UNIVERSITY of NICOSIA

Course Syllabus

Course Code	Course Title	ECTS Credits
META-528DL	Metaverse Token Economics	10
Prerequisites	**Department**	**Semester**
None	Digital Innovation	Fall/Spring
Type of Course	**Field**	**Language of Instruction**
Elective	Metaverse	English
Level of Course	**Lecturer**	**Year of Study**
2nd Cycle	Dr. Christos Makrides	1st
Mode of Delivery	**Work Placement**	**Corequisites**
Distance Learning	N/A	N/A

Course Objectives:

The main objectives of the course are to:
1. Explain the role of token economics in Metaverse ecosystems.
2. Identify various types of tokens used in Metaverse applications
3. Analyze the process of launching a new token, including determining the supply of coins, regulatory compliance, valuation, and post-launch practices.
4. Evaluate the effectiveness of different token distribution strategies, token value proposition in metaverse platforms, and the economics of security tokens in the broader ecosystem.
5. Explore and analyze exemplar cases.

Learning Outcomes:

After completion of the course students are expected to be able to:

1. Explain the design of tokens in Metaverse ecosystems and how to evaluate and monitor their effects to achieve value creation.
2. Discuss and analyse how tokens are influenced by both project-specific and external factors and how to navigate the idiosyncratic shocks that take place in the lifecycle of a project.
3. Classify tokens and token ecosystems according to various criteria, and which classifications are important for which purpose.
4. Discuss how tokens interact with NFTs, and how Metaverse platforms can use them to encourage engagement and value creation.

Course Content:

Session 1: Metaverse and digital assets

- Introduction to the course
- Defining digital assets and differences between traditional assets
- Definition of token economics and its importance in metaverse ecosystems
- Key concepts: tokenomics, token design, token issuance, token distribution, token governance

Session 2: Tokens used in Metaverse applications

- Utility tokens
- Security tokens
- Payment, currency, and other network tokens
- Governance tokens

Session 3: Launching a token: part 1

- Reasons for creating a new token
  - Sources of value creation
  - Good versus bad examples of tokens that launched and how they are continuing to fare
  - Shiba versus Doge examples
- Determinants of traditional currency
  - Idiosyncratic shocks
  - Aggregate shocks (e.g., geopolitics)
  - Fundamentals
- Determinants of value for start ups
  - Infrastructure
  - Team
  - Market
- Discount rates
  - The CAPM model
  - Risk premia in general

Session 4: Launching a token: part 2

- Valuation of a token
  - Differences from traditional valuation of currency/startups
  - Role of the layer1 blockchain
  - Interoperability and multibridge technologies (e.g., Fibswap for trading)
- Before you launch a token
  - Regulatory environment
  - Why a token versus other standard financial vehicles?
- Determining the supply of coins
  - Comparison with the setting of initial equity stakes
  - The role of expectations
  - Velocity and balancing with the milestones on a roadmap

Session 5: Launching a token: part 3

- Post-launch fundamentals
    - Early days matter – tracking the initial market response and persistence
    - Heterogeneity in buyers
    - Volatility
- Experimentation and pulsing
    - Methods for acquiring information from users about their experience
    - Yield farming
    - Partnerships and listing on exchanges
    - Forecasting token price

Session 6: Token Distribution Strategies in Metaverse

- Token distribution strategies: airdrops, token sales, bounties, etc.
- Evaluation of the effectiveness of different token distribution strategies in metaverse ecosystems

Session 7: Token Value Proposition in Metaverse

- Understanding the token value proposition in metaverse ecosystems
- Evaluation of token value proposition in different metaverse platforms
- Comparison of tokenomics models across different metaverse platforms

Session 8: Regulatory compliance and external factors

- Regulations of securities versus utility tokens (and good examples of each – when to use one approach over another)
- Differences across countries and implications for offering in one country over another
- Security breaches and ways of mitigating risk
- Cyber insurance

Session 9: Tokens in the broader ecosystem

- Tokens are just a tool, not an end
- NFTs (utility tokens)
- Identity verification
- Tokens as incentives in organizations
- Decentralized autonomous organizations
- Hybrid approaches (e.g., Island DAO)

Session 10: Economics of security tokens 2 (equity)

- Focus on equity-style security tokens
- Valuation of companies and projects using discounted cash flow (DCF) analysis
    - Projecting free cash flow figures from a company's accounts

- o   WACC and tax shield
- Valuation of companies and projects based on multiples
    - o   Selection of comparable companies
    - o   Selection of the relevant index
    - o   Sum-of-the-parts analysis
- Securitisation scenario analysis
- Impact of regulations on security token analysis

Session 11: How tokens obtain value

- Momentum vs fundamental valuation
    - o   The "Greater Fool" theory of asset valuation
    - o   Momentum, multiple equilibria and market rallies and crashes
    - o   Chart analysis
- Arbitrage valuation
    - o   Perfect arbitrage vs close substitutes
    - o   One-way arbitrage
- Demand, supply and scarcity
    - o   The value of scarcity
    - o   Scarcity and banks
    - o   Currency demand and velocity

Session 12: Tokens adoption and Metaverse use cases

- Framework for analysis of fit between token strategy and business case
- Examples of tokens in gaming and other traditional web2 environments
- Understanding the role of community in metaverse ecosystems
- Strategies for building and engaging a strong community around a metaverse token
- Case studies of successful and unsuccessful metaverse token economics models
- Analysis of the key factors that led to success or failure in each case study
- Future trends and developments in metaverse token economics

Learning Activities and Teaching Methods:

- Faculty Lectures
- Guest-Lectures Seminars
- Directed and Background Reading
- Case Study Analysis
- Academic Paper Discussion
- Simulations
- Student-led Presentations
- In-Class Exercises

Assessment Methods:

- Interactive activities and classroom participation
- Assignments
- Final exams

Assessment Methods in alignment with Intended Learning Outcomes:

Assessment Method	Weighting	Intended Learning Outcomes to be assessed			
		LO1	LO2	LO3	LO4
Interactive activities	15%	✓	✓	✓	✓
Assignments	25%	✓	✓	✓	✓
Exams	60%	✓	✓	✓	✓

Student Study Effort Expected:

Student Study Effort Expected	Hours
Lectures	12h
Assignments	75h
Interactive activities and forum participation	20h
Reading and research	140h
Exam	3h
Total	250h

Required Textbooks / Readings:

Title	Author(s)	Publisher	Year	ISBN
Token Economy: How Web3 reinvents internet	Shermin Voshmgir	Independently published	2020	978-3982103815

Recommended Textbooks / Readings:

Arvind Narayanan, Joseph Bonneau, Edward Felten, Andrew Miller, Steven Goldfeder, "Bitcoin and Cryptocurrency Technologies: A Comprehensive Introduction", Princeton University Press, ISBN 978-0691171692