

***Blockchain, CryptoCurrencies, Digital Assets:
Business, Legal, and Regulatory Issues
LGST 6440-001, Fall 2024 ****

Instructor: Donna Redel | dredel@wharton.upenn.edu

Donna Redel is a recognized thought leader on blockchain-digital assets, an angel investor and a philanthropist. She was the managing director of The World Economic Forum, the foremost global organization combining business, political, academic, and other leaders of society committed to improving the state of the world. Ms. Redel was the first woman to chair a USA exchange, The Commodity Exchange. Following her work in global organizations she began a second career as a New York City based advisor, speaker, and investor focusing on financial technology, blockchain and emerging technologies. She is an active participant in the startup community with New York Angels, serving as a board member. Ms. Redel is an Adjunct Professor at Fordham Law School where she developed and teaches two courses, -Blockchain-Crypto Currencies-Digital Assets and DeFi & Smart Contracts. She is the co-founder of The Fordham Law Blockchain Regulatory Symposium. Highlights of Donna's committee memberships are the NYS Committee for the Advancement in Women's Leadership in Financial Services, The Chamber of Digital Commerce, INATBA 's Academic Advisory Board which focuses on EU Digital Policy considerations, the MoMA Photography Committee, a Board Member of The Wall Street Blockchain Alliance, and Advisor to Securitize. She has a J.D. from Fordham Law School, an MBA from Columbia University, and a BA from Barnard College (Columbia).

Class Hours: Wednesday 3:30-6:30pm

Office Hours: Wednesday 1:00-3:00pm or by appointment

Overview: The course is designed to be generally accessible for all students: it does not require any technical skills, crypto financial knowledge, or prior experience with cryptocurrencies-digital assets. The course will explore the development of blockchain as a vehicle for innovation, the legal issues surrounding digital assets (blockchain) projects/protocols through case studies, and current regulation-litigation-legislation. We will discuss how the approach to regulation in the USA is driving innovation overseas and the approach by other jurisdictions to blockchain innovation.

The course will address the basics of virtual and crypto currencies, digital assets, tokens, memes, Decentralized Finance (DeFi), DAOs and NFTs. Students will analyze Bitcoin, Ethereum, several Initial Coin Offerings (ICOs) and newer digital assets, including governance tokens, staking, stablecoins and CBDCs (central bank digital currency) from legal, business, economic, and policy perspectives. The course will review what went wrong in the crypto ecosystem as well as the consequences, sanctions, KYC-AML and the related tensions. We will examine the current investment trends and discuss them with top fund managers.

Pedagogy:

- Weekly readings (articles, cases, regulatory filings) and discussions
- Instructor lectures and materials
- Guest speakers from different sectors of the industry. Student participation in Q&A is required.

Course Evaluation Criteria:

- Weekly Response to Articles or Assignments (via private Telegram): **10%**
- Class Participation, including submission of questions and discussion topics for guest speakers: **25%**
- Mid-Term Group Project: **25%**,
 - Working in a group, students will present via slide deck and oral presentation a comprehensive review of a current subject matter (for example: DeFi Protocols, DAOs, Regulatory Actions, etc.)
 - All topics and groups must be approved no later than Week 5. 6-8 students per group
- Final Paper Project: **40% Due December 9**
 - Students will select an investment opportunity or legal-policy issue and discuss the pros and cons in a 10-page paper or written presentation.
 - Students are encouraged to use varied resources and presentation materials to assess the investments risks of their opportunity
 - Topics to be selected and approved with instructor

Industry Sources:

Due to the fast-changing nature of the subject matter students are encouraged to stay current with developments. For daily breaking news, excellent sources are:

- CoinDesk : <http://www.coindesk.com/>
- The Block: <https://www.theblockcrypto.com>
- The Defiant: <https://www.thedefiant.io>
- Matt Levine: <https://www.bloomberg.com/account/newsletters/money-stuff>

Class Telegram Channel (Participation required)

Telegram is commonly used in the cryptocurrency industry to organize communities around a specific project and distribute information on the market. We will use a private Telegram channel to organize class discussions and share breaking news.

