

The EC-Council logo is a large, stylized 'E' composed of multiple overlapping, translucent, golden-yellow rectangular blocks. The 'E' is set against a dark blue background with a faint, repeating pattern of binary code (0s and 1s). Several bright, cyan-colored light streaks or beams radiate from the logo, creating a sense of dynamic energy and technology.

EC-Council

EC-COUNCIL'S **BLOCKCHAIN** CERTIFICATION COURSES

For:

**BUSINESS LEADER
FINTECH PROFESSIONAL
DEVELOPER**

Designed by

Professionals for Professionals

Dive into an industry predicted to be worth USD 163.83 billion by 2029.[1]

What is Blockchain?

The popularity of blockchain has skyrocketed recently due to the technology's potential for increased efficiency, security, and transparency. But what is it?

A blockchain is a distributed ledger of data in which information is replicated across multiple nodes. Each "block" is a time-stamped, unchangeable data record managed by a cluster of computers and not owned by a single entity. These blocks of data are secured and bound to one another—the "chain"—using cryptography. In a decentralized blockchain, this enables immutable, permanent, transparent, and secure record-keeping of transactions.

One of the most exciting aspects of decentralized blockchain networks is the lack of a central authority, which means that the blockchain acts as a self-regulating data storage and transaction validation system. Since a blockchain is a shared and unchangeable ledger, the information stored there is permanently and publicly viewable. Decentralized blockchain networks enable the transfer of cryptocurrencies like Bitcoin across the globe, among many other innovative use cases.



Why Should You Become a Certified Blockchain Expert?

1

Blockchain Market

According to Research and Markets, the blockchain market is estimated to grow from USD 4.9 billion in 2021 to USD 227 billion by 2028—a compound annual growth rate of 72.9%.^[2]

2

Business Growth

Gartner estimates that the business value generated by blockchain will reach USD 176 billion by 2025 and USD 3 trillion by 2030.^[3]

3

Implementation of Central Bank Digital Currencies

According to Kristalina Georgieva, managing director of the International Monetary Fund, 100 countries are exploring the implementation of central bank digital currencies.^[4]

4

Fintech Blockchain Growth

According to Research and Markets, the global market for fintech blockchain is estimated to reach USD 8.7 billion by 2026.^[5]

5

Blockchain Growth Market Driven by Business Leaders

In a Deloitte survey, over three-quarters of financial services industry leaders felt that failing to adopt blockchain and digital assets would represent a lost opportunity for competitive advantage, and 84% agreed that blockchain was “broadly scalable” and had “achieved mainstream adoption.”^[6]

[2]: <https://www.researchandmarkets.com/reports/4787409/blockchain-market-forecast-to-2028-covid-19?>

[3]: <https://emtemp.gcom.cloud/ngw/globalassets/en/doc/documents/3855708-digital-disruption-profile-blockchains-radical-promise-spans-business-and-society.pdf>

[4]: <https://www.imf.org/en/News/Articles/2022/02/09/sp020922-the-future-of-money-gearing-up-for-central-bank-digital-currency>

[5]: <https://www.researchandmarkets.com/reports/5302634/fintech-blockchain-global-market-trajectory-and>

[6]: https://www2.deloitte.com/content/dam/insights/articles/US144337_Blockchain-survey/DI_Blockchain-survey.pdf

Blockchain Is More Than Just Cryptocurrency

Ten Industries Blockchain Is Transforming^[7]

- | | |
|-----------------------------------|-----------------------------------|
| 1. Banking and financial services | 6. Healthcare |
| 2. Energy and infrastructure | 7. Defense and law enforcement |
| 3. Travel and transportation | 8. Retail and e-commerce |
| 4. Insurance | 9. Communications and information |
| 5. Government and voting | 10. Agriculture and food safety |

[7] <https://www.cbinsights.com/research/industries-disrupted-blockchain/>

EC-Council's Blockchain Certifications and Training

Program Overview

EC-Council's blockchain certification courses are curated by experts to support the growing demand for skilled blockchain professionals. These programs have been designed to meet the industry requirements of developers, business leaders, and fintech professionals in this rapidly growing area.

Our blockchain certification courses consist of three knowledge and competency areas: development, implementation, and strategy. During the course, students get exposure to multiple blockchain implementation concepts and a unique guideline for sustainable and scalable blockchain development using quantum-resistant ledgers. Considering the market opportunity and skills required for different target groups, EC-Council has launched three new blockchain programs:

1. **Blockchain Business Leader Certification (BBLC)**
2. **Blockchain Fintech Certification (BFC)**
3. **Blockchain Developer Certification (BDC)**

Blockchain technology is becoming more prominent in today's digital world, and getting certified is a great way to showcase your knowledge and lend credibility to your resume. If you're looking for a blockchain training program, you've come to the right place. EC-Council's expert-designed courses will provide you with hands-on experience and help you gain valuable insights that are mapped to real job roles.

