UNIVERSITY of NICOSIA

Course Syllabus

Course Code	Course Title	ECTS Credits
META-511DL	NFTs and the Metaverse	10
Prerequisites	**Department**	**Semester**
None	Digital Innovation	Fall/Spring
Type of Course	**Field**	**Language of Instruction**
Required	Metaverse	English
Level of Course	**Lecturer**	**Year of Study**
2nd Cycle	Dr. George Giaglis, Punk 6529, and Dr. Leonidas Katelaris	1st
Mode of Delivery	**Work Placement**	**Corequisites**
Distance Learning	N/A	N/A

Course Objectives:

The main objectives of the course are to:

1. Help students engage deeply with the core concepts, terminologies, and technologies underpinning NFTs and the Metaverse.
2. Develop the ability to critically analyse the implications of NFTs and the Metaverse on digital art, business, social interactions, and the broader digital economy.
3. Gain practical exposure to NFT platforms, Metaverse environments, and the tools essential for navigating these digital landscapes.
4. Cultivate a forward-thinking perspective to envision the potential evolution of the Metaverse, Web3, and NFT ecosystems.
5. Understand and evaluate ethical, environmental, and socio-cultural challenges associated with NFTs and Metaverse developments.

Learning Outcomes:

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

1. Define, describe, and differentiate between terms such as NFT, Metaverse, ERC standards, smart contracts, and more.
2. Utilize NFT marketplaces, participate in virtual worlds, and demonstrate an understanding of how blockchain underpins these technologies.
3. Evaluate the advantages, challenges, controversies, and potential pitfalls associated with NFTs and the Metaverse in various contexts (art, business, social).

4. Assess the environmental impact of blockchain technologies, recognize potential data privacy issues in the Metaverse, and propose sustainable or ethical solutions.
5. Articulate potential future developments and trends in the NFT and Metaverse spaces, considering both technological advances and societal implications.

Course Content:

Session 1: Non-Fungible Tokens (NFTs) Fundamentals

- Understanding blockchain technology and smart contracts
- A brief introduction to the Ethereum blockchain and related standards
- Anatomy of an NFT: Metadata, Smart Contracts, and Token Standards
- Market size and structure

Session 2: Avatar & Profile Pictures (PFPs)

- Understanding avatar based NFTs and their significance
- Cultural and social impact of avatar NFTs
- Major projects and their contribution
- The evolution and future trends in PFP NFTs

Session 3: NFTs in Art

- The emergence of CryptoArt and its distinction from traditional art
- On-chain Generative Art
- NFTs in other arts (music, photography, etc.)
- Impact on artists – opportunities, challenges, and controversies
- Case studies of notable NFT artworks and sales

Session 4: Copyright and Provenance in NFTs

- Intellectual property basics in the digital domain
- Authenticity and provenance tracking through blockchain
- Rights management and royalties for artists and creators
- The complexities of copyright in the digital art landscape

Session 5: NFTs in Other Domains

- Virtual real estate and digital ownership
- NFTs in fashion and entertainment
- Tokenization of physical assets and real-world objects
- Exploration of up-and-coming NFT domains

Session 6: Foundations of the Metaverse

- Definition and conceptualization of the Metaverse:
  - Digital reality,
  - Interconnectivity, and
  - Presence
- Virtual worlds, augmented reality, and the Metaverse
- The economic and social structures within the Metaverse
- Connectivity between different Metaverses

Session 7: Metaverse Meets NFTs

- The role of NFTs in virtual worlds and digital economies
- Owning assets, land, and experiences in the Metaverse
- Virtual galleries, concerts, and events
- Metaverse & on-chain gaming: play-to-earn and game-fi
- Opportunities and challenges for creators and businesses

Session 8: Metaverse and Artificial Intelligence

- Introduction to AI and its relevance in virtual worlds
- Procedural content generation and dynamic world-building
- AI-driven avatars, Non-Player/Playable Characters (NPCs), and interactive experiences
- Ethical considerations and potential challenges

Session 9: Corporate Metaverses & Marketing Innovations

- The rise of branded and corporate virtual spaces
- Strategies and benefits of Metaverse marketing
- Case studies of successful Metaverse campaigns
- Future trends in Metaverse branding

Session 10: Security, Privacy, and Governance in the Metaverse

- Understanding potential threats and vulnerabilities
- Data privacy and user rights in virtual spaces
- Regulatory landscapes and self-governing communities
- Policy development and future challenges

Session 11: NFTs & the Metaverse: Advanced Considerations

- Technical challenges and scalability solutions
- Environmental concerns and energy-efficient alternatives
- DAOs and crowd ownership
- Innovative funding mechanisms
- Fractional NFTs & NFT-Fi

Session 12: A Vision for the Future of the Metaverse and Web3

- Predictions and potential trajectories of the Metaverse
- Potential socio-economic, cultural, and technological impacts
- How NFTs and the Metaverse might redefine digital ownership, creativity, and interaction

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:

		Intended Learning Outcomes to be assessed				
Assessment Method	**Weighting**	LO1	LO2	LO3	LO4	LO5
Assignments / Interactive Exercises	40%	✓	✓	✓	✓	✓
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