Weekly Class Schedule:

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| Week 1: | Building the foundational knowledge of cryptocurrency and its regulatory structure |
| <ul style="list-style-type: none">• What is Money? From Yapp Stones to Digital Cash• What is the difference between currencies, commodities, securities, and derivatives?• An introduction to the regulatory landscape—SEC, CFTC, FINCEN, FINRA, IRS, OCC, state regulators• Who has regulatory oversight and why? Is there clarity?• Rules v Principles Based Regulation• What is the Howey Test and why is it relevant?• Is the USA losing the crypto race and innovation? | |
| Readings for Week 1: <ul style="list-style-type: none">• WATCH: “Functions of Money” Khan Academy, https://bit.ly/3aleyoI• <i>SEC v Howey</i>, Supreme Court (1946), https://bit.ly/3l7u25G• Principles based regulation: https://www.cftc.gov/PressRoom/SpeechesTestimony/opatarbert3• Morrison Cohen litigation tracker https://www.morrisoncohen.com/siteFiles/News/MOCO%20CRYPTOCURRENCY%20LITIGATION%20TRACKER%20APRIL%2026,%202023.pdf• Michael Saylor, CEO of MicroStrategy, and Ross Stevens, https://bit.ly/3AeO2rf• Optional: CFTC Backgrounder on Oversight of and Approach to Virtual Currency Futures Markets, https://bit.ly/3owczpG• Optional: Tools for Crafting Sound Financial Regulation, https://bit.ly/3iyWPOV | |
| Week 2: | An Introduction to Blockchain, Bitcoin & Ethereum |
| Guest Speaker: Jamie Leverton, CEO HUT8, Simrit (Sim) Dhinsa Galaxy Digital (pending) <ul style="list-style-type: none">• An introduction to blockchain: overview of the technology, including the discussion of hashing, distributed ledgers, private and public keys, and digital signatures.• The difference between a hack, a fork, and stolen keys: what are the implications?• Bitcoin: Its beginnings; Is it money? Who is “Satoshi Nakamoto”? What is Bitcoin’s governance structure? What is mining? ESG considerations. Explanation of the Bitcoin Cash fork. What is a “maxi”?• Ethereum: Its beginning; its use; Proof of Stake; Who is Vitalik Buterin? Who is Joe Lubin? Is it a security and why do we care?• Mining – introduction to the basic issues. Running a public mining company• Mining financing – what went right and wrong. | |
| Readings for Week 2: | |

- The Blockchain and the New Architecture of Trust Challenge Chapter 1: “The Trust Challenge” by Kevin Werbach (on reserve at library)
- “Bitcoin: Peer-to-Peer Electronic Cash System” (Satoshi Nakamoto), <https://www.bitcoin.com/bitcoin.pdf>
- Skim Read: Ethereum White Paper, <https://github.com/ethereum/wiki/wiki/White-Paper>
- Optional: Bitcoin Magazine “What is Bitcoin”, <https://bitcoinmagazine.com/guides/what-is-bitcoin>

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| Week 3: | The Lessons Learned from ICOs |
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Guest Speaker: Greg Strong, Founding Partner DLx (pending)

- The DAO Report: The SEC’s “line in the sand case”.
- The ICO craze of 2015-2018 put into perspective. What were the pros and the “cons”?
- What is a Ponzi Scheme and MLM?
- What is a SAFE, a SAFT and what are the legal issues surrounding it?
- What was Kik? Why was a token introduced? What do we learn from the case?
- What was the Telegram settlement? What do we learn from the case?
- The EOS settlement? What are the takeaways?
- The judge’s decision in SEC v Ripple/XRP. We will return to this again later in the term.
- Do we know how to issue a token and not be classified as a security/investment contract?
- What is regulation by Enforcement?

Readings for Week 3:

- “An assessment of the DAO” SEC report on DAO (July 2017), <https://bit.ly/3owcXVa>
- SEC Howey Coins, <https://www.sec.gov/news/press-release/2018-88>
- *The SAFT Project*, <https://saftproject.com/>
- SEC v Telegram Settlement: <https://www.sec.gov/news/press-release/2020-146>
- SEC v. Telegram: Key Takeaways and Implications, <https://www.cooley.com/news/insight/2020/2020-05-07-sec-v-telegram-key-takeaways-implications>
- Kik (SEC complaint, Judge Hellerstein decision)
- <https://www.sec.gov/news/press-release/2020-262>
- <https://www.coindesk.com/markets/2020/09/30/judge-rules-kiks-token-sale-violated-us-securities-law/>
- https://storage.courtlistener.com/recap/gov.uscourts.nysd.516941/gov.uscourts.nysd.516941.88.0_2.pdf
- Optional: Katherine Wu Annotated Kik Complaint
- Optional: LBRY Decision in brief - <https://www.skadden.com/insights/publications/2022/11/court-rules-in-favor-of-sec>
- Optional: Ripple White Paper: https://ripple.com/files/ripple_solutions_guide.pdf
- Ripple Decision – DLx client memo - TBD
- Unchained Podcast: Laura Shin and Lewis Cohen Episode 518

