Course overview
Bloomberg in 2016 summarized a research report issued by McKinsey & Co:

Firing people won’t be enough to save the world’s biggest banks from technological and regulatory changes that have reshaped the industry - whole businesses must go, according to McKinsey & Co. Almost every bank will have to quash aspirations to be all things to all customers . . . Only three to five global full-service banks will survive, McKinsey said.

In 2020, Goldman Sachs appointed a new Head of Digital Assets, who told CNBC in an interview that:

In the next five to 10 years, you could see a financial system where all assets and liabilities are native to a blockchain, with all transactions natively happening on-chain.

This course covers digital currencies, blockchains, and related topics in the FinTech area, perhaps the most significant innovation in the financial world since the advent of double-entry bookkeeping centuries ago. The technology appears to represent an existential challenge for major parts of the finance industry. It is now commonly suggested by experts such as McKinsey that commercial banks and stock exchanges may no longer exist, or may become much smaller, within the next 10 to 20 years, with increasing volumes of payments and exchange taking place on a peer to peer basis.

We will begin with a study of the nature of money and legacy payment and banking systems. We will then study the emergence of stateless, cloud-based digital currency systems since 2009. Further lectures will explore threats that blockchain technology poses to incumbent firms and their resulting attempts to co-opt the technology into existing business models. We survey related topics including “smart contracts” and decentralized finance, stablecoins, central bank digital currency, decentralized finance (DeFi), and emerging regulation.

Learning Outcomes: The goal of this course is to equip the students to better understand the law and business of blockchain technology, both in its initial application in the digital currency Bitcoin, as well as in the wide variety of emergent digital assets and
applications currently being explored for a wide variety of uses and functions. The course is also intended to create a bridge between law students and business students that will enhance the quality of their communications after they enter into their careers.

**Course organization**
The course meets twice a week, Mondays and Wednesdays from 10:30–11:50. The Stern School and Law School have somewhat different academic calendars, although they are more aligned than usual during this semester. We will generally follow the Stern calendar, since our classroom is located there. Our first class meeting will be Wednesday, September 6, and our final class meeting will be Wednesday, December 6. We will not hold class on Wednesday, November 22. We will meet on Monday, October 9, which is a holiday at Stern but is a regular class day at the Law School. All class meetings will be recorded for later viewing, with links available on the NYU Brightspace website via MediaSite (note that we do not use PanOpto, the Law School’s media platform, which is similar to MediaSite in many respects).

The course will feature a number of guest speakers from industry and government and we may need to adjust the class schedule to accommodate their travel constraints.

**Readings**
Many readings for the course will be posted in .pdf or .ppt format on NYU Brightspace, or will be available through Internet links included in the syllabus below. The syllabus may be updated several times during the semester to reflect the availability of new readings or guest speakers.

We will also feature reading excerpts from two textbooks:

- Narayanan et al., *Bitcoin and Cryptocurrency Technologies* (2016). This book, a companion to Princeton University’s Coursera open on-line course in digital currency, is available for purchase, but a full pre-publication draft can be downloaded at no cost.


For further reading:

- Students are encouraged to stay current on the topic by following recent developments. For relevant daily breaking news, the authoritative source is the website Coindesk.

- A succinct, non-technical and highly readable introduction to the field is Malekan, *The Story of the Blockchain* (2018).

**Evaluation**
Evaluation will be based 90% on student papers or projects that will be due during the December exam period, and 10% on the “student participation” short writing assignments described below. Potential paper topics will be distributed early in the semester, although students are encouraged to propose their own subjects.

**Student Participation**
Each student shall turn in a 1 to 2-page essay analyzing or discussing a topic that was presented in class or addressed in the readings assigned during the prior month. The essay shall identify an issue or question that remains unsolved, or inadequately explored or resolved, and explain why that issue is important or impactful. The essay should be written in 12 point font, double-spaced, with standard margins and should include citations as necessary to the lecture, class assigned reading, and any other sources. All essays shall be submitted by 5:00 pm Eastern time on the below dates via NYU Brightspace in .docx or .pdf format. These essays will be graded on a pass/fail basis and will account for 10% of the student grade. *Essay due dates:* September 29, October 27, and December 1.

**Lecture topics**
An approximate list of the course’s lecture topics appears below. We may deviate from this schedule based upon factors including the pace of individual lectures and the availability of guest speakers, and events that occur in industry. Additional readings may be supplied and posted on NYU Brightspace when they become available.

