Department	International College of Liberal Arts		
Semester	Fall 2024	Year Offered (Odd/Even/Every Year)	Every Year
Course Number	ECON/DATA370		
Course Title	Introduction to Fintech: Reshaping the Financial World		
Prerequisites	None		
Course Instructor	NAN Zhang	Year Available (Grade Level)	3
Subject Area	Global Business & Economics	Number of Credits	3
Class Style	Lecture	Language of instruction	English

(NOTE 1) Depending on the class size and the capacity of the facility, we may not be able to accommodate all students who wish to register for the course

Course Description	This course introducing financial technologies, or Fintech, is for students wishing to explore the ways in which new technologies are disrupting the financial service industry. Fintech refers to innovations aiming to compete with traditional methods in the delivery of financial services. Among the significant technology trends reshaping the financial world, the class will explore AI, deep learning, blockchain technology, cryptocurrencies, and Open APIs. We will then turn to four sectors of specific opportunities: payments, credit, trading, and risk management. Students will gain an understanding of key technologies, market structure, regulation, and the dynamics of change that Fintech brings. The class will use required readings containing online articles, academic papers, and cases. Prior preparation of the assigned readings is the necessary background for the lectures and class discussions, mainly as we build upon the material in our sessions. Because Fintech is evolving rapidly, we will occasionally post additional readings via announcements.
Class plan based on course evaluation from previous academic year	This syllabus may alter due to consideration of students' course evaluation and feedback in the previous academic year.

Course related to the instructor's practical experience (Summary of experience)	This course is taught by an instructor with practical experience.
Learning Goals	After successfully completing this course, students should be able to · Understand emerging Fintech developments reshaping financial services. · Describe the technologies underlying AI, deep learning, cryptocurrencies, and Open APIs. · Analyze their impact on the financial services industries. · How is FinTech reconfiguring financial services and business models? What are the key disruption points? What determines success in FinTech? · Where are the limits, risks, and broader policy and social implications of FinTech? · Give a financial recommendation of a Fintech within a particular sector, with clear and well-reasoned points of view.

iCLA Diploma Policy	DP1／DP2／DP3／DP4

iCLA Diploma Policy

(DP1) To Value Knowledge – Having high oral and written communication skills to be able to both comprehend and transfer knowledge

(DP2) To Be Able to Adapt to a Changing World – Having critical, creative, problem-solving, intercultural skills, global and independent mindset to adopt to a changing world

(DP3) To Believe in Collaboration – Having a disposition to work effectively and inclusively in teams

(DP4) To Act from a Sense of Personal and Social Responsibility – Having good ethical and moral values to make positive impacts in the world

Active Learning Methods	Problem-Based Learning／Discussion, Debate／Group Work／Presentation
More details/supplemental information on Active Learning Methods	This course asks students to engage their learning by thinking, discussing, investigating, and creating. We encourage students to focus on the Fintech articles and academic literature, delve into the underlying fundamentals, struggle with complex questions, explain ideas, and propose solutions.
Use of ICT	Programming language R will be touched in class aiming to do financial market analysis and simple automation of generating financial report. Blockchain simulators will be introduced for student's better understanding of blockchain and bitcoins. We will employ several deep learning algorithm using Python to deliberate the fundamentals of AI and its limitations.

Contents of class preparation and review	Students are expected to spend 5 hours per week on class preparation and review. Class preparation includes reading the materials and working on problems and questions. Class review includes summarizing contents in the materials and lectures, doing given practice.	Hours expected to be spent preparing for class (hours per week)	4 hours	Hours expected to be spent on class review (hours per week)	1 hours
Feedback Methods	a) In-class practice. Correction will be given. b) Feedback will be collected and responded through the Comments function on UNIPA. c) Quizzes, will provide explanations of solutions and model answers to questions in the class. d) Will meet with students individually by request. You can book a session meeting with me through the link below: The MS Outlook's Bookings website for making an online appointment. https://outlook.office365.com/owa/calendar/MakinganAppointmentwithProfNan@c2c.ac.jp/bookings/ Or sending me an email to: nan.zheng@c2c.ac.jp				

Grading Criteria		
Grading Methods	Grading Weights	Grading Content
Classroom participation	20%	
Study questions and pratice	30%	
Quizzes	20%	
Oral presentation	10%	
Written report	20%	individual paper and group paper

Required Textbook(s)	There is no assigned textbook. This course is based on online articles and academic papers.
Other Reading Materials/URL	Please see the class schedule to find Other Reading Materials.
Plagiarism Policy	Plagiarism is the dishonest presentation of the work of others as if it were one's own. Duplicate submission is also treated as plagiarism. Depending on the nature of plagiarism, you may fail the assignment or the course. The repeated act of plagiarism will be reported to the University, which may apply additional penalties.

