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CSCI49379: Intro to Blockchain (Syllabus)

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CUNY Hunter College

NYC Tech-in-Residence Corps

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City University of New York - Hunter College

CSCI49379: Intro to Blockchain

Course Information

CSCI49379: Intro to Blockchain, In-Person
Wednesdays 5:35pm-8:15pm
North Bldg Room 1001A

Contact

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Textbooks/Materials/Resources

Mastering Bitcoin by Andreas M Antonopoulos. O'Reilly 2017. ISBN: 978-1-491-95438-6

https://hunter.textbookx.com/book/Mastering-Bitcoin-Unlocking-Digital-Cryptocurrencies/9781491954386/?course_id=2146006

Mastering Ethereum by Andreas M Antonopoulos, Dr. Gavin Wood. O'Reilly 2018. ISBN: 978-1-491-97194-9

https://hunter.textbookx.com/book/Mastering-Ethereum-Building-Smart-Contracts-and-Dapps/9781491971949/?course_id=2146006

Python IDE

Github

Course Description

Prerequisite Courses/Knowledge

CSCI 26000 - Computer Architecture II and basic Python knowledge

Course Objectives & Learning Outcomes

Introduction to Blockchain will provide students with an introductory overview on the different aspects of blockchain technology. Students will learn related topics in cryptography, wallets, nodes, smart contracts, and tokens.

Upon successful completion of this source, students will be able to:

- Identify differences in cryptocurrencies
- Understand purposes of different blockchain networks
- Understand cryptographic functions, public key and private keys
- Understand qualities in a smart contract

Syllabus Change Policy

Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice.

Weekly Schedule of Topics to be Covered

This schedule is subject to change. Students are expected to come to class prepared and ready to participate.

The associated chapters should be read ahead of time.

Week	Date	Topics	Readings / Assignments / Deliverables
1	8/28/2019	Why Blockchain?	Read: Chapter 1 (Both) Appendix A: The Bitcoin Whitepaper by Satoshi Nakamoto
2	9/4/2019	Bitcoin vs Ethereum Network	Read: Chapter 2 (Both) Assignment Due: Submit thoughts on what blockchain can solve
3 Quiz	9/11/2019	Network Clients	Read: Chapter 3 (Both)
4	9/18/2019	Public Key, Private Key, Hashing Functions	Read: Chapter 4 (Both)
5 Quiz	9/25/2019	What is a Wallet Blockchain Explorers	Read: Chapter 5 (Both) Assignment Due: Submit Public Key and encrypted RegTest Address
6	10/2/2019	<i>No Class - Grace Hopper Conference 2019</i>	
	10/9/2019	<i>No Classes Scheduled</i>	
	10/16/2019	<i>Classes follow Monday schedule</i>	
7	10/23/2019	Transactions on Networks & Review	Read: Chapter 6 (Both)
8	10/30/2019	Midterm	
9	11/6/2019	Blockchain Explorers Continued	Bitcoin: Chapter 8 & Chapter 9
10 Quiz	11/13/2019	What is a Smart Contract	Ethereum: Chapter 7, 127-129 Assignment Due: Whale Watch
11	11/20/2019	Solidity	Ethereum: Chapter 7
12	11/27/2019	Solidity	
13 Quiz	12/4/2019	Tokens	Ethereum: Chapter 10 Assignment Due: Create a smart contract.
14	12/11/2019	Consensus	Ethereum: Chapter 14 Bitcoin: Chapter 10
15	12/18/2019	Final Exam Week	

Grading Policy - No rescheduling. No make-ups.

- 20% - Quizzes, 4 Overall, 5 points each
- 20% - Assignments, 4 Overall, breakdown as follows:
 - Week 2: Submit thoughts on what blockchain can solve (2 points)
 - Week 5: Submit Public Key and encrypted RegTest Address (3 points)
 - Week 10: Whale Watch (5 points)
 - Week 13: Create a smart contract (10 points)
- 25% - Midterm
- 25% - Final
- 10% - Attendance, Life happens, so does class. Must attend 10 classes.

Academic Integrity/Honesty Policy

Hunter College regards acts of academic dishonesty (e.g., plagiarism, cheating on examinations, obtaining unfair advantage, and falsification of records and official documents) as serious offenses against the values of intellectual honesty. The College is committed to enforcing the CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures.

ADA Policy

In compliance with the American Disability Act of 1990 (ADA) and with Section 504 of the Rehabilitation Act of 1973, Hunter College is committed to ensuring educational parity and accommodations for all students with documented disabilities and/or medical conditions. It is recommended that all students with documented disabilities (Emotional, Medical, Physical, and/or Learning) consult the Office of AccessABILITY, located in Room E1214B, to secure necessary academic accommodations. For further information and assistance, please call: (212) 772- 4857 or (212) 650-3230.

Hunter College Policy on Sexual Misconduct

In compliance with the CUNY Policy on Sexual Misconduct, Hunter College reaffirms the prohibition of any sexual misconduct, which includes sexual violence, sexual harassment, and gender-based harassment retaliation against students, employees, or visitors, as well as certain intimate relationships. Students who have experienced any form of sexual violence on or off campus (including CUNY-sponsored trips and events) are entitled to the rights outlined in the Bill of Rights for Hunter College.

- a. **Sexual Violence:** Students are strongly encouraged to immediately report the incident by calling 911, contacting NYPD Special Victims Division Hotline (646-610-7272) or their local police precinct, or contacting the College's Public Safety Office (212-772-4444).
- b. **All Other Forms of Sexual Misconduct:** Students are also encouraged to contact the College's Title IX Campus Coordinator, Dean John Rose (jtrose@hunter.cuny.edu or 212-650-3262) or Colleen Barry (colleen.barry@hunter.cuny.edu or 212-772-4534) and seek complimentary services through the Counseling and Wellness Services Office, Hunter East 1123.

CUNY Policy on Sexual Misconduct Link:

<http://www.cuny.edu/about/administration/offices/la/Policy-on-SexualMisconduct-12-1-14-with-links.pdf>