**Wednesday, September 6**
GM/MR/DY | Introductory class
---|---
Ferguson, 2020, “*[Bitcoin Is Winning the COVID-19 Monetary Revolution]*.”
*The Economist*, 2021, special report on The Future of Banking.

**Monday, September 11**
GM | Payment systems
---|---
Narayanan et al, Preface pp 3-22.
Carnell, Macey & Miller (50-56; 65-78).

**Wednesday, September 13**
GM | The nature of money
---|---
Carnell, Macey & Miller (19-21; 31-40; 199-204).
Monday, September 18 GM Bank created money

- Carnell, Macey & Miller (238-249; 260-267).

Wednesday, September 20 GM Bank failures and Crypto collapses, 2022-23

Monday, September 25 DY The road to Bitcoin

Wednesday, September 27

- Segal, 2014, “Eagle Scout, Idealist, Drug Trafficker?”

Optional: For a possible narrative of the mysterious circumstances surrounding the creation of Bitcoin, visit http://vu.hn/bitcoin%20origins.html and see the discussion at https://blocksplain.ricmac.org/2018/02/15/satoshi-nakamoto-scronty/

Monday, October 2 DY Blockchains and mining

Wednesday, October 4


Monday, October 9 DY Forks, attacks, and “code=law”

- Narayanan, et al. Ch. 5
- Kiernan, 2023, “Bitcoin’s Future Depends on a Handful of Mysterious Coders.”

Wednesday, October 11 MR Civil litigation and crypto assets

Monday, October 16      MR      Securities regulation and crypto

- Raskin, 2019, “A Regulatory Classification of Digital Assets: Toward an Operational Howey Test for Cryptocurrencies, ICOs, and Other Digital Assets.”
- *SEC v. Ripple Labs*, case no. 20 Civ. 10832 (S.D.N.Y., July 13, 2023)
- *SEC v. Terraform Labs*, case no. 23 Civ. 1346 (S.D.N.Y., July 31, 2023)

Wednesday, October 18    MR      Criminal litigation and crypto assets

- Bilton, 2022, “The Ballad of Razzlekhan and Dutch, Bitcoin’s Bonnie and Clyde.”

Monday, October 23      MR      Smart contracts

- Narayanan et al., Ch. 9.

Wednesday, October 25    DY      Ethereum; blockchain governance


Monday, October 30       [MR]     Crypto, federal policy, and national security

*Guest speaker: Brian Callanan*  
Former General Counsel, U.S. Treasury Department
Wednesday, November 1       DY  ICOs, NFTs, and tokenized assets

- Chow, 2021, “NFTs Are Shaking Up the Art World—But They Could Change So Much More.”
- Upson, 2021, “The 10,000 Faces That Launched an NFT Revolution.”

Monday, November 6        [DY]  Blockchains, NFTs, provenance, and the art market

Guest speaker:  Amy Whitaker
                NYU Steinhardt

- Corbett, 2023, "The Inheritance Case That Could Unravel an Art Dynasty."

Optional:
- Keefe, 2023, "How Larry Gagosian Reshaped the Art World."
- Miller, "Want to Buy This Painting? First You'll Have to Audition for It."

Wednesday, November 8       DY  Decentralized finance (DeFi)

- Gogel, 2021, “DeFi Beyond the Hype;”

Monday, November 13        [DY]  Bankruptcies and crypto assets

Guest speaker:  Juan Suarez
                Founder of Crypto Ratings Council
                Former Deputy General Counsel, Coinbase

Wednesday, November 15      DY  Decentralized Finance (DeFi) continued
Monday, November 20       DY       Ethereum and proof of stake

- CoinMetrics, 2022, “Mapping Out the Merge.”

Monday, November 27       GM       Stablecoins, past and present

- Carnell, Macey & Miller (204-238).

Wednesday, November 29     DY       Private and social media stablecoins

- Brunnermeier, James, & Landau, 2019, “The Digitalization of Money.”

Monday, December 4         GM       Regulation of stablecoins

- New York Attorney General, 2021, Tether Settlement Agreement.
- Clifford Chance, 2019, “Stablecoins: A Global Overview of Regulatory Requirements in Asia Pacific, Europe, the UAE and the U.S.”

Wednesday, December 6      DY       Central bank digital currency