



FIN539 Metaverse With Web 3.0

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Course Outline

Subjects	Key Topics Covered
Introduction to metaverse	<ul style="list-style-type: none">• What is metaverse• Key technology pillars and building blocks of metaverse• Metaverse use cases
ChatGPT and Generative AI	<ul style="list-style-type: none">• What is ChatGPT• Market overview of generative AI• Key AIGC algorithms• Technology path of ChatGPT• Demo of generative AI applications
Web iterations, Web3 and Web3+	<ul style="list-style-type: none">• Web iterations• Why Web3• Opportunities and challenges in Web3 era• Web3 in Singapore• Where does Web3 go from here
Spatial computing and Game engines	<ul style="list-style-type: none">• Building block technologies of spatial computing (AR, VR, MR, XR)• XR SDK (Hands-on Demo: Google Model Viewer, RealityComposer, A-Frame)• Build the metaverse using game engines (Unreal engine, Unity)• Digital twin
Virtual economy, NFT, DeFi	<ul style="list-style-type: none">• Virtual identity (create & design your own avatar in metaverse)• Blockchain Wallet (create your MetaMask wallet and make your first transaction with test net)• Non-fungible tokens (NFTs)• Decentralized finance (DeFi)
Smart contract, DAOs	<ul style="list-style-type: none">• Smart contract (introduction to smart contract and solidity programming)• Decentralized autonomous organizations (DAOs)

A classification for Web 1.0, Web 2.0, Web 2.x+, Web 3.0, Web3 and Web3+.

Type	Definition	Characteristics
Web 1.0 (Web1)	Static web pages, providing information for browsing only.	The World Wide Web, where a few portal websites transmitted information in one direction through static web pages, and users could only browse information, not interact.
Web 2.0 (Web2)	Dynamic web pages, where users can share content and information with each other.	The current stage of the Internet, which obtains users' privacy and data through free and convenient services to generate revenue.
Web 2.x+	Based on Web2.0 technology but utilizes blockchain technology and cryptocurrency to achieve some degree of decentralization.	By utilizing mature traditional Web2.0 technology and the advantages of blockchain, it provides better internet services, with a lower degree of decentralization than Web3. X represents the degree of decentralization while "+" represents the inclusion of cryptocurrency.
Web 3.0	The next generation of the Internet, focused on decentralizing user data and privacy.	Web3.0 aims to improve efficiency and intelligence of the Internet by connecting and reading data from various websites, also emphasizing user privacy and data ownership.
Web3	Includes the use of blockchain technology and the integration of smart contracts.	The first introduction of blockchain technology and smart contracts to the Internet, also emphasizing decentralization, user privacy, and data ownership. It is more secure in terms of data storage compared to Web3.0 and puts user control first but may not necessarily use cryptocurrency.
Web3+	All possible implementations of Web3, including blockchain technology and cryptocurrency.	Web3 with cryptocurrency, which uses cryptocurrency to coordinate consensus and transfer value, has a vibrant economic system.

Source: JC Zheng and David Lee (2023), SUSS NiFT.

Future Direction of Web3

Metaverse – the Twin Economy

Web2 and Web3 merge for Better Development

DAO Keeps Web3 Active

More Interesting Web3 Applications Impacting Real Life





