FIN XXX
Blockchain and Digital Currency
2018-19 Module 3 (Spring 2019)

Course Information

Instructor:
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Classes:
Lectures: Monday & Thursday 10:30 AM – 12:20 PM
Venue: PHBS Building, Room 229

Course Website: (updated syllabus is available on)
https://github.com/PHBS/2018.M3.BlockChain

1. Course Description

1.1 Context

Course overview:

This course is a comprehensive survey of relevant topics in blockchain including cryptocurrency. From a technological standpoint, we start with the basics of cryptography and economics, establish a solid fundamental understanding of Bitcoin by building it from the bottom up, then explore the myriad of ideas and technologies relating to blockchain technology. On the non-technical side, we start with the history of digital currency, then look at the laws, organizations, trends, and communities behind it to build a complete picture of the ecosystem surrounding blockchain technology.

Prerequisites: This course have no formal prerequisites. However, knowledge of computer science or cryptography will be very helpful.

1.2 Textbooks and Reading Materials

- *Blockchain at Berkeley, 2018 Fall* (link) (**DeCal)**

- *Bitcoin and Cryptocurrency Technologies (Princeton textbook) by Narayanan, Bonneau, Felten, Miller, and Goldfeder* (link, draft download): primary textbook (**BCT**)

2. Learning Outcomes

2.1 Intended Learning Outcomes

Learning Goals	Objectives	Assessment (YES with details or NO)
1. Our graduates will be effective communicators.	1.1. Our students will produce quality business and research-oriented documents.	YES
	1.2. Students are able to professionally present their ideas and also logically explain and defend their argument.	YES
2. Our graduates will be skilled in team work and leadership.	2.1. Students will be able to lead and participate in group for projects, discussion, and presentation.	YES
	2.2. Students will be able to apply leadership theories and related skills.	
3. Our graduates will be trained in ethics.	3.1. In a case setting, students will use appropriate techniques to analyze business problems and identify the ethical aspects, provide a solution and defend it.	
	3.2. Our students will practice ethics in the duration of the program.	
4. Our graduates will have a global perspective.	4.1. Students will have an international exposure.	YES
5. Our graduates will be skilled in problem-solving and critical thinking.	5.1. Our students will have a good understanding of fundamental theories in their fields.	YES
	5.2. Our students will be prepared to face problems in various business settings and find solutions.	YES
	5.3. Our students will demonstrate competency in critical thinking.	YES

2.2 Course specific objectives

See the course overview in 1.1.

2.3 Assessment/Grading Details

Tentative weights are as below;
Attendance 20%, Mid-term exam 30%, Assignments 30%, Final Project 20%

- Mid-term exam will be taken on **Mar 26 in class (5th week).**
- Final exam will be taken on **April 19 in class (9th week)**.
- Attendance will be checked randomly. The score is calculated as **20 – 2x(#of absence)**
- Leave request should be made 24 hours before except for emergency
- Job interview **cannot** be a valid reason for leave
- The level of background knowledge may vary among students, but it will be ignored in grading. Grading will be strictly based on outcome, not on effort or progress

2.4 Academic Honesty and Plagiarism

It is important for a student's effort and credit to be recognized through class assessment. Credits earned for a student work due to efforts done by others are clearly unfair. Deliberate dishonesty is considered academic misconducts, which include plagiarism; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement;

or altering, forging, or misusing a University academic record; or fabricating or falsifying of data, research procedures, or data analysis.

All assessments are subject to academic misconduct check. Misconduct check may include reproducing the assessment, providing a copy to another member of faculty, and/or communicate a copy of this assignment to the PHBS Discipline Committee. A suspected plagiarized document/assignment submitted to a plagiarism checking service may be kept in its database for future reference purpose.

Where violation is suspected, penalties will be implemented. The penalties for academic misconduct may include: deduction of honour points, a mark of zero on the assessment, a fail grade for the whole course, and reference of the matter to the Peking University Registrar.

For more information of plagiarism, please refer to *PHBS Student Handbook*.

3. Topics, Teaching and Assessment Schedule

Week	Dates	Topics and the corresponding textbook chapters
1	Feb 19 & 22	Bitcoin Protocol and Consensus: A High Level Overview
2	Feb 26 & Mar 1	Bitcoin and Blockchain History Bitcoin Mechanics and Optimizations: A Technical Overview
3	Mar 5 & 8	Bitcoin IRL: Wallets, Mining, and More Ethereum and Smart Contracts: Enabling a Decentralized Future
4	Mar 12 & 15	How to Destroy Bitcoin: Game Theory and Network Attacks
5	Mar 19 & 22	Trust Without Trust: Distributed Systems and Alternative Consensus
6	Mar 26 & 29	Securing Incentives: Cryptoeconomics and Proof-of-Stake Scaling Blockchain: Cryptocurrencies for the Masses
7	Apr 2 & **3**	Enterprise Blockchain: Real-World Applications Midterm Exam
8	Apr 9 & 12	Anonymity: Mixing and Altcoins
9	Apr 16 & **19**	Final projects presentation

4. Miscellaneous

- The email (jaehyuk@phbs.pku.edu.cn) is the preferred method of communication.