

# LECTURES

Bitcoin Masterclass

Intro

15.02.2024

whoami

Background: Computer science, neuroscience

Attended the inaugural 2018 course

Working in the space since mid-2019

Now: 21 Analytics, co-founded in 2020, 21 Lectures, co-founded in 2023

Open-source: [github.com/dspicher](https://github.com/dspicher)

# James Chiang

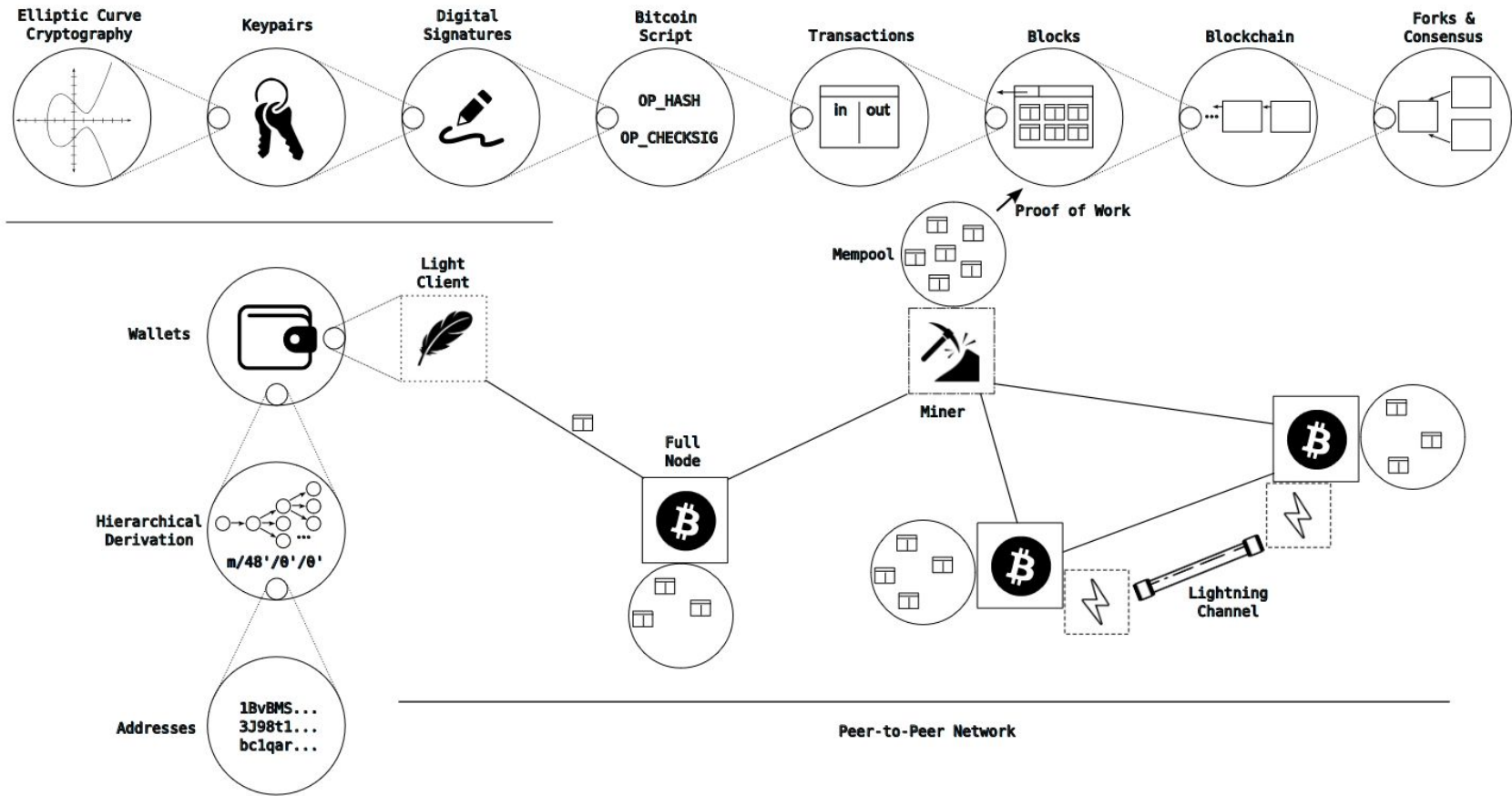


- <https://teachbitcoin.io/>
- All pretty slides
- The “bx” exercises set

Buy him a beer!

