IE421 Blockchain Systems

Course Introduction

Who, when, where

- Teacher: Marco Comuzzi (mcomuzzi@unist.ac.kr)

Send me an email if you need, or stop me anytime before/after the lecture

What will you learn in this course

- What is blockchain technology and how it can be used to build systems

- Background knowledge
  - Basics of cryptography

- Blockchain technology
  - Bitcoin (theory)
  - Ethereum (theory and hands-on, smart contracts)
  - Hyperledger, Corda
  - Business applications of blockchain

- Examples of real world blockchain-based systems

You will learn…

- What cryptography is and how it is used in blockchain systems
- What Bitcoin mining is and how it works
- What a smart contract is
- To create and deploy smart contracts in Ethereum
- To create your own Ethereum-compliant token
- How blockchain can be used to secure diamond trade and container shipping
- …

You will not learn…

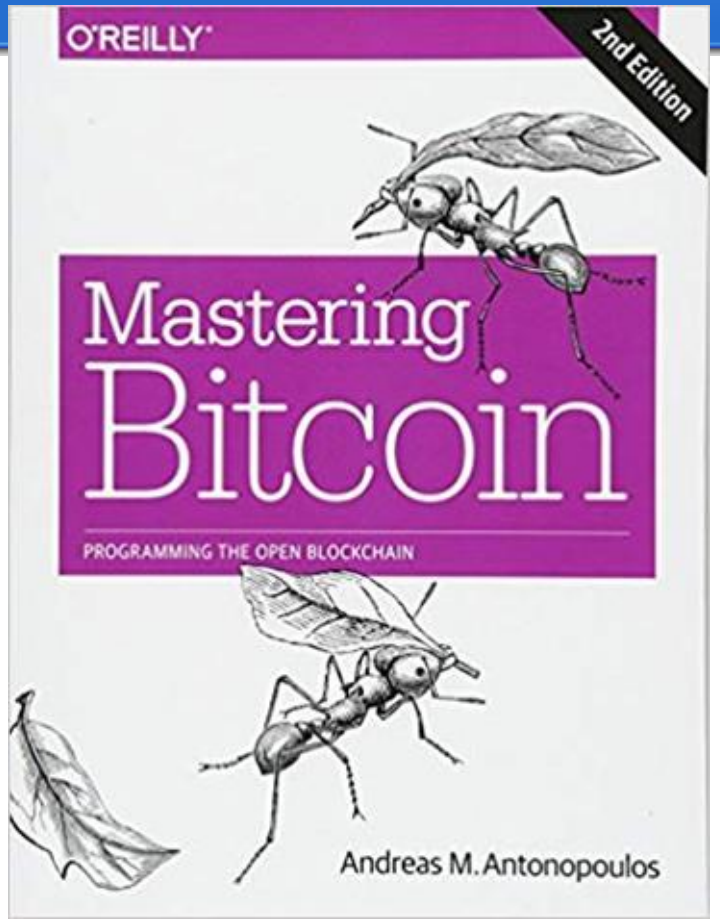
- To profitably trade cryptocurrency
- To predict the price of cryptocurrency
- …

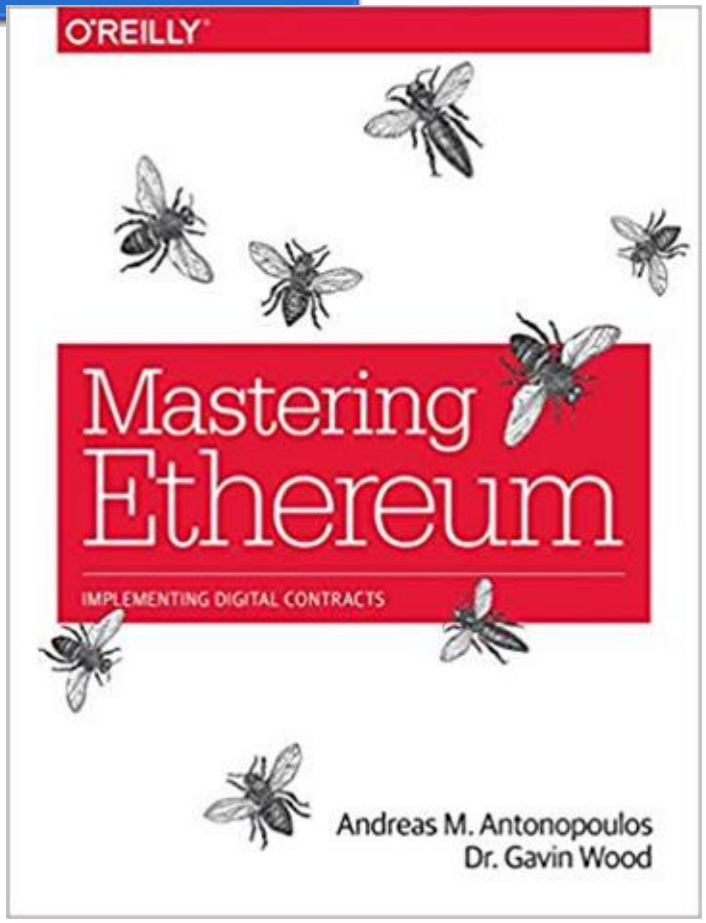
What you need to know before your start this course

