

DFIN-513 Open Financial Systems



UNIVERSITY OF NICOSIA
ΠΑΝΕΠΙΣΤΗΜΙΟ ΛΕΥΚΩΣΙΑΣ

Course Code DFIN-513	Course Title Open Financial Systems	ECTS Credits 10
Department Finance	Semester Fall/Spring/Summer	Prerequisites None
Type of Course Required	Field Finance	Language of Instruction English
Level of Course 2 nd Cycle	Year of Study 1 st	Lecturer(s) Antonis Polemitis George Papageorgiou
Mode of Delivery Distance Learning	Work Placement N/A	Co-requisites DFIN-511

Objectives of the Course:

The main objective of the course is to provide an overview of the structure and mechanics of key infrastructural elements of the existing global financial system and regional variations. In parallel, the course will aim to identify how such systems could be implemented/complemented in open blockchain models that allow interoperability, and what challenges/opportunities does this create.

The main areas of financial infrastructure that will be covered in this course will be:

- 1/ Gross Settlement Systems; settlement under blockchain models
- 2/ Money Transmission, Payment Services and E-Money; digital currencies as methods of payment and processing
- 3/ Securities, Assets and Commodities trading and settlement; digital currency exchanges; hybrid and decentralized exchange systems.
- 4/ Insurance in conventional financial systems; decentralizing aspects of insurance, opportunities and challenges
- 5/ Accounting, Auditing and financial controls in conventional systems; decentralizing accounting and taking advantage of the blockchain for transparency, corporate governance and regulation

Learning Outcomes:

Upon completion of this course, students are expected to be able to:

- 1/ Map a functional systems' architecture underlying the current financial system and explain if and how the system can be disrupted by using a blockchain architecture as well as assess the new risks and challenges

- 2/ Write theory, evidence-based articles and reports on financial systems, whether traditional, blockchain based, or hybrid.
- 3/ Carry out analyses of the complete vertical process of how transactions take place in conventional and open financial systems, including the spread of risk at each stage and the types of risk users are exposed to.
- 4/ Apply concepts from existing financial systems and products to open and decentralized digital currency infrastructures

Assessment Methods:

4 multipart essays	30%
Group Project	30%
Final Exam	40%

Course Contents:

- 1/ Overview: Key aspects of financial / payments architecture and emerging analogues in blockchain-based systems.
- 2/ Fund Transfers: Gross Settlement Systems (Target2, CHIPS, Fedwire) and their analogues in blockchain-based systems
- 3/ Fund Transfers: ACH / EFTS and their analogues in blockchain-based systems
- 4/ Money Transmitters, Credit and Debit Card Networks and their relevance in P2P systems
- 5/ Payment workflow and analogues in open blockchain based systems (Bitcoin)
- 6/ Securities, Assets and Commodities Settlement, Custodians, Clearinghouses
- 7/ Decentralizing Asset and security issuance and trading over an open blockchain system, hybrid solutions in practice and risks
- 8/ Insurance basics, differences from conventional financial markets (future and prediction markets) and structure of risk in insurance systems
- 9/ Decentralizing Insurance, viability of oracles, decentralizing insurance risk management and differences from conventional approaches
- 10/ Accounting, Financial Controls and Auditing in conventional systems
- 11/ Decentralizing financial controls and making the most of blockchain structures for transparency, accountability, governance and regulatory oversight
- 12/ Class Group Project delivery, presentations and evaluation

Learning Activities and Teaching Methods:

Lectures, Live Discussions, Course Forum discussions

Assessment Methods:

Assignment Essays, Main Project and Final Examination Essay

REQUIRED TEXTBOOKS / READINGS

Authors	Title	Publisher	Year	ISBN

RECOMMENDED TEXTBOOKS / READINGS

Authors	Title	Publisher	Year	ISBN
Tom Kokkola (Ed.)	The payment system	European Central Bank	2010	ISBN 978-92899-0632-6 (print) ISBN 978-92899-0633-3 (online)
Dominique Rambure, Alec Nacamuli	Payment Systems: From the Salt Mines to the Board Room		2008	ISBN-10: 0230202500 ISBN-13: 978-0230202504
Michael Simmons	Securities Operations: A Guide to Trade		2002	ISBN-10: 0471497584 ISBN-13: 978-
	and Position Management			0471497585

Selected Online Readings:

<http://gendal.wordpress.com/2014/03/02/bitcoin-exchanges-are-morecentralised-than-traditional-exchanges-we-can-do-so-much-better-than-this/>

<http://gendal.wordpress.com/2014/01/05/a-simple-explanation-of-how-sharesmove-around-the-securities-settlement-system/>

<http://gendal.wordpress.com/2013/11/24/a-simple-explanation-of-how-moneymoves-around-the-banking-system/>