Blockchain Developer Certification



Become a Cutting-Edge Developer Leading the Blockchain Revolution

Blockchain Developer Program Overview

The course aims to provide developers with a comprehensive understanding of blockchain technology, including its impact and applications in business and finance. Students will learn about cryptography, cryptomining, quantum computing, blockchain project implementation, Ethereum, and more.

Who Is It For?

Software engineers, programmers, project managers, network administrators, and other technical professionals interested in integrating blockchain applications and architectures into their organization.

Prerequisites

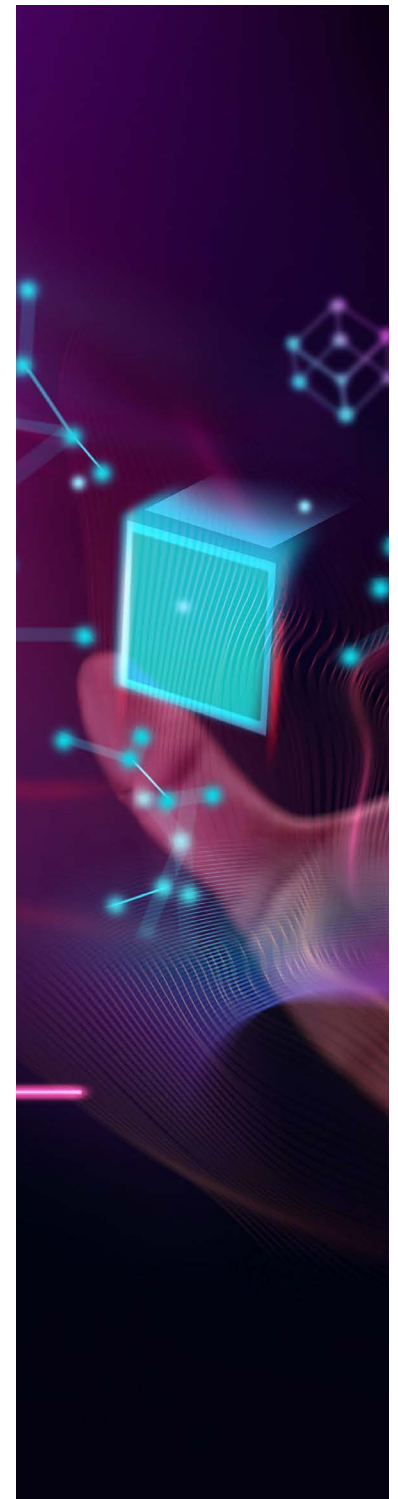
Candidates must have:

- General awareness of business management processes
- Basic knowledge of computers
- Access to a Linux machine that can be configured as a virtual machine



COURSE OUTLINE

- Module 1: **Introduction to Blockchain Technology**
- Module 2: **Cryptography and Technology Details**
- Module 3: **Impact on the Financial Sector**
- Module 4: **Bitcoin**
- Module 5: **Blockchain Project Implementation**
- Module 6: **Security in Blockchain**
- Module 7: **Cryptomining**
- Module 8: **Ethereum**
- Module 9: **Other Cryptocurrencies**
- Module 10: **AI and Blockchain**
- Module 11: **Blockchain as a Service**
- Module 12: **Open-Source Business Blockchain Frameworks**
- Module 13: **Python for Blockchain**
- Module 14: **JavaScript for Blockchain**
- Module 15: **Java for Blockchain**
- Module 16: **Blockchain Online IDE**
- Module 17: **Industry Use Cases**
- Module 18: **IoT and Blockchain**
- Module 19: **Decentralized Applications (dApps)**
- Module 20: **Future of Blockchain**
- Module 21: **Quantum Computing and Blockchain**



What You'll Learn

- The structure and elements of a blockchain network, including how decentralization works
- Hashing and consensus algorithms and their role in blockchain networks, including proof-of-work (PoW) and proof-of-stake (PoS) consensus mechanisms
- The benefits of using blockchain technology and how to determine whether blockchain is the right solution for your business
- Blockchain scalability issues and how to resolve them
- Digital currencies, including different types of cryptocurrency assets, the tokenization process, and how leading cryptocurrencies (e.g., Bitcoin, Altcoin, Litecoin, Zcash) work

- The structure and components of the Bitcoin network and how it works
- Bitcoin's limitations, variants, and clients
- Bitcoin cryptomining and its relation to PoW consensus mechanisms
- The processes and tools used in cryptomining, including cryptomining algorithms like Equihash and CryptoNight
- Blockchain development in Python, JavaScript, and Java
- The elements of the Ethereum ecosystem
- How to work with Solidity and Ethereum, including how to use Solidity IDEs like Remix and EthFiddle and create private blockchain networks using Ethereum
- How to build secure smart contracts with Ethereum and Solidity, including vulnerabilities in smart contracts and how to mitigate them
- Formal verification of smart contracts
- Permissioned and permissionless blockchains
- How to work with the Hyperledger Fabric framework
- Deep dive into blockchain projects (including Fabric, Iroha, Burrow, and Indy)
- Privacy and confidentiality in blockchains
- Decentralized autonomous organizations (DAOs)
- How to design blockchain-based identity solutions
- Machine learning and blockchain technology
- Intelligent smart contracts and the convergence of blockchain and AI
- The basics of the IoT, how to achieve convergence between IoT and blockchain, and the Blockchain of Things
- How blockchain is used in healthcare, fintech, and supply chain contexts
- Blockchain as a Service
- The fundamentals of quantum computing and how quantum computing will affect blockchain networks
- The future of blockchain technology and open research issues

