Writing Smart Contracts
00 Welcome

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Supported by the Algorand Foundation

About

Start with why

Why smart contracts?
Automate trust
Create new business models
Create new assets
Marketable skill

Why Algorand?
Good programming
Fast + reliable
Low transaction costs
Carbon neutral

Goals (1)

Add a few tools to your toolbox . . .
with the smallest number of obstacles.

Goals (2)

Be able and confident to ...

1. Understand the principles of the blockchain, particularly the Algorand blockchain
2. Understand the differences between classical and smart contracts programming
3. Create your own token (and an NFT)
4. Translate into a smart contact:
   - a financial asset
   - a governance structure
   - a business model
5. Test and deploy smart contracts
6. Understand blockchain businesses
7. Work and collaborate efficiently

Philosophy

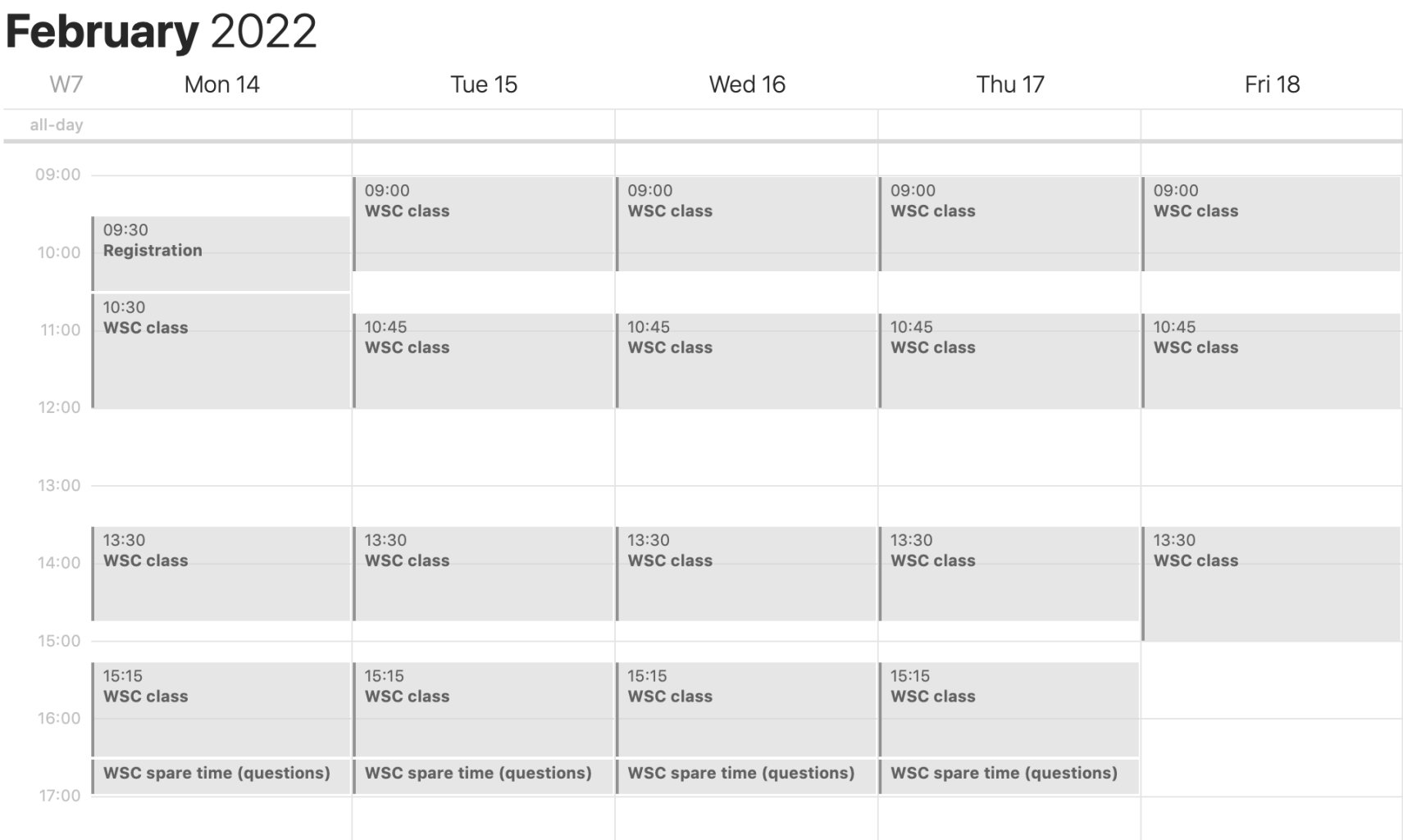
I hear and I forget
I see and I remember
I do and I understand

Confucius

Structure

- **Preparation @home**
  - Preview sections
- **Class Structure**
  - Discuss previous exercise
  - Quiz
  - Introduce and explain new concept
  - Explore code examples ("guided tour")
  - Individual/group exercises ("unguided tour")
  - Discuss potential applications (projects)
- **Exercise @home**
  - Small exercises (individually/group work)

Timetable


February 2022
W7
Mon 14
Tue 15
Wed 16
Thu 17
Fri 18
all-day
09:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
09:30 Registration
10:30 WSC class
09:00 WSC class
10:45 WSC class
13:30 WSC class
15:15 WSC class
WSC spare time (questions)

Timetable (2)

Morning/afternoon **Coffe breaks*** sponsored by ...

*One espresso per person

Material

Course hub: www.icorsi.ch

- Slides
- **Juypter notebooks**
- Exercises (plus solutions)
- Cheat sheets
- Extra literature
- Classroom video material (panopto)
- Additional video material

Grading

Crediting

- 3 ECTS for USI (Conditions `https://www.usi.ch/wsc`)
- Other universities: crediting to be arranged by participants

Course work

- 20% – Exercises (daily during the week)
- 80% – Final projects
  Deadline **Sun, April 10, 23:59 hrs** (7 weeks), no repetition

Criteria (order of decreasing importance)

- Contract(s) work
- Correctly deployed
- Observes coding and documentation guidelines
- Quality and creativity of application

Group work (more complex topics)

- Upon request, up to 3 people

Warning

Please be careful . . .

- The blockchain is public and it does not forget!
  Do not use secret/private data in exercise transactions
  Do not make dubious statements on the blockchain
- If you loose cryptos, they are lost forever!
  Do not mix real assets with studying/experimentation
  Testnet credentials are also valid on the mainnet
- Code examples are simplified and not audited!
  Do not copy-paste this code for real-world projects

A Version 1.0 product

First instance of a world-wide series of lectures

Your feedback is highly appreciated . . .

- Things you did not understand immediately
- Resources that we should include
- Examples that you have seen
- Examples that you would like to see

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- Survey at the end