

CSCI 5858 - Blockchain and Cryptocurrency Technologies

Summer 2026 Syllabus, Section 01, CRN 30950,

Credit hours: 3

Instructor

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Professional Qualifications:

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Course Description

5858. Blockchain and Cryptocurrency Technologies. This course introduces the fundamentals and mechanics of blockchain and cryptocurrency. Topics include an introduction to basic cryptography and cryptocurrencies, decentralization and mechanism of bitcoin, storage and transactions of bitcoin, mining of bitcoin, and regulation, platforms, and applications of bitcoin. Prereq.: Senior standing or graduate student status. 3 s.h.

Course Readings

Group	Title	Author	ISBN
Optional	Mastering Bitcoin: Programming the Open Blockchain	Andreas Antonopoulos	9781098150099

- (Textbook) Mastering Bitcoin: Programming the Open Blockchain. 3rd Edition. Andreas Antonopoulos. ISBN: 9781098150099. Available on O'Reilly Safari and free for YSU students: <https://learning.oreilly.com/library/view/mastering-bitcoin-3rd/9781098150082/>
- (Recommended Reading) Bitcoin and Cryptocurrency Technologies: A Comprehensive Introduction. A. Narayanan, J. Bonneau, E. Felten, A. Miller, S. Goldfeder. ISBN: 0691171696.

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Week of	Proposed Topic	Due/To Prepare for Class
5/11	Introduction	
5/18	How Bitcoin Works	
5/25	Bitcoin Client	Assignment 1
6/1	Bitcoin Wallet	Lab 1
6/8	Bitcoin Transactions	Assignment 2
6/15	Bitcoin Network	Lab 2
6/22	Blockchain Technology	Assignment 3

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.