- Basics of computer programming

(for smart contract implementation)

Books (available as ebooks)





Book (not available yet…sorry)

M. Comuzzi, P. Grefen, and G. Meroni (2023) "Blockchain for business: IT principles into practice" Routledge

Routledge
Taylor & Francis Group

MOOC Available

- MOOC recorded in Fall 2019 and available through the “STAR-MOOC” program
- Less details than in this course, but good to review the content
- More detail in the next lectures

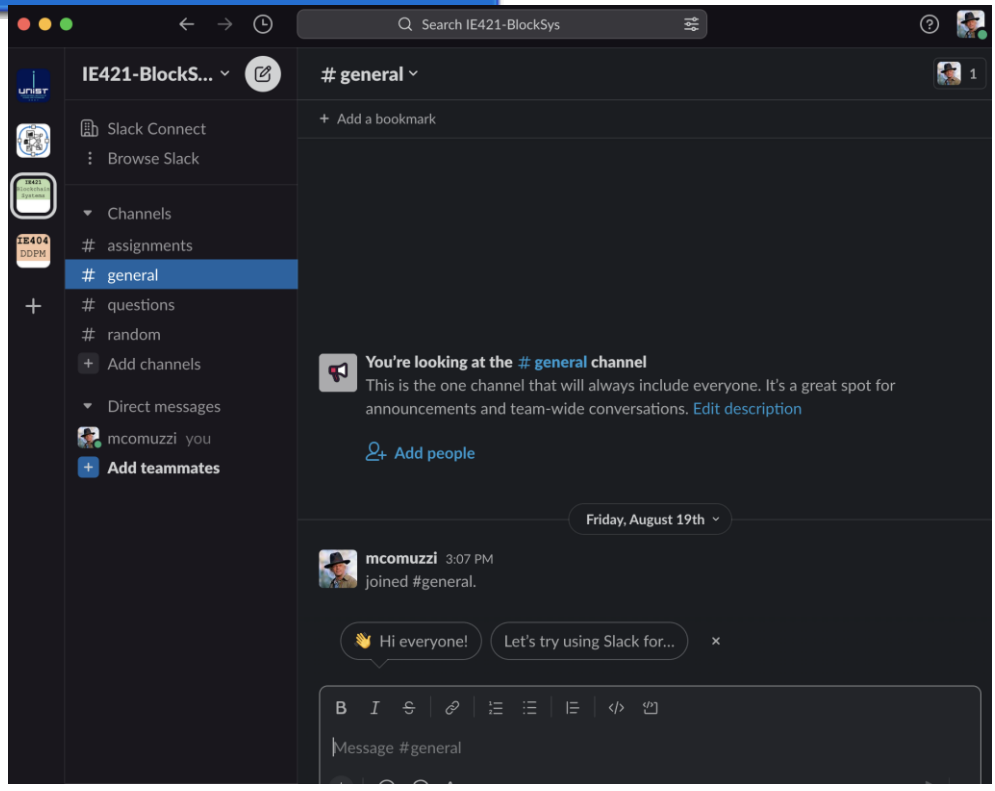
Course material

Slack!!!

Everyone must join here: https://join.slack.com/t/slack-fym2903/shared_invite/zt-1eq8hetgh-qysSy3DP8iRuR~lN6hfbQA

BB only used for submitting homework and assignments

Please check attendance electronically!



Assessment

Participation, attitude, homework (10%)