Other Additional Notes (Outline crucial policies and info not mentioned above)	The class will meet twice for 15 weeks during finals week. We will use one class session giving the lecture and case studies a week; then, we will use one recitation session to review, discuss, and practice. o Students need to do the reading to contribute effectively to discussion Please come to class prepared to engage, listen, and learn. o Students should give answers to the study questions before the recitation session, and they should draw on their own experiences and perspectives as much as possible. o The students need to do individual writing before generate the group paper. o The group research paper (about 3000-4000 words) is due at the end of the semester. Students will work with 3-4 people on this project. However, an individual's contribution to this project should be approximately equal. Finally, each group will present its work with all members' participation. o Students should read the assigned readings carefully. The lectures synthesize overall views, highlight important points and help understand complex topics but are insufficient by themselves.

(NOTE 2) Class schedule is subject to change

Class Schedule	
Class Number	Content
Class 1	1. Introduction; Key Fintech Trends I; study questions Required readings 'The economic forces driving fintech adoption across countries' Jon Frost, BIS Working Papers (February 4, 2020) 'FinTech and market structure in financial services' Financial Stability Board (February 14, 2019) 'The Future of Banking' FDIC Chair Jelena McWilliams (October 1, 2019) 'The banking tech trends that will dominate 2020' American Banker (January 7, 2020) 'Big tech in finance: opportunities and risks' BIS Annual Economic Report (June 23, 2019)
Class 2	2. Key Fintech Trends; Discussion, and assignment/practice Required readings 'The Future of Banking' FDIC Chair Jelena McWilliams (October 1, 2019) Optional Readings The banking tech trends that will dominate 2020' American Banker (January 7, 2020) 'Big tech in finance: opportunities and risks' BIS Annual Economic Report (June 23, 2019)
Class 3	3. Open API Open API and marketing channels; study question Required Readings 'Report on open banking and application programming interfaces (APIs)' Bank of International Settlement (November 2019) 'Fintechs next decade will look radically different' Nik Milanovic, TechCrunch (December 22, 2019) 'RPA in Banking-Use-cases, Benefits and Steps' Maruti Techlabs, Medium Post (November 28, 2019) 'Pros and cons of RPA platforms vs. APIs' George Lawton, TechTarget (September 5, 2019)
Class 4	4. Open API and marketing channels; Discussion, and assignment/practice
Class 5	5. Trading & Capital Markets The death of brokerage fees and Robo-advisor Required Readings 'How Robinhood Changed an Industry' John Divine, US News (October 17, 2019) 'Charles Schwab and the New Broker Wars' Daren Fonda, Barron's (October 4, 2019) 'The Death of Brokerage Fees Was 50 Years in the Making' Stephen Mihm, Bloomberg (January 3, 2020) 'Robo-Advisors: Product vs. Platform' Henry O' Brien, The Startup (June 10, 2019) '8 Best Robo-Advisors of 2020' , Eric Rosenberg, The Balance (November 20, 2019)
Class 6	6. Trading & Capital Markets; Discussion, and assignment/practice

Class 7	7. Blockchain I Encryption and Information Security; study questions Required Readings Public-key cryptography for non-geeks The Mozilla Foundation, Encryption and Decryption. The Essence of the Blockchain. Michael Scott,2016
Class 8	8. Blockchain I; Discussion, and assignment/practice
Class 9	9. Blockchain II Blockchain technology; study questions Required Readings 'Even if a Thousand Projects Don't Make It, Blockchain Is Still a Change Catalyst' Gary Gensler, CoinDesk (December 15, 2019) 'Blockchain Technology Overview' Dylan Yaga et al. National Institute of Standards and Technology (October 2018) (pages 1-3, & 7-28, sections 1, 3 & 4 Walmart is betting on blockchain to improve food safety, TechCrunch, September 2018 Introduction to Web3, Etherum.org, September 27, 2022 'Google Cloud partners with Tezos blockchain to bring web3 technology to its customers', Jacquelyn Melinek, February 22, 2023.
Class 10	10. Blockchain II; Discussion, and assignment/practice
Class 11	11. Cryptocurrencies I Bitcoin: study questions Required Readings 'Bitcoin: A Peer-to-Peer Electronic Cash System' Satoshi Nakamoto (October 31, 2008) Bitcoin: A Revolution. Guillaume Haeringer and Hanna Halaburda, Bitcoin. Published in Digital Economy 2018. 'The technology of retail central bank digital currency' Raphael Auer and Rainer Boehme, Bank of International Settlement (March 1, 2020)
Class 12	12. Cryptocurrencies I; Discussion, and assignment/practice
Class 13	13. Cryptocurrencies II Alter coins: study questions Required Readings Intro to Ethereum, Ethereum.org, April 13, 2023 Bitcoin and Ethereum: How smart contracts work. Christopher Burniske, ARK Research blog, May 29, 2016. Is Libra really a cryptocurrency? Gian Volpicelli, Wired, Aug 14, 2019 Luna Crypto Crash: How UST Broke and What's Next for Terra, May 25, 2022
Class 14	14. Cryptocurrencies II; Discussion, and assignment/practice; Final project requirements
Class 15	15. Payments Payment innovations; study questions Required Readings 'The Digitalization of Payments and Currency: Some Issues for Consideration' Lael Brainard, Federal Reserve Board (February 5, 2020) '7 Key Payments Innovations in Fintech for 2020' Artur Olechowski, Codete (February 13, 2020) '9 Payment Trends That Will Shape 2020' Estelle Mense, BlueSnap (December 5, 2019)

