Blockchains & Distributed Ledgers

Course Administrativia

Dimitris Karakostas

Course Overview

- Lectures: Weekly, Monday 14.10 - 16.00, Paterson's Land, Room G1
- Website: https://course.inf.ed.ac.uk/bdl
- Course assignments (require smart contract programming)
  - Assignment #1: Interacting with a Distributed Ledger and Basic Principles (20%)
  - Assignment #2: Smart Contract Programming Part I (30%)
  - Assignment #3: Smart Contract Programming Part II (30%)
  - Assignment #4: Designing and deploying IT services using a distributed ledger (20%)

Office hours

- We use Piazza as a forum for questions
  - You can find a link for it in the course's Learn page, under *Discussions (Piazza)*
- You must **sign up** to be able to ask questions and read the answers
  - Feel free to answer the questions by your fellow students
- **Do not** email the course's staff or TAs about course-related questions
  - Whenever possible, post a public question on Piazza
  - To discuss a private matter (e.g., solution questions, clarifications for marks, other sensitive matters), post a private question on Piazza and make it *visible to all teaching staff*
- **Please do not** ask the course's staff or TAs to grant you coursework extensions - we can't
  - Review the University's relevant late submission policy
  - Review the University's extension policies
  - Contact the Student Support Team for extra information

Contact

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Tentative Lecture Schedule

1. (22.09.2022) Introduction to blockchains and distributed ledgers.
2. (29.09.2022) Blockchain-related data structures.
3. (06.10.2022) A blockchain as a platform and introduction to Ethereum.
4. (13.10.2022) Pitfalls and security vulnerabilities in smart contracts.
5. (20.10.2022) The consensus problem.
6. (27.10.2022) Byzantine fault tolerance, permissionless vs. permissioned ledgers.
7. (03.11.2022) Economics, game theory, and incentives.
8. (10.11.2022) Anonymity and privacy, P2P networking, wallets.
9. (17.11.2022) Secure Multiparty Computation.
10. (24.11.2022) Blockchain applications, decentralised finance (DeFi), and legal aspects.
11. (01.12.2022) Summary and overview, student questions.

Coursework Schedule

- Assignment 1
  - Available on 26.09.2022
  - Submission deadline: 17.10.2022, 12.00 (noon)
  - Marks returned: 14.11.2022
- Assignment 2
  - Available on 10.10.2022
  - Submission deadline: 31.10.2022, 12.00 (noon)
  - Marks returned: 28.11.2022
- Assignments 3 and 4
  - Available on 14.11.2022
  - Submission deadline: 09.01.2023, 12.00 (noon)
  - Marks returned: 06.02.2023

Coursework Notes

- Report submission
  - Reports are submitted via Learn
  - Please *follow the instructions* on each assignment's description
    - Some assignments might require you to submit multiple files
    - Some assignments might require specific naming for the submitted files
- Late submission policy
  - *Rule 1: Extensions are permitted (7 days) and Extra Time Adjustments (ETA) are permitted and can be combined*
    - https://web.inf.ed.ac.uk/infweb/student-services/taught-students/information-for-students/information-for-all-students/your-studies/late-coursework-extension-requests
  - You can make as many submissions as you want; *the last submission will be marked*
- Assignments 3 and 4:
  - Will be available for ~2 months (Nov-Jan)
  - Have **the same submission date** after Christmas break