Objects, Inheritance, Polymorphism, Abstraction and Encapsulation

- Algorithms - Recursion, Big-O, Divide and Conquer and Dynamic Programming

  Data Structures - Arrays, Linked Lists, Stacks & Queues, Trees & Binary Search Trees,
- Heaps, Hash Tables, Graphs

Tools & Languages Used:

BACKEND DEVELOPMENT AND AGILE ENGINEERING
(Duration - 12 weeks)

Build complex server-side applications, and write advanced backend logic. Write your own SQL queries, learn how to use the popular PostgreSQL database, and master how to integrate databases into your backend applications

Go beyond programming to master software engineering skills like refactoring, test-driven development to be an all-round developer. Learn Agile Methodology - the cornerstone for software development in the digital age.

Topics Covered:

- MVC Architecture using Spring
- Agile Methodology
- Version control with Git

- Databases and ORM using PostgreSQL and Hibernate
- Refactoring and Test-Driven Development
- Building an API Backend

Tools & Languages Used:

FUNDAMENTALS OF FRONTEND DEVELOPMENT
(Duration - 3 weeks)

User expectations have sky-rocketed in recent years, and developers are increasingly expected to create sophisticated front-end user interfaces for their software applications. Learn the basics of front end development through this module.

Topics Covered:

- Front-end development with HTML5, CSS, and JavaScript
- Responsive webpages using Bootstrap
- DOM Manipulation using JavaScript

- XHR HTTP Requests and AJAX
- Storing data using SessionStorage

Tools & Languages Used:

Note: IIIT-B and upGrad reserve the right to edit/alter the curriculum at a later date based on academic requirement and industry feedback

FUNDAMENTALS OF BLOCKCHAIN AND SMART CONTRACTS
(Duration - 6 weeks)

Demand for Blockchain developers has sky rocketed recently and there is a need for professionals who understand the core basics of blockchain. Learn the fundamental concepts behind building a blockchain, it's features & then code your own Blockchain!

Topics Covered:

- Introduction to Blockchain
- Features of Blockchain
- Cryptography in Blockchain
- Types of Blockchain
- System Architecture
- Build your own Blockchain using JavaScript

Tools & Languages Used:

HYPERLEDGER
(Duration - 6 weeks)

Hyperledger, the most popular public blockchain, is widely used to build blockchain solutions for use cases across industries. Learn how Hyperledger functions, build and deploy fabric network and chaincode.

INTRODUCTION TO HYPERLEDGER
(Duration - 1 week)

Topics Covered:

- What is Hyperledger
- Distributed Ledger Technology and its Challenges
- What is Fabric
- Components of Fabric
- Architecture
- Transaction Flow

FUNDAMENTALS OF ETHEREUM AND SMART CONTRACTS
(Duration - 2 weeks)

Topics Covered:

- Fundamentals of Ethereum
- Creating Smart contracts

Tools & Languages Used:

ethereum

FABRIC UNDER THE HOOD
(Duration - 3 weeks)

Topics Covered:

- Building the Hyperledger Fabric Network
- Writing the Chaincode
- Performing Transactions

HYPERLEDGER COMPOSER
(Duration - 2 weeks)

Topics Covered:

- Introduction to Hyperledger Composer
- Understanding Hyperledger Composer(Model , Transaction Processor , Access Control , Query)
- Hyperledger Composer Playground Experience
- Developing Application using Composer Playground

Tools & Languages Used:

CAPSTONE PROJECT

After months of lectures and hands-on practice on latest tools, it is time for the capstone project! You will work on a project mentored by industry experts through 1-on-1 discussions and feedback sessions. The projects have been decided to ensure that you get to apply all the lessons you have covered during the 11 month program

Note: IIIT-B and upGrad reserve the right to edit/alter the curriculum at a later date based on academic requirement and industry feedback

Industry Projects:

Industry Experts:

Action Workshops:

Ecosystem Partners:

UPGRAD BASECAMP: OFFLINE MEET-UPS & LEARNING

upGrad Basecamp

Basecamps are an online meet up held across major cities in India to provide a networking and idea exchange platform.

WHAT'S IN IT FOR OUR LEARNERS?

Networking with Faculty and Student Mentors	Career Building Sessions	Engaging and Live Group Projects
Fun and Exciting Activities	Peer Interaction	Career Networking

upGrad Action Workshop

- Understand how to build blockchain solutions from leading Start ups

- Discuss challenges faced in the process

- Build the assignment solution presented in the workshop

PROGRAM
DETAILS

PROGRAM DURATION
11 Months

PROGRAM FEES
₹ 2,25,000/- (inclusive of taxes)

ELIGIBILITY

Having a minimum 3 year UG degree (e.g. BE, BTECH, BCA, BCOM, BA)

Final year college students enrolled in degree types mentioned above, are also eligible to apply. However, in order to successfully graduate from the program and receive a post-graduate certification, they will have to provide proof of UG graduation (e.g. provisional degree)

Minimum 50% marks or 5/10 GPA (on a scale of 10) or 2/4 GPA (on a scale of 4) in undergraduate degree examination.

In case a student has lower than 50% marks in UG degree but has higher than 50% marks in a PG qualification (e.g. Postgraduate Diploma, Master's Degree etc.), he/she will also be eligible to apply

ADMISSIONS PROCEDURE

Post application, we have an admission process (customised to your profile) to assess your eligibility

FOR FURTHER DETAILS, CONTACT US AT:

blockchain@upgrad.com / admissions-pgpsd@iiitb.ac.in

APPLY NOW