CSCE 4930 Topics in Computer Science and Engineering – Cryptocurrencies

Instructor: Kirill Morozov (Department of Computer Science and Engineering)

Course syllabus

L1 (Jun 5): Course overview, introduction to cryptography and cryptocurrencies
L2 (Jun 7): Introduction of Bitcoin’s protocols and consensus
L3 (Jun 12): Technical overview of Bitcoin’s protocols
L4 (Jun 14): Bitcoin’s handling and operation
L5 (Jun 19): Overview of Bitcoin mining
L6 (Jun 21): Mining: Strategy and attacks
L7 (Jun 26): Socioeconomic aspects of Bitcoin
L8 (Jun 28): Summary of Bitcoin, Midterm Exam 1
L9 (Jul 3): Alternative approaches to mining and consensus
L10 (Jul 5): Anonymity and security issues in cryptocurrencies
L11 (Jul 10): Overview of altcoins
L12 (Jul 12): Cryptocurrencies with enhanced privacy
L13 (Jul 17): Introduction to Ethereum
L14 (Jul 19): Smart contracts and decentralized applications
L15 (Jul 24): Summary of altcoins, Mid-Term Exam 2
L16 (Jul 26): Cryptocurrencies based on Proof-of-Stake
L17 (Jul 29): Bitcoin scalability and the Lightning Network
L18 (Jul 31): Bitcoin as a platform: Smart property, public randomness and more
L19 (Aug 2): Conclusion: Legal aspects, recent developments and a glimpse into future
L20 (Aug 9): Course summary, Mid-Term Exam 3