BLKN 320 Consensus Mechanisms

MICROCREDENTIAL AWARDED TO

Muhadjir NGOMNA

Specific Learning Objectives:
Evaluate the role of consensus mechanisms in achieving trust, agreement, and security across decentralized networks, under what circumstances they are used, and why they are important. Analyze the background of blockchains and cryptocurrencies, including their historical context, pioneering projects, and unique features, and how they have evolved over time. Compare and contrast proof-of-work (PoW), proof-of-stake (PoS), and proof-of-authority (PoA) consensus mechanisms in terms of their advantages, disadvantages, and potential applications. Critically evaluate the challenges surrounding Bitcoin mining, including its energy-intensive nature, and the development of new and more energy-efficient methods. Assess the impact of consensus mechanisms on decentralized networks, including their role in enabling trust, agreement, and security, as well as their potential limitations and drawbacks. Develop a well-supported argument on the benefits and drawbacks of different consensus mechanisms, using evidence and data to support your claims. Apply knowledge and skills gained in the course to real-world scenarios, demonstrating an understanding of the practical implications of consensus mechanisms in various industries.

In partial fulfillment of the requirements for the nanodegree of

Blockchain Studies (CSC - BSTUD)

(4.5 Clock Hours) (80% Passing Score)

15 Jul 2025

Verification ID: **687653e03929a88a760f9afe**

President
Amando R. Boncales, BA, RBP, MSEd, MA, PhDc.

Comptroller
Julia Ezeji, ABF, HND, (BSc).

Faculty
Regis Prado, BS, CSc, RBE, MSc, MBA.
Associate Professor of Practice

REGIS PRADO, M.Sc. ENG.
ASSOCIATE PROFESSOR OF PRACTICE