**NAME OF SCHOOL: School of Law**

**ACADEMIC PROGRAMME: Master of Laws (LL.M.)**

**INSTRUCTOR: Dr. Zhang Wei (SOL) / Dr. Zhu Feida (SCIS)**

**DATE OF SUBMISSION: 11 March 2021**

## *SECTION A – FOR COURSE APPROVAL*

**COURSE CODE: LAW 649**

**COURSE TITLE: Blockchain and Governance**

**COURSE DESCRIPTION**

This course introduces you to the blockchain ecosystem, from concept to evolution, from technologies to applications. It analyses governance structures adopted by the blockchain community and investigate the impact of the blockchain technology on business and commerce. Students will learn the defining characteristics of blockchain technologies and the core components as the foundation of trust in a decentralized setting. Applications of blockchain technology in various domains will be examined, and the appropriate legal and regulatory framework for such applications will be discussed. Co-taught by the faculty members from SOL and SCIS, this course links the technological aspect of blockchain with its socio-economic aspect, and explores sensible regulations built on both aspects. Students will be able to develop a rational view about the potentials and limits of blockchain.

**LEARNING OBJECTIVES**

By the end of this course, student will be able to:

1. Understand the history and development of blockchain technologies from the initiation of Bitcoin all the way to the state-of-the-art projects.
2. Identify the various parties in the blockchain ecosystem, their interactions, respective impact and the governance structures adopted among these parties.
3. Understand the working mechanism of the essential technological components in blockchain space, including asynchronous encryption, consensus protocols, privacy and distributed systems.
4. Command an overview of the application of blockchain technology in a number of important industries including finance, supply chain, data sharing, gaming and so on.
5. Appreciate the fundamental policy issues underlying a proper regulatory framework of blockchain applications.

6. Develop a rational view about the potentials and limits of the blockchain technology.

## PRE-REQUISITE/CO-REQUISITE/MUTUALLY EXCLUSIVE COURSE(S)

N.A.

## COURSE AREA

LLM Track Core

## GRADING BASIS

Graded

## COURSE UNIT

1.0 CU

## REPEAT FOR CREDIT

Will there be multiple enrolments with repeat counting of credits (CUs) for the same course: No

## FIRST OFFERING TERM

Academic Year: AY2021/2022

Academic Term: Term 1

## *SECTION B - COURSE OUTLINE/ASSESSMENT*

## ASSESSMENT METHODS

**Individual Assessments 70%**

**Class Participation (10%):** Everyone is expected to read the given case or articles assigned for class room discussions. Creative thinking and peer learning is expected through open sharing from real work situations.

Grading criteria is not solely based on the frequency of participation but quality of meaningful inputs in the discussions.

**Individual Assignment (10%):** A summary of an assigned lecture is to be submitted within one week after the lecture session. The summary is expected to summarize the key contents of the lecture and in-class discussions based on the lesion outline. External references can also be used and incorporated into the summary to enrich the report.

Grading criteria are based on one's ability to capture and summarize the lecture content in a systematic and coherent manner to offer a comprehensive and informative map of the topics of the lecture session.

**Exam (50%):** This will take the form of a written exam for duration of **two hours**.

**Group Assessments 30%**

**Group Project (30%) (10% written summary + 20% oral presentation)**

Students are supposed to form their own groups, and a lottery will be drawn in Week 3 to determine the time for each group presentation. Presentations will take place in the last two weeks. The written summary will be will be assessed as a whole so each member of a group will receive the same grade for the written summary. But the performance of oral presentation is assessed individually so each member may receive a different grade for the his or her presentation. As a result, members in the same group may have a different overall grade for the group project.

## ACADEMIC INTEGRITY

All acts of academic dishonesty (including, but not limited to, plagiarism, cheating, fabrication, facilitation of acts of academic dishonesty by others, unauthorized possession of exam questions, or tampering with the academic work of other students) are serious offences.

All work (whether oral or written) submitted for purposes of assessment must be the student's own work. Penalties for violation of the policy range from zero marks for the component assessment to expulsion, depending on the nature of the offence.