# Course Goals

- Get a detailed understanding of how Bitcoin works on a technical level
  - Ready for 21 Lectures Masterclass
- Increase the scope for self-learning
- Meet like-minded people, discuss, network



# Technical Concepts in Bitcoin

21 Lectures

# A two-day whirlwind tour across Bitcoin's core concepts

## Day 1 morning

- Elliptic curves
- Digital signatures
- **Setup Works**

## Day 1 afternoon

### Transactions:

- Scripting, P2SH
- Timelocks, Timestamping
- SegWit
- **Exercise: Spend a testnet P2PKH**

## Day 2 morning

- HD Wallets
- Blocks, mining
- Confirmation model
- Forks & Reorgs
- **Exercise: HD Wallets**

## Day 2 afternoon



- SPV clients
- RSMCs / HTLCs
- Miniscript
- **Exercises Contd.**

### Missing:

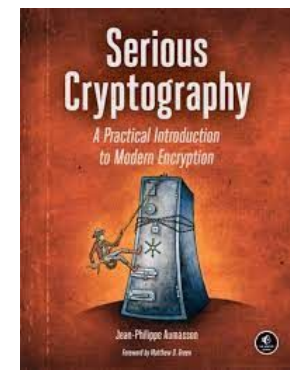
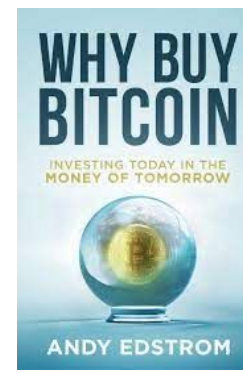
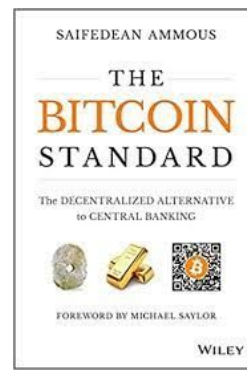
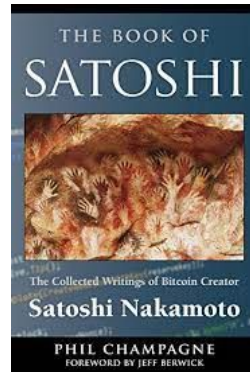
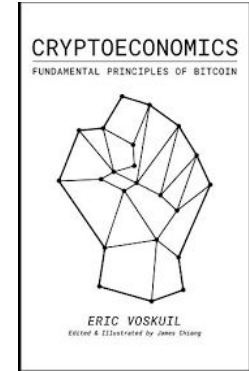
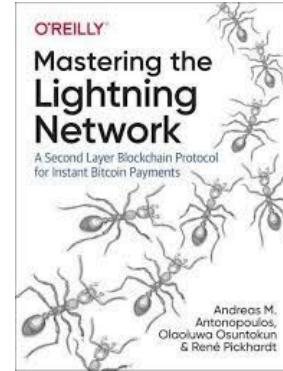
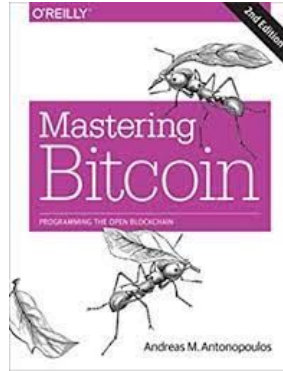
- P2P

**Exercises: 1-1.5 hrs**

# A day in the life of a Masterclass student

- Start 09:00
- 
- Lunch (included 🎉) 12:00
- Start Afternoon 13:15
- 
- End 17:00

# Resources





# Other resources

- [BIPs](#): the closest thing to a specification for Bitcoin
- [Optech Newsletter](#)
- [Bitcoin from the command line](#)
- [Libbitcoin source code](#)

