



Study-Unit Description

CODE DLT5300

TITLE Applied Economics and Tokenomics

LEVEL 05 - Postgraduate Modular Diploma or Degree Course

ECTS CREDITS 5

DEPARTMENT Centre for Distributed Ledger Technologies

DESCRIPTION This study-unit will provide the necessary background in economic theory to (i) assess and comprehend the economic impact and policy implications of emerging technologies based on distributed ledger technologies such as cryptocurrencies and tokens; (ii) apply economic theory to the sphere of token design and contract theory; and (iii) assess recent applications of tokenomics.

An indicative list of topics is provided below:

- Introduction to Economic Concepts
- Monetary Economics and Digital Currencies
- The economic impact of Blockchain Technology and Cryptocurrencies
- Governance Approaches to the economics of Blockchain
- Tokenomics
- History of Tokens
- Introduction to Token Economics
- Token Engineering
- Applications of Game Theory
- Applications of Information Economics and Contract Theory
- Applications of Behavioural Economics and Finance

Study-unit Aims:

This study-unit aims to introduce students to key economic concepts, tools and techniques which will enable them to assess various issues surrounding the topics of distributed ledger technologies and their application to real world cases in light of the current developments in economic research. The study-unit will expose students to numerous areas in economic theory and research which will provide students with a deeper understanding of key issues relating to these new technologies.

The study-unit also aims to provide students with a forum in which they can also openly discuss these areas with key practitioners.

Learning Outcomes:

1. Knowledge & Understanding

By the end of the study-unit the student will be able to:

- list the various characteristics and functions of money;
- describe the characteristics and functions of money compare with platform based currencies and cryptocurrencies;
- describe monetary policy and define how interest rates are determined;
- describe economic externalities of DLTs and related tokens, and list such economic activities, for example the varying costs of computational requirements to run a DLT on which a token is based;
- describe how tokens are designed and how token economies operate;
- explain asset price bubbles and their impact on the economy.

2. Skills

By the end of the study-unit the student will be able to:

- design a token strategy for use within a DLT environment;
- apply concepts of game theory to token design and design of governance rules;
- apply model based contract theory to smart contracts;
- explain and demonstrate measuring of economic activity and economic growth.

Main Text/s and any supplementary readings:

Main

- Swan, M., Potts, J., Takagi, S., Witte, F., & Tasca, P. (2019). Blockchain Economics: Implications of Distributed Ledgers -Markets, Communications

Networks, And Algorithmic Reality: World Scientific Europe.

- Halaburda, H., & Sarvary, M. (2016). Beyond Bitcoin: The Economics of Digital Currencies: AIAA.

Supplementary readings

Various research papers covering the state-of-the-art will provided by the lecturers.

STUDY-UNIT TYPE Lecture, Seminar & Independent Study

METHOD OF ASSESSMENT	Assessment Component/s	Assessment Due	Resit Availability	Weighting
	Examination (2 Hours)	SEM2	Yes	100%

LECTURER/S Ian Cassar (Co-ord.)
Jean Paul Fabri
Jonathan Spiteri

The University makes every effort to ensure that the published Courses Plans, Programmes of Study and Study-Unit information are complete and up-to-date at the time of publication. The University reserves the right to make changes in case errors are detected after publication.

The availability of optional units may be subject to timetabling constraints.

Units not attracting a sufficient number of registrations may be withdrawn without notice.

It should be noted that all the information in the study-unit description above applies to the academic year 2019/0, if study-unit is available during this academic year, and may be subject to change in subsequent years.

<https://www.um.edu.mt/course/studyunit>