As a reminder on how to avoid plagiarism, students are encouraged to complete this CALI tutorial at:

http://researchguides.smu.edu.sg/content.php?pid=648621&sid=5370611.

When in doubt, students should consult the instructor of the course. Details on the SMU Code of Academic Integrity may be accessed at: http://www.smuscd.org/resources.html.

## INSTRUCTIONAL METHODS AND EXPECTATIONS

The course will be taught through interactive seminars. A mixture of lecture, case study and group discussion will be conducted routinely throughout the course. A group presentation will be required, and the students will be expected to form their own groups.

## CLASS TIMINGS

The course is taught in one 3-hour session per week over ten weeks. Group presentations will be arranged in the last two weeks.

## RECOMMENDED TEXT AND READINGS

The course materials are self-contained. Some references include:

Daniel Drescher, *Blockchain Basics: A Non-Technical Introduction in 25 Steps*, Apress (2017)

Primavera De Filippi & Aaron Wright, *Blockchain and the Law: The Rule of Code*, Harvard University Press (2018)

## WEEKLY LESSON PLAN

| Week | Topics | Assignments/Activities |
|------|--------|------------------------|
| 1 | **A Brief History of Blockchain**<br>• A First Look at Bitcoin<br>• Ethereum in a Nutshell<br>• Core Concepts and Ecosystem | Lecture<br>Group discussion |
| 2 | **Technological Foundation of Blockchain Trust (I) – Cryptography-enabled Security and Privacy**<br>• Data Immutability<br>• Content Confidentiality<br>• Verification<br>• Privacy-aware computation | Lecture<br>Group discussion |

| 3 | **Technological Foundation of Blockchain Trust (II) – Consensus Protocol**<br>• Distributed Consensus: Challenges and Core Concepts<br>• An Evaluative Framework and Development History<br>• Case Study: Proof-of-Work<br>• Case Study: Proof-of-Stake | Lecture<br>Group discussion<br>Case Study |
|---|---|---|
| 4 | **Economic Foundation of Blockchain Trust**<br>• Sources of Trust<br>• Verifiability in Law and Trust-building<br>• Signaling Game, Perfect Bayesian Equilibrium and Blockchain<br>• Back to the Future: Blockchain and the Classic Firm vs. Market Bifurcation | Lecture<br>Group discussion<br>Case Study |
| 5 | **Governance Mechanisms of Blockchain**<br>• Basic Modes of Governance: Incentive and Accountability<br>• Main Issues in Governance<br>• Paradigms and Problems in Block Governance | Lecture<br>Group discussion<br>Case Study |
| 6 | **Smart Contract, Tokenomics and DeFi**<br>• Introduction to Smart Contract<br>• Tokenomics<br>• DeFi Ecosystem | Lecture<br>Group discussion<br>Case Study |
| 7 | **Tokenization and Regulation**<br>• Defining Securities: The Howey Test<br>• Fundamental Regulatory Objectives<br>• A Framework of Regulation Financial Instruments: Securities, Commodities, Currencies, and Crypto Tokens | Lecture<br>Group discussion<br>Case Study |
| 8 | **Smart Contract and DeFi: Law and Economics**<br>• The Commitment Problem and Smart Contract<br>• Limitations of Smart Contract<br>• DeFi and Regulation of Financial Intermediaries | Lecture<br>Group discussion<br>Case Study |
| 9 | **Blockchain Applications and Legal Impact**<br>• Digital Archive<br>• Tracking and Anti-countefeiting<br>• Assetization<br>• DAO<br>**Group Project Presentation** | Lecture<br>Group presentation<br>Case Study |
| 10 | **Blockchain and Corporate Governance**<br>• Power Allocation Between Shareholders and Management in the Blockchain Era | Lecture<br>Case Study<br>Group presentation |

| | • Blockchain and Transparency in Corporate Governance<br>**Group Project Presentation** | |
|---|---|---|

Note: The above syllabus/schedule is meant only as a guide and is subject to amendment.