



FACULTY OF BUSINESS
MASTER OF SCIENCE IN FINANCE WITH DATA ANALYTICS
LEARNING MODULE OUTLINE

Academic Year	2025/26	Semester	1
Module Code	FIDA6106-211		
Learning Module	Introduction to Financial Technology		
Pre-requisite(s)	Nil		
Medium of Instruction	English		
Credits	3	Contact Hours	45
Instructor	Prof. Victor Chan	Email	vkychan@mpu.edu.mo
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MODULE DESCRIPTION

This module introduces this fast-growing and exciting intersection between finance (Fin) and technology (Tech) while emphasizing the role data and analytics play. Fintech innovations such as chatbots, robo-advisors, fraud detection, blockchain, smart contracts, digital currencies (cryptocurrencies), quantitative trading, insurance technology (InsurTech), e-payment, electronic initial public offering (IPO) and cybersecurity are examined. The marketplaces, the incumbents and the impacts of the most relevant technologies have on the business are also examined.

MODULE INTENDED LEARNING OUTCOMES (ILOS)

On completion of this learning module, students will be able to:

M1.	analyse artificial intelligence in finance, e.g. chatbots, robo-advisors, fraud detection, etc.,
M2.	analyse blockchain and such related issues as smart contracts,
M3.	analyse digital currencies (cryptocurrencies) whether centralized or decentralized and whether central bank-backed or not,
M4.	analyse quantitative trading,
M5.	analyse insurance technology (InsurTech), e.g. policy ultra-customization, social insurance, premium pricing based on behaviour as per internet data
M6.	analyse e-payment and electronic IPO and
M7.	analyse cybersecurity.

These ILOs aims to enable students to attain the following Programme Intended Learning Outcomes (PILOs):



PILOs	M1	M2	M3	M4	M5	M6	M7
P1. Master critical knowledge of financial theories, financial models and data analytics in finance and apply it to a wide range of complex financial issues.			✓	✓			
P2. Expand knowledge of finance and data analytics through critically evaluating current issues informed by leading edge research and practice in the industry.							
P3. Conduct applied research, particularly using data analytics, into financial issues through a rigorous and systematic approach.	✓	✓	✓	✓	✓	✓	✓
P4. Communicate effectively, written and orally, to both professional and non-professional audiences on local and global financial issues.	✓	✓	✓	✓	✓	✓	✓
P5. Demonstrate skills in time management, teamwork, leadership and independent study so that tasks can be planned and implemented at a professional level.	✓	✓	✓	✓	✓	✓	✓
P6. Identify and address ethical dilemmas and social responsibility issues to uphold high standards of integrity, professionalism and ethical behaviour.	✓	✓	✓	✓	✓	✓	✓

MODULE SCHEDULE, COVERAGE AND STUDY LOAD

Week	Content Coverage	Contact Hours
1	Artificial intelligence in finance	3
2	Artificial intelligence in finance	3
3	Blockchain	3
4	Blockchain	3
5	Digital currencies (cryptocurrencies)	3
6	Digital currencies (cryptocurrencies)	3
7	Quantitative trading	3
8	Quantitative trading	3
9	Insurance technology (InsurTech)	3
10	Insurance technology (InsurTech)	3
11	E-payment and electronic IPO	3
12	E-payment and electronic IPO	3
13	Cybersecurity	3
14	Cybersecurity	3



15	Presentation and/or summarization	3
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TEACHING AND LEARNING ACTIVITIES

In this learning module, students will work towards attaining the ILOs through the following teaching and learning activities:

Teaching and Learning Activities	M1	M2	M3	M4	M5	M6	M7
T1. Lectures	✓	✓	✓	✓	✓	✓	✓
T2. Videos	✓		✓	✓		✓	
T3. Case studies	✓		✓	✓	✓	✓	
T4. Group discussion	✓	✓	✓	✓	✓	✓	✓
T5. Hands-on practice	✓		✓		✓	✓	

ATTENDANCE

Attendance requirements are governed by the Academic Regulations Governing Master's Degree Programmes of the Macao Polytechnic University. Students who do not meet the attendance requirements for the learning module shall be awarded an 'F' grade.

ASSESSMENT

In this learning module, students are required to complete the following assessment activities:

Assessment Activities	Weighting (%)	ILOs to be Assessed
A1. Class participation and class exercises	20	M1 to M7
A2. Interim project	40	M1 to M3
A3. Final project	40	M1 to M7

The assessment will be conducted following the University's Assessment Strategy (see www.mpu.edu.mo/teaching_learning/en/assessment_strategy.php). Passing this learning module indicates that students will have attained the ILOs of this learning module and thus acquired its credits.