Class 16	16. Payments; Discussion, and assignment/practice
Class 17	17. Credit and Lending Credit card innovation and big tech firms lending; study questions Required Readings 'Apple Card: 12 Fintech Companies Driving Credit Card Innovation' Jeremy Brown, Crunchbase (March 26, 2019) 'Need a loan? There's a tech company for that' Jason Abbruzzese, NBC (November 11, 2019) 'Get to Know Your Marketplace Lenders' American Banker (accessed March 25, 2020) 'Tech lenders push for a piece of the coronavirus, small-business bailout' Kate Rooney, CNBC (March 23, 2020)
Class 18	18. Credit and Lending; Discussion, and assignment/practice Required Readings 'Peer-to-Peer Lending 101' Jeff Rose, Good Financial Cents (November 20, 2019) 'Alternative Data Across the Loan Life Cycle: How FinTech and Other Lenders Use It and Why (PDF – 2.3MB)' Experian (December 4, 2018) 'US lending at point of sale: The next frontier of growth' Puneet Dikshit, Diana Goldshtein, and Udai Kaura, McKinsey & Company (November 4, 2019) 'Detroit-based mortgage giant Quicken Loans on pace to set home loan record' JC Reindl, Detroit Free Press (December 11, 2019)
Class 19	19. Challenger Banks; study questions Required Readings 'The Challenger Banks That Threaten to Disrupt Financial Institutions' Bill Streeter, The Financial Brand (February 18, 2020) 'Dawn of The Neobank: The Fintechs Trying to Kill the Corner Bank' Jeff Kauflin, Forbes (November 4, 2019) '2020 will be a challenging year for challenger banks' Romain Dillet, TechCrunch (January 4, 2020) '10 Best Challenger Banks in The World' Crypterium
Class 20	20. Challenger Banks, Discussion, and assignment/practice
Class 21	21. Insurance Insure Tech, study questions. Required Readings 'Quarterly InsurTech Briefing Q4 2019' , CB Insights (January 2020) (excerpts only—Introduction & The Data Center Charts) 'Three insurtech trends to watch in 2020' , Harry Menear, FinTech (March 11, 2020) 'Fintech developments in the insurance industry—Executive Summary' Bank of International Settlement (February 28, 2019) 'Why Asia is fertile new ground for the insurtech startup movement' , Optional Readings 'The Future of Insurance: Fintech 50 2020' , Ashlea Ebeling, Forbes (February 12, 2020) 'Top 15 insurtech companies in the US' , Geraldine Grones, Insurance Business News (January 17, 2020) 'How Insurtechs are Transforming Insurance Underwriting—7 Examples' Accenture Insurance (August 30, 2018)
Class 22	22. Insurance, Discussion, and assignment/practice
Class 23	23. Artificial Intelligence I AI, machine learning, and deep learning, study questions Required Readings 'Artificial intelligence and machine learning in financial services' Financial Stability Board (November 1, 2017) (Pages 3-23, Executive Summary & Sections 1-3) 'The Growing Impact of AI in Financial Services: Six Examples' Arthur Bachinskiy, Medium (February 21, 2019) Class 24 Artificial Intelligence I, Discussion, and assignment/practice

Class 24	24. Artificial Intelligence I, Discussion, and assignment/practice
Class 25	25. Artificial Intelligence II AI, machine learning, and deep learning Required Readings 'Artificial Intelligence Applications in Financial Services' Oliver Wyman (December 2019) (Pages 11-30, Section on 'How is AI Applied in Financial Services?') 'Artificial Intelligence & Financial Services - Fall 2019 Report' (PDF – 2.6MB) Mayer Brown (October 2019) (pages 3-13, Section on 'AI and Big Data Regulatory Risks Under Banking and Consumer Financial Laws') 'Fintech: Understanding AI Use in Financial Services' Julie Stackhouse, Federal Reserve Bank of St. Louis (April 29, 2019)
Class 26	26. Artificial Intelligence II, Discussion, and assignment/practice
Class 27	Class 27 Artificial Intelligence III Artificial Intelligence in Finance
Class 28	Class 28 Artificial Intelligence III, Discussion, and assignment/practice
Class 29	9. Coronavirus Crisis Coronavirus crisis and finance Required Readings ' '8 top Fintech VCs discuss COVID-19 trends, signals and opportunities' Natasha Mascarenhas, Alex Wilhelm, and Arman Tabatabai, TechCrunch (April 21, 2020) 'Is the Coronavirus Killing Off Cash?' Nancy Scola, Politico (April 17, 2020) 'Fintech firms race to plug gaps in UK's coronavirus relief measures' Ryan Browne, CNBC (April 23, 2020) '7 VCs lo
Class 30	30 Coronavirus Crisis, discussion