Lecture Wed Jan 30 08:54:00 MST 2019

Overview

Lecture 01 - Syllabus and Class Overview

1. A little bit of background on the instructor
    1. pschlump@uwyo.edu, or pschlump@gmail.com
    2. https://github.com/Univ-Wyo-Education/S20-4010
    3. (for emergencies between 7:00AM and 9:00PM) 720-209-7888 (cell)
    4. This is a “practical” class.
    5. Class Goal - have every student in this class be able to work effectively in the Blockchain world. There are students in this class that are from other departments. The class has been structured to take this into account.
2. Class policy - UW requires that I talk about cheating. stackoverflow.com and Google are your fiends in this class - give credit where credit is due. warning: stackoverflow.com on ethereum/solidity is badly out of date becuse the technology is changing really fast. If you copy from the web - I expect a comment and a link (URL) to the source of where you got your copy. I expect an explanation of what and why you are grabbing someting from the web. I expect an analysis of what license the content is under, MIT, GPL2, GPL3, CC, CC-BY etc.
3. Cover some material on “git” and how to use it.
4. 70% from homework, 40% from tests. Midterm and Final. There will be 2 projects for the class. You will have to give a live, in person, demo of both of your projects and you **must** get them to work. They are required to pass the class.
5. Class Points Total

    Points available:

Points	Class Item
1400	Homework total
800	2 tests

    To get a letter grade in the class:

Points	Semester Grade

Points	Semester Grade
1800 ... 1899	A
1600 ... 1799	B
1400 ... 1599	C
1200 ... 1399	D

You **must** demonstrate working projects to the instructor to pass the class (no matter how many points you get). The 2 projects in the class will be directly from the homework. Project one is Homework Assignments 02 to 06. Project 2 is Homework Assignments 08 to 11. Homework will be 100 or 200 points each. Midterm will be 400 points. Final will be 400 points. You can expect programming and writen assignments in this class.

For anybody that just wants to take on a hard project for extra credit see the instructor. It is hard. So think a letter grade for completion of an extra credit project. Code for extra credit projects will be open source under a MIT license. Also note that there are 2200 points available on a letter grading scale of 2000 points. You have a built-in 200 point extra credit in the homework and tests.

6. textbook: An Introduction to Programming in Go, pdf for free There are no good books on Ethereum/Soliddity. Solidity has moved from version 4.12 to 4.27 this year. All of the books are out of date. So.... I will include links in assignments that you are expected to read.

7. Class Overview

    1. What is Blockchain - what is Bitcoin / Ethereum / Other token systems
    2. The worlds worst, most expensive database
    3. What is the “hype” - what is real.
    4. Economics - Coin, ICO, Stocks, Bonds, Tokens, Utility Tokens, A Security
    5. Legal Ramifications. ICOs 506(d), Subpart (s)
    6. Programming - ½ in go, ½ in Solidity (Etherem) and Web front end (JavaScript/HTML/CSS).
    7. Some Homework
    8. Write a Paper - How will blockchain effect the economy.
    9. 2 tests (Midterm and Final)
    10. Why Go
    11. Proof of work
    12. Proof of stake

13. Enough Go to make it through this class (and be able to convincingly tell an employer that you have programmed in Go)
14. Why Ethereum? Solidity?
15. dApp - what is that? What is web3?
16. A detailed understanding of the security model behind Blockchain
17. Some advanced stuff on security - distributed computation and public/private keys, distributed key generation.
18. What is a “tangle”
19. Why is blockchain so slow?
20. How to explain “blockchain” to people - the 30 second elevator pitch.
21. History - of accounting

8. De-Hype Blockchain