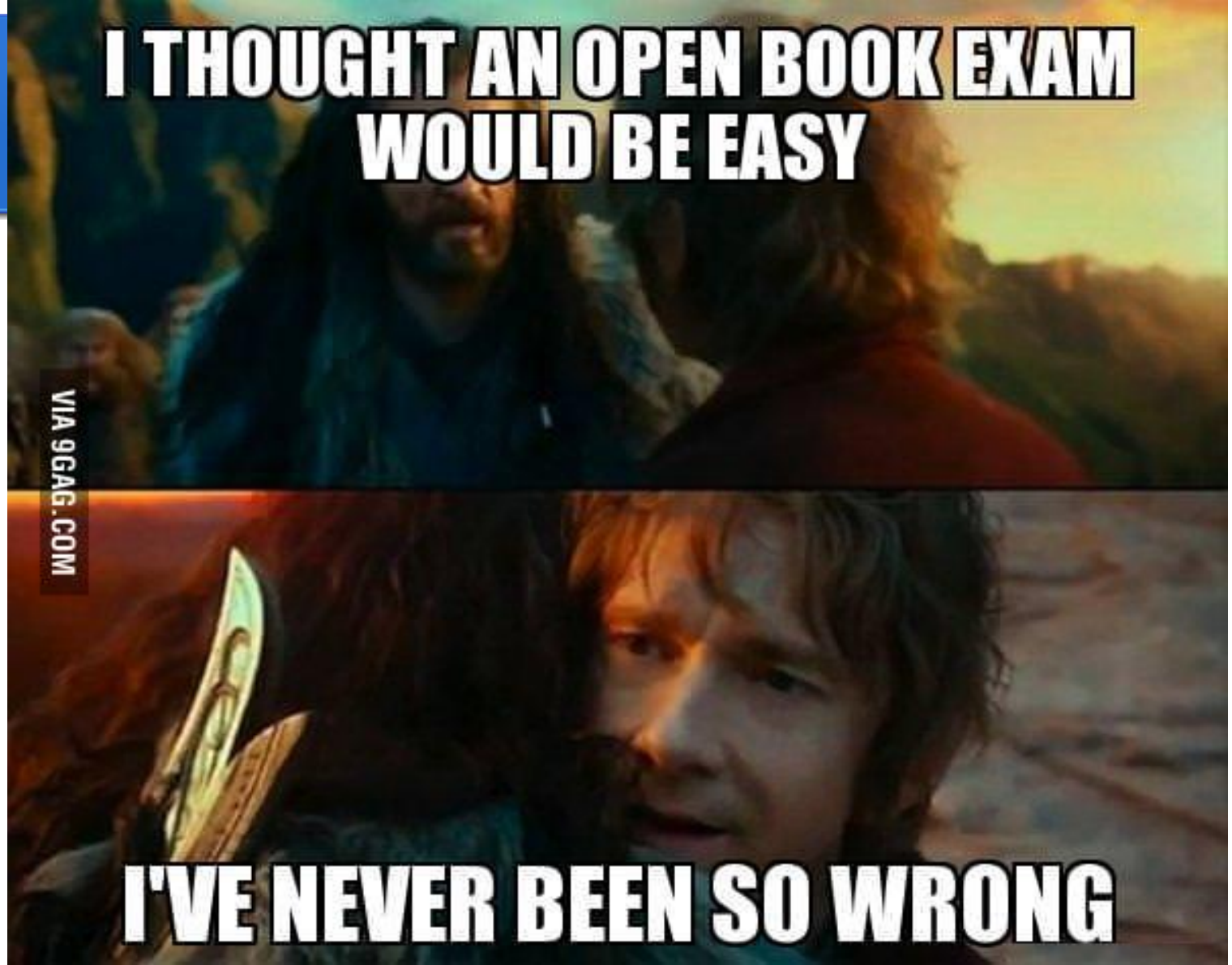
Final exam: open book exam (50%)

Assignment – Ethereum cryptotoken/smart contract (20%)
Individual assignment, coding

Assignment – Business scenario for blockchain (20%)

Group assignment, with presentation

Details will be provided later in due time


I THOUGHT AN OPEN BOOK EXAM WOULD BE EASY
VIA 9GAG.COM
I'VE NEVER BEEN SO WRONG

W1	8.30	Introduction
	9.1	Cryptography P1
W2	9.6	Cryptography P2
	9.8	Cryptography exercises
W3	9.13	BPM conference - no lecture
	9.15	BPM conference - no lecture
W4	9.20	Implementation-agnostic blockchain (intro)
	9.22	Implementation-agnostic blockchain (smart contracts)
W5	9.27	Implementation-agnostic blockchain EXERCISES
	9.29	Bitcoin P1
W6	10.4	Bitcoin P2
	10.6	Bitcoin exercises
W7	10.11	Ethereum P1
	10.13	Ethereum P2
W8	10.18	MIDTERM WEEK
	10.20	
W9	10.25	Ethereum P3
	10.27	Ethereum exercises
W10	11.1	Private Blockchain
	11.3	Consensus
W11	11.8	Blockchain and IoT
	11.10	Suitability of blockchain
W12	11.15	Business models
	11.17	Blockchian and business models
W13	11.22	Revision
	11.24	Guest lecture
W14	11.29	FINAL EXAM
	12.1	ASSIGNMENT PRESENTATION
W15	12.6	ASSIGNMENT PRESENTATION
	12.8	
W16	12.13	FINAL WEEK
	12.15	

Any questions?