

Indian Institute of Technology Kanpur

New Course Proposal

1. **Course Number:** MBAxxx
2. **Course Title: Blockchain for Business Applications**
3. **Credits:** 3-0-0-1 [10]
Duration of Course: Full Semester
4. **Proposing Department:** Department of Management Sciences
Other Department/IDPs which may be interested in the proposed course:
Other faculty members interested in teaching the proposed course:
5. **Proposing Instructor(s):** Sourya Joyee De

6. **Course Description:**

Blockchain and distributed ledger technologies have the potential to enable a variety of applications that could disrupt a diverse set of industries. It is set to be a major player of the digital economy and can reshape business and society. This course will introduce students to the basics of this complex technology and provide them a roadmap on the role of blockchains for the present and the future of business. Students will learn how business is using blockchain today in finance, supply chain, creative industries, and other domains and how blockchains can fuel innovations. They will also delve into challenges and uncertainties related to blockchains including privacy, security and ethical issues, scalability, interoperability and governance.

A. Contents:

Sl. No.	Topics	No. of Lectures
1.	Internet of Information, Internet of Value, Evolution of Web3, Token Economy, Introduction to Blockchain and Distributed Ledger Technologies, Trust in blockchain	4
2.	Centralized vs. Decentralized Systems, Cryptographic Primitives, consensus models, proof-of-work, proof-of stake	4
3.	Economics of the Blockchain, Types of Blockchains, Crypto-assets, Hyperledger, Smart Contracts and Applications, Best practices in organizations	5
4.	Blockchain-based eMarketplaces, Decentralization of Businesses, DAO, Dapps	5
5.	Blockchain use cases in Healthcare, Finance, Government and Public Sector, Supply Chain Management, Media and Entertainment, blockchain enabled business models	5
6.	Security, privacy and ethical issues, Interoperability, Blockchain Trilemma, Adoption Challenges, Blockchain governance, Blockchain regulations	5

B. Pre-requisites (if any): None

7. References:

1. Tapscott, D., & Tapscott, A. (2016). Blockchain revolution: How the technology behind bitcoin is changing money, business, and the world. New York: Penguin.
2. Mougayar, W. (2016). The Business Blockchain: Promise, Practice, and Application of the Next Internet Technology. New Jersey: Wiley
3. Nakamoto, S. (2008). Bitcoin: A peer-to-peer electronic cash system.
4. Saurabh, K., & Saxena, A. (2020). Blockchain Technology: Concepts and Applications. New Delhi: Wiley
5. Narayanan, A., Bonneau, J., Felten, E., Miller, A., & Goldfeder, S. (2016). Bitcoin and cryptocurrency technologies: a comprehensive introduction. Princeton University Press.

Dated: 27/08/2025

Proposer: Sourya Joyee De

Dated:

DUGC/DPGC Convener:

This course is approved/not approved.

Charman, SUGC/SPGC:

Dated: