## Programs Offered

**PG Programs**

**MBA** | **MBA** (HRM) | **MA** (Applied Psychology)

**UG Programs**

**BBA** | **MBA** (Integrated) | **BBA** (Business Analytics)

**BBA** (Management Accounting) with CIMA

**B.Com** (Hons.) with ACCA | **BA** (Social Science)

*FinTech Certificate Course for further details Contact*

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**GITAM UNIVERSITY**
(Estd. u/s 3 of the UGC Act, 1956)
Visakhapatnam•Hyderabad•Bengaluru

## GITAM FinTech Academy
GITAM INSTITUTE OF MANAGEMENT

# BLOCKCHAIN
## CERTIFICATE PROGRAM
for Engineering Students

# Block Chain
## CERTIFICATE PROGRAM

Satoshi Nakamoto is the ingenious brainchild behind the technology, it came into prominence with the invention of Bitcoin the digital cryptocurrency, built on Blockchain platform. This technology platform is smartly adapted by various industry verticals, to make information distributed in a secure system. One of the biggest fears with digital transformation is the risk of hacking, this can be totally eliminated with Blockchain technology, as the data is self-audited using the Distributed Ledger Technology (DLT). Blockchain technology is part of the FinTech eco-system, where global banks, insurance companies and governments are realizing its potential and are developing systems using this platform.

GITAM University realizes its potential and is proud to partner with Andhra Pradesh Electronic and Information Technology Agency (APEITA), Broadridge Financial Solutions (India) Pvt. Ltd. to setup a Center of Excellence (CoE) in Blockchain technology. The Blockchain CoE is primarily aimed at developing and enhancing the adoption of this technology, both in the Fintech and Governance space. The CoE will serve as a reference point for best practices, resource center for development and support activities and contribute to the ecosystem that will help organizations in the implementation of this technology.

*"The blockchain is an incorruptible digital ledger of economic transactions that can be programmed to record not just financial transactions but virtually everything of value."*

**- Don & Alex Tapscott**
*Authors Blockchain Revolution (2016)*

## Objectives of Program

The Blockchain CoE is focused towards

- Educating and Developing Computer Science and related engineering students to learn the emerging technology of Blockchain and Distributed Ledger Technology (DLT)
- Provide a platform for Students to immerse themselves in an experiential manner and apply Blockchain / DLT to solve real world problems
- To provide skill and competency development to students that will accelerate their industry readiness and embrace innovation

## Eligibility Criteria for Admission

- 3rd Year B.E & B.Tech CSE & IT Students (6th Semester)
- MCA/M.SC /M.Tech Computer Science
- Open to other Engineering disciplines who have undertaken programming course, Data Structures, Networking & Cryptography

## Pre-requisites

- All applicants should have done one or more of programming courses C, C++, Java, Python
- All applicants should have exposure to any variant of Linux or Unix, Data Structures, RDBMS.

## Duration of the Program

50 hours

## Dates

Application Date : 13th February 2017

Starting : 13th March 2017
Duration : 14 weeks
(Curriculum - 8 Weeks and Project - 6 Weeks)

Class Schedule : 9 hrs per week

## Pedagogy

Faculty instructions, case methodology, lab work, project work.

## Detailed Syllabus

1) **Blockchain Technology**
   a. Introduction, history of Bitcoin and origins of Blockchain
   b. Fundamentals of Blockchain and key components
   c. Permissioned and Permissionless platforms
   d. Cryptography, SHA256 and ECDSA
   e. Hashing and Encryption
   f. Symmetric/ Asymmetric keys
   g. Private and Public Keys

2) **Distributed Ledger Technology (DLT)**
   a. Peer to Peer computing
   b. Keys and Hash functions

3) **Bitcoin**
   a. Bitcoin overview
   b. Building blocks of Bitcoin
   c. Bitcoin - Wallets
   d. Bitcoin – POW Consensus & mining
   e. Bitcoin - Scripts

4) **Ethereum**
   a. Smart Contracts
   b. Ethereum Wallets
   c. Tools – Mist, Web3, DappS

5) **Hyperledger**
   a. Introduction to Hyperledger
   b. Hyperledger Projects
   c. Architecture components and how it works
   d. REST API and HFC

6) **Blockchain Project**
   a. Work on real world industry problem