



CLEMSON UNIVERSITY

center for
corporate
learning

ENTERPRISE BLOCKCHAIN STRATEGY BOOTCAMP/INTENSIVE

ENROLL TODAY! Contact: (864) 656-2200 - ejohns5@clermson.edu

WHAT YOU WILL LEARN

In this blockchain intensive course wherein you will learn:

- The fundamentals of blockchain
- An intensive introduction to smart contracts, consensus protocols and public vs private chains
- An introduction to various blockchains use cases in different sectors
- Real-life use cases for different industries and different supply chain models
- How to set up a strategy to make use of blockchain for your own supply chain needs

TARGET AUDIENCE

This intensive course is designed for decision-making executives, where their supply chain models and operations could be impacted by the introduction of this technology. In addition to understanding the foundational aspect of this technology, participants will be able to see how blockchain technology is changing the operational deployment to their benefit.

Senior management, key stakeholders, as well as managers, who operate in the supply chain area, will find this as a relevant course to understanding the disruptive impact of blockchain adoption.


WHO SHOULD ATTEND:

- C-Level
- VPs
- Directors
- Heads of Divisions


3-DAY COURSE OUTLINE

DAY 1


MODULE 1: BASICS OF BLOCKCHAIN PART 1

- Origins of Blockchain – bitcoin and digital/crypto currencies
- What is the Bitcoin blockchain?
- Introduction to Blockchain
 - o Disintermediation
 - o Core Principles
 - * Distributed
 - * Immutable
 - * Transparent
 - o Levels of Trust: Who? What?
 - o Proof of Work
 - o Private vs Public blockchains
 - * Key differences
 - * What is a consortium blockchain?
 - * Hybrids
 - * How to know which is right for you
 - * Pros vs. Cons
 - o How bitcoin works (mining, rewards, Cybil attack)
 - o Blockchain Taxonomy – DLT, Blockchain, etc.
- Understanding cryptography
 - o Terms and definitions
 - o Hash Functions
 - o Symmetric and Asymmetric Encryption
 - o Digital Signatures
-  Blockchain Simulation

MODULE 2: BASICS OF BLOCKCHAIN PART 2

- Ethereum (and its derivatives) / Hyperledger/ EOS / Stellar
- Consensus protocols
 - o Proof of Work (PoW)
 - o Proof of Stake (PoS)
 - o Directed Acyclic Graph (DAG)
 - o Delegated Proof of Stake (dPoS)
 - o Proof of Elapsed Time (PoET)
 - o Proof of Capacity
 - o Proof of Integrity
 - o Proof of Activity
 - o Byzantine Fault Tolerance (BFT)
- Block structures
 - o Size
 - o Time
 - o Capacity
-  Consensus Simulation
- Ethereum (and its derivatives) / Hyperledger/ EOS / Stellar

MODULE 3: UNDERSTANDING SMART CONTRACTS

- Paper to digital contracts
- What is a smart contract?
- How smart contracts are of value
 - o Data
 - o Permissions
 - o Workflow
- Speed and Accuracy
 - o Trust
 - o Security
 - o Savings
- Smart contract platforms
-  Smart Contract Simulation

MODULE 3: BLOCKCHAIN SECURITY / RISK

- Blockchain Security – a primer
- Consensus engines on Blockchains
- Decentralization of computing architectures
- Peer-to-Peer clients

MODULE 4: ICO'S, CRYPTOCURRENCIES

- Define and describe Initial Coin Offering (ICO)
 - o Price and volatility issues
 - o What impacts the price of cryptocurrencies and tokens
 - o Crypto economics
 - o Regulatory impact.
- Forks
 - o Hard
 - o Soft

MODULE 5: DAO




- What is the DAO
- How does it work
- How was it funded
- What happened with the DAO attack?
- What are the ramifications of the DAO attack?

DAY 2

MODULE 6: USE CASE EXAMPLES OF HOW BLOCKCHAINS ARE BEING USED IN SUPPLY CHAINS TODAY

- Agri
- Automotive
- Fashion
- Healthcare
- Insurance
- Maritime
- Pharma
- Power and Energy / Oil and Gas

MODULE 7: BLOCKCHAIN USE CASE SOLUTION WORKSHOP

- An interactive workshop to develop a blockchain POC
-  Blockchain Project initiation
-  Blockchain Project Requirements
-  Blockchain Project Design

DAY 3

MODULE 8: BLOCKCHAIN PROS AND CONS

- Speed
- Cost
- Limitations
- Latency
- Throughput
- Public vs Private Blockchains
- Open source vs proprietary
- Storage

MODULE 9: BARRIERS TO ADOPTION

- Existing solutions
- Siloed systems
- No established data standards and management
- Wait and see mentality / the blockchain landscape is undergoing dramatic change
- What will motivate change

MODULE 10: HOW TO PREPARE YOU FIRM FOR BLOCKCHAIN

- Evaluating Blockchain Technology
- Public vs private Blockchains
- Sidechains and interoperability
- Use cases now and in future
- Blockchain and permission less commerce
- “Blockchain as a Service”; Consortia and other platforms
- Decentralized Applications and Smart Contracts
- Barriers to Blockchain Adoption
- Industry Collaboration
- Process
 - o Plan
 - o Source
 - o Make
 - o Deliver
 - o Return

MODULE 11: REGULATORY IMPACT ON BLOCKCHAIN

- Who regulates it?
- Currently regulatory landscape
 - o UK government view
 - o US government view
 - o EU view
 - o Global view
- Regulatory challenges and future frameworks
- Blockchain as a tool for regulatory compliance
- Future regulatory challenges
- Government view of blockchain and uses currently
- Regulators view
 - o Uses of blockchain in regulation – RegTech
 - o Regulation of the blockchain
- Blockchain Standards
 - o Who sets the standards?
 - o Do we need standards?
 - o Business
 - o Legal
 - o Technical

MODULE 12: WHAT DOES BLOCKCHAIN FUTURE LOOK LIKE?

- The Future – A vision statement
- Threat or opportunity?
- Value to the enterprise
- Greatest Opportunities
- The future of Banking and Finance
- Blockchain applications in Finance
- Adoption of Blockchain by Central Banks
- The Distributed Autonomous Organization

MODULE 13: LEADING IN A TECHNOLOGICAL DISRUPTIVE MARKET

- Redefining the Roles
- Disrupting Identities
 - o Being a consumer
 - o Being a catalyst
 - o Being an insane scientist
- Going ahead