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| Week 4: | Where’s the Money? Smart Contract, Tokens, Decentralized Finance (DeFi) |
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Guest Speaker: Jesus Rodriquez, Founder and CEO, IntoTheBlock (pending)

- Is Code Law?

- What is DeFi? Building a DeFi lending business, liquidity pools.
- Exploits. Mango.
- Cases or Protocols: Uniswap, Compound, SOL
- AI and DeFi

Readings for Week 4:

- TBD

Week 5:

Introduction to Stablecoins and Central Bank Digital Currency (CBDC)

Guest Speaker: TBD

- Stablecoins are drawing a lot of regulatory attention...why?
- What are stablecoins? What are the uses?
- The controversy around Tether.
- What is Circle, what is the business case?
- *The TerraLuna meltdown.*
- SEC v TerraLuna.... the implications
- What happened to LIBRA (Diem) Facebook's venture into Crypto? Why is it relevant?
- How are stablecoins regulated? Is it a security? How should stablecoins be regulated?
- Stablecoins that have yield.... What are the issues?
- NYS v Paxos regarding Binance token.
- What are CBDCs and the current global status?
- Why are states passing anti-CBCD legislation?
- Issues of privacy

Readings for Week 5:

- TerraLuna -TBD
- Optional: MakerDao (Dai) White Paper, <https://makerdao.com/en/whitepaper/>
- Optional :Tether White Paper, <https://tether.to/wp-content/uploads/2016/06/TetherWhitePaper.pdf>
- President's Working Group, <https://home.treasury.gov/news/press-releases/jy0454>
- https://home.treasury.gov/system/files/136/StableCoinReport_Nov1_508.pdf
- NYSDFS and Paxos-Binance Stabelcoin Coin- TBD
- Summary of SEC v Terra- TBD
- OPTIONAL READINGS
- Cryptocurrency & Libra: Senate Banking Testimony, <https://bit.ly/3uD0caF>
- Paxos USD, https://www.paxos.com/wp-content/uploads/2019/02/PAX_Whitepaper.pdf
- Libra Whitepaper, <https://libra.org/en-US/white-paper/>
- Skim: Libra Revised Whitepaper, <https://www.diem.com/en-us/white-paper/#cover-letter>

- Skim: The differences between Bitcoin and Libra should matter to policymakers, <https://bit.ly/3izdsKu>
- Algorithmic stablecoins: Basis, https://www.basis.io/basis_whitepaper_en.pdf
- Highlights: “Digital Currency Wars: A National Security Crisis Simulation”, <https://www.youtube.com/watch?v=Q2OKCH0gl7c&feature=youtu.be>

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| Week 6: | Introduction to Exchanges, Platforms, Banking & Lending |
| <ul style="list-style-type: none"> • Guest Speaker: Liat Sheret, Elliptic (pending) • Introduction to exchange models – Centralized, Decentralized • What went wrong with FTX? • What is regulation should look like? Is it possible to achieve a regulatory framework in the USA in the short term? • What is KYC – AML and the Travel Rule? What are the requirements? Is it effective? • What is geo-blocking? • Sanctions and crypto • Bankruptcy – “not your keys not your crypto” • Tracing blockchain transactions, ransomware. Case: Pipeline. • Binance and Coinbase – SEC cases. Are centralized exchanges viable in the USA? • What is leverage? • Perils of Crypto Lending Businesses: BlockFi, Celsius, Coinbase’s LEND, Gemini EARN • Coinbase v SEC update • Bittrex case implications | |
| <p>Readings for Week 6:</p> <ul style="list-style-type: none"> • BlockFi Settlement, Celsius, Coinbase - TBD • SEC Guidance on KYC/AML, https://www.sec.gov/about/offices/ocie/amlsourcetool.htm • Celsius bankruptcy -TBD • Coinbase insider trading case – TBD • FTX -TBD • SEC v Coinbase and Coinbase sues the SEC • SEC V Coinbase | |

