Course Code
Blockchain and Digital Currency
Module 4, 2020-21

Course Information

Instructor:
Office:

Phone:
Email:
Office Hour:

Teaching Assistant: TBA
Phone:
Email:

Classes:
Lectures:
Venue:

Course Website:

1. Course Description

1.1 Context

Course overview:
This course is a survey of relevant topics in blockchain and digital currency. From a technological standpoint, we start with the basics of cryptography and economics, establish a fundamental understanding of Bitcoin from the bottom up, and then explore various ideas and technologies pertinent to the blockchain technology. On the nontechnical side, we go over the history of digital currency, focusing on the laws, organizations, trends, and communities behind it to build a complete picture of the ecosystem surrounding the blockchain technology.

Prerequisites:

Knowledge of computer science and cryptography

1.2 Textbooks and Reading Materials

- Blockchain at Berkeley, (DeCal)
- Bitcoin and Cryptocurrency Technologies (Princeton) by Narayanan, Bonneau, Felten, Miller, and Goldfeder, 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 section 1.1 Context.

2.3 Assessment/Grading Details

Attendance 5%, Assignments 20%, Exams 35%, Final Project 40%

Attendance will be checked randomly.
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 (Tentative)

Week	Dates	Topics
1		Bitcoin Protocol and Consensus: A High Level Overview
2		Mechanics and Optimizations: A Technical Overview
3		Bitcoin IRL: Wallets, Mining, and More; Ethereum and Smart Contracts
4		How to Destroy Bitcoin: Game Theory and Network Attacks
5		Trust Without Trust: Distributed Systems and Alternative Consensus
6		Midterm Exam and project proposals
7		Securing Incentives: Cryptoeconomics and Proof-of-Stake Enterprise Blockchain: Real-World Applications
8		Anonymity: Mixing and Altcoins
9		Advanced Topics

4. Miscellaneous