# Exercises

Two prepared exercises

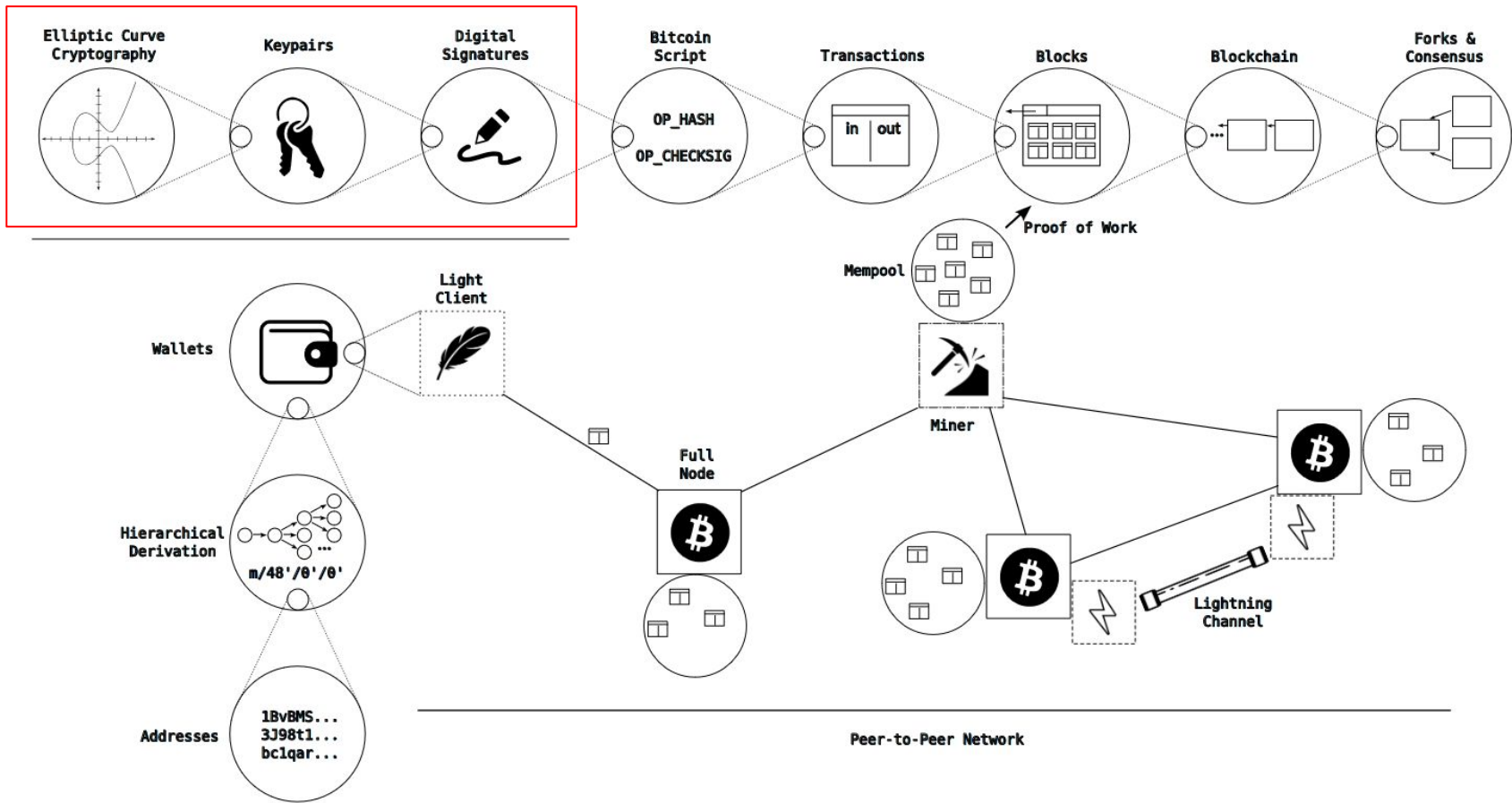
- `exercises/2024_exercises`
  - Spend P2PKH output prepared for you
  - Parent private key exposure for non-hardened BIP32 derivation

There is a full set of much more comprehensive exercises:

- With “bx”, the libbitcoin explorer command line tool
  - More from the user’s perspective
- Explore!

Finally ...

this course is for you!



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