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| Week 7: | PRESENTATIONS |
| <ul style="list-style-type: none"> • Class presentations by the groups respond to Q&A. | |
| Readings for Week 7 TBD | |

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| Week 8: | ETFs, Lending Protocols, the return of the DAO. |
| Guest Speaker: Arthur Hayes (pending) <ul style="list-style-type: none"> • A look at DeFi lending and borrowing protocols. How do they operate? What are the business and legal issues? • DAOs are flourishing everywhere. How do they operate? Who is investing in them? What are the uses of the governance tokens? A look at The ConstitutionDao and other examples • How do DAOs raise capital? • How do DAOs distribute tokens? • What are the legal and business risks for DAOs? • CFTC v OokiDAO – what does this mean for governance? • The investment thesis for crypto • UNI -proposals and controversy • ETFs explained in crypto. Grayscale v SEC | |
| Readings for Week 8: OokiDAO _ TBD 16z on DAOs By Miles Jennings TBD | |

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| Week 9: | Tokenization of Capital Markets & The Promise of Bringing Real World Assets on Chain |
| Guest Speaker: Nathan Allman, CEO & Founder, Ondo Finance; Carlos Domingo, CEO of Securitize(pending) <ul style="list-style-type: none"> • A deeper dive into Exchanges and Liquidity • What is a Security Token? Where do they trade? • Fractionalization, Securitization and Legal Issues • Exchanges offering multiple products and diversification is this possible in the USA • Bringing real world assets on chain • Securitize and Blackrock transaction. • What is Prometheus? • Tokenization of Treasuries, art, funds | |
| Readings for Week 9 <ul style="list-style-type: none"> • Statement on Digital Asset Securities Issuance and Trading, https://www.sec.gov/news/public-statement/digital-asset-securites-issuance-and-trading • SEC reg relating to ATS: 17 CFR §242.301 regarding specific requirements for alternative trading systems: https://www.law.cornell.edu/cfr/text/17/242.301 | |

- Unchained : Laura Shin and Roderigo re Prometheus **Episode**
- Materials on KKR tokenization and tokenization of Treasuries TBD
- Materials on Ondo Finance - TBD

Week 10: Punks, Apes and More: NFTs

NOTE: Paper topics due, students must submit and get approval paper topics

Guest Speaker Panel: Pri Desai (Flamingo) and Steve McKeon (Collaborative Fund) James Brodie, (ID Theory) (all pending)

- Marketplaces
- Issuance
- Crypto Punks, Apes
- Legal Issues – insider trading, IP
- DAOs
- Companies using NFTs for branding, consumer rewards.
- NFTs for title and representing Real World Assets (RWA) on chain.
- Blur – its business model’s impact on the marketplace.
- A look at the convergence of gaming and crypto: the opportunities and challenges.
- Investing in NFTs

Readings for Week 10: TBD

- NFTs on SNL: <https://www.youtube.com/watch?v=mrNOYudaMAc>
- TBD
- Podcasts to be distributed

Week 11: Staking – the business and the legal issues, Memes and Points

Guest Speaker: Michael Maloney

- What is staking? How do you earn returns?
- Why does the SEC think that some staking products are securities?
- Kraken and the SEC on staking
- Kraken settlement implications. Commissioner Peirce’s dissent
- Coinbase and the SEC on staking
- What are Memes and the legal issues around launching one.
- What are points?

Readings for Week 11:

- SEC v Kraken on staking - TBD
- SEC v Coinbase on staking- TBD
- SEC on Staking

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| Week 12: | Policy Considerations, the Future of Regulation and VC investing |
| Guest Speaker: <i>Dragonfly, Syncretic Capital, Multicoïn, CoinFund, Avalance (pending)</i> <ul style="list-style-type: none"> • What is the thesis you are investing around now • Raising Capital in bear and bull markets • How do policy considerations impact investing? • Has your thesis or focus changed? • Is the USA competitive? • What about other jurisdictions? • How do you invest during “crypto winter”? • What does the uncertainty in regulation mean for product innovation? • Update on the legislative front | |
| Readings for Week 12 TBD TBD | |

March 27.2024