MARKING SCHEME

Assessment Criterion	Level of Comprehensiveness				
	0 (0% - 29%)	1 (30% - 49%)	2 (50% - 69%)	3 (70% - 89%)	4 (90% - 100%)
Artificial intelligence in finance	Not relevantly presented	Vaguely presented and not discussed	Presented but not adequately discussed	Presented and somewhat adequately discussed	Clearly presented and adequately discussed
Blockchain and smart contracts	Not relevantly presented	Vaguely presented and not discussed	Presented but not adequately discussed	Presented and somewhat adequately discussed	Clearly presented and adequately discussed
Digital currencies (cryptocurrencies)	Not relevantly presented	Vaguely presented and not discussed	Presented but not adequately discussed	Presented and somewhat adequately discussed	Clearly presented and adequately discussed
Quantitative trading	Not relevantly presented	Vaguely presented and not discussed	Presented but not adequately discussed	Presented and somewhat adequately discussed	Clearly presented and adequately discussed
Insurance technology (InsurTech)	Not relevantly presented	Vaguely presented and not discussed	Presented but not adequately discussed	Presented and somewhat adequately discussed	Clearly presented and adequately discussed
E-payment and electronic IPO	Not relevantly presented	Vaguely presented and not discussed	Presented but not adequately discussed	Presented and somewhat adequately discussed	Clearly presented and adequately discussed
Cybersecurity	Not relevantly presented	Vaguely presented and not discussed	Presented but not adequately discussed	Presented and somewhat adequately discussed	Clearly presented and adequately discussed

REQUIRED READINGS

(Handouts)

REFERENCES

M. R. King, 2023, *Fintech Explained: How Technology Is Transforming Financial Services*, University of Toronto Press.

Andalus Publishing, 2024, *Introduction to Fintech*, Andalus Publishing.

R. P. Buckley, D. W. Arner, D. A. Zetsche, 2024, *FinTech: Finance, Technology and Regulation*, Cambridge University Press.

D. L. Shrier and A. Pentland (Ed.), 2022, *Global Fintech: Financial Innovation in the Connected World*, MIT Press

S. O'Hanlon, S. Chishti, B. Bradley, J. Jockle and D. Patrick, 2020, *FinTech for Dummies*, Wiley.

F. Schär and A. Berentsen, 2020, *Bitcoin, Blockchain, and Cryptoassets: A Comprehensive Introduction*, MIT Press.

D. C. Wilson, 2021, *Cybersecurity*, MIT Press.

P. Scholz (Ed.), 2021, *Robo-Advisory: Investing in the Digital Age*, Palgrave Macmillan.

S. Chishti, T. Craddock, R. Courtneidge and M. Zachariadis (Ed.), 2020, *The PAYTECH Book: The Payment Technology Handbook for Investors, Entrepreneurs, and FinTech Visionaries*, Wiley.



D. K. C. Lee, J. Lim, K. F. Phoon and Y. Wang (Ed.), 2022, Applications and Trends in Fintech I: Governance, AI, and Blockchain Design Thinking, Global Fintech Institute and World Scientific.

R. Beckson, 2022, BASIC FINTECH KNOWLEDGE: An Introduction to How Fintech Can Revolutionize Your Thoughts on Banking and Finance.

A. Bhardwaj, 2023, Unleashing the Future: Exploring Emerging Trends in Fintech.

A. Krishnakumar and T. Lau, 2023, The Metaverse Economy: How Finance Professionals Can Make Sense of Web3, 1st Ed., Kogan Page.

STUDENT FEEDBACK

At the end of every semester, students are invited to provide feedback on the learning module and the teaching arrangement through questionnaires. Your feedback is valuable for instructors to enhance the module and its delivery for future students. The instructor and programme coordinators will consider all feedback and respond with actions formally in the annual programme review.

ACADEMIC INTEGRITY

The Macao Polytechnic University requires students to have full commitment to academic integrity when engaging in research and academic activities. Violations of academic integrity, which include but are not limited to plagiarism, collusion, fabrication or falsification, repeated use of assignments and cheating in examinations, are considered as serious academic offenses and may lead to disciplinary actions. Students should read the relevant regulations and guidelines in the Student Handbook which is distributed upon the admission into the University, a copy of which can also be found at www.mpu.edu.mo/student_handbook/.