Labs and Projects*

- Exploring blockchain through the Bitcoin command-line interface (bitcoin-cli)
- Setting up a private net and cryptomining
- Installing Namecoin Client and creating a Namecoin record
- Remix IDE deployment and testing
- Using Solidity, Truffle, and Ganache to create a new coin
- Notarizing and hashing documents with proof of idea
- Alternative blockchain smart contract deployment
- Finding a bug in a Solidity program
- Using Python, Java, and JavaScript for blockchain development
- Running Ganache with Metamask
- Building a simple productivity app with blockchain

*Note: These will be self-paced activities with detailed instructions for students.



Key USPs of the Blockchain Developer Certification

- The BDC program includes over 13 projects on blockchain applications to equip students with practical experience.
- The program focuses on the future of blockchain and how it interacts with other emerging technologies like AI, machine learning, and IoT.
- The curriculum delves deep into multiple blockchain frameworks.
- The course is replete with assignments and alternative testing methods to keep students engaged in topics beyond the program.
- The BDC is authored and endorsed by bestselling authors and subject matter experts in the blockchain field.
- The course offers practical advice on how and when to use blockchain in any industry.

Job Roles



Why Should You Choose EC-Council's Blockchain Certification Course?

EC-Council introduced the blockchain certification courses to set global standards in blockchain technology.

1. Contextual Training and Global Application

In today's consumer-centric and data-driven, peer-to-peer economic ecosystem, we strive to help business professionals obtain relevant and practical digital skills to facilitate global corporate growth. EC-Council's blockchain certifications were developed to help aspiring blockchain professionals learn this emerging technology and understand its implications for businesses. They focus on equipping students with the knowledge to take advantage of blockchain technology. Our blockchain certification courses dig deep into the main characteristics of distributed ledger technology and introduce the 3S (Secure, Scalable, Sustainable) proprietary blockchain framework.

2. Key Highlights of EC-Council's Blockchain Certification Programs

- Development-ecosystem agnostic
- Network agnostic
- Technology agnostic
- Worldwide recognition
- 360-degree approach
- Hands-on training
- International standards

3. Career Growth: Blockchain Certification Courses

The average annual income in the U.S. for a blockchain developer is \$136,000, followed by \$87,500 annually in Asia and \$73,300 annually in Europe. Remote blockchain developers earn \$123,750 annually on average. [7]

[7]: <https://cryptocurrencyjobs.co/salaries/blockchain-developer/>



EC-Council's Blockchain Certification Training Information

DELIVERY MODES



Self-Paced
Recorded Videos



Self-Study
Through e-books



Live Online
Classes



Training Partner
In Person

ABOUT THE BLOCKCHAIN EXAM

Number of Questions
50

Test Duration
1.5 Hrs

Test Format
Multiple Choice

Test Delivery
ECC Exam

EXAM PREFIX FOR

Blockchain Developer Certification: **312-81**
Blockchain Business Leader Certification: **312-83**
Blockchain Fintech Certification: **312-82**

TRAINING

Blockchain Developer Certification: **5 Days**
Blockchain Business Leader Certification: **3 Days**
Blockchain Fintech Certification: **3 Days**

EC-Council's sole purpose is to build and refine the cybersecurity profession globally. We help individuals, organizations, educators, and governments address global workforce problems by developing and curating world-class cybersecurity education programs and corresponding certifications and by providing cybersecurity services to some of the largest businesses globally. Trusted by seven of the Fortune 10, 47 of the Fortune 100, the Department of Defense (DoD), Intelligence Community, NATO, and over 2,000 of the best universities, colleges, and training companies, our programs exist in over 140 countries and set the bar in cybersecurity education. Best known for the Certified Ethical Hacker (C|EH) program, we are dedicated to equipping cybersecurity professionals with the knowledge, skills, and abilities required to fight and win against adversaries. EC-Council builds cyber capabilities through the C|EH and a variety of other cybersecurity certification programs, including Certified Secure Computer User, Computer Hacking Forensic Investigator, Certified Security Analyst, Certified Network Defender, Certified SOC Analyst, Certified Threat Intelligence Analyst, Certified Incident Handler, Certified Cybersecurity Technician, Certified Cloud Security Engineer, and Certified Chief Information Security Officer. We are an ANSI 17024-accredited organization and have earned recognition in the United States under DoD Directive 8140/8570; in the United Kingdom by the GCHQ; and from CREST and various other authoritative bodies that influence the entire profession.

Founded in 2001, EC-Council employs over 400 people worldwide with 10 global offices in the United States, United Kingdom, Malaysia, Singapore, India, and Indonesia.

Our U.S. offices are located in Albuquerque, NM, and Tampa, FL. Learn more at **www.eccouncil.org**



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