

## The University of Hong Kong Postgraduate Studies at HKUCS

Department of Computer Science The University of Hong Kong

2020



# THE UNIVERSITY OF HONG KONG (HKU)



# SOMETHING ABOUT HKU

#### Renowned Tradition

- Hong Kong's first tertiary institution since 1912
- International Recognition
  - The latest QS (Quacquarelli Symonds) World University Ranking 2021 placed HKU as the 22<sup>nd</sup> ranked university in the world.

#### Academic Excellence

- Top-tier academic and research staff from around the world
- Cross-Cultural Exposure
  - Mix of international faculty and students
  - English-speaking university



### DEPARTMENT OF COMPUTER SCIENCE (HKUCS)

**HKUCS Postgraduate Programmes** 

- × MPhil/PhD
- × MSc in Computer Science
- MSc in Electronic Commerce and Internet Computing
- MSc in Financial Technology and Data Analytics
- Master of Data Science



# Master of Science in Financial Technology and Data Analytics [MSc(FTDA)]



### NEW FINTECH MASTER PROGRAMME (FIRST INTAKE SEP 2021)



### **The Programme Management Team**

- Dr KP Chow
- Dr Allen Au







- Truly interdisciplinary and highly integrated programmes
- Two-year part-time curriculum
- Target intake: 60 students
- Enrolment mode:
  - + 10 Courses (at least 60 Credits)^ + Project (12 Credits)
- Tuition fee: HK\$250,000 for the 2021 intake
- <sup>^</sup> Most courses in the curriculum has 6 credits. However, courses offered by Faculty of Law has 9 credits.





# List A: Disciplinary compulsory courses (3 courses, 21 credits)

Discipline	Course
Technology	FITE7409 Blockchain and cryptocurrency (6 credits) or COMP7408 Distributed ledger and blockchain technology (6 credits)
Finance	MFIN7002 Investment analysis and portfolio management (6 credits)
Law	LLAW6093 Regulation of financial markets (9 credits)

# Students holding a non-computer science major should select FITE7409 Blockchain and Cryptocurrency while candidates holding a computer science major should select COMP7408 Distributed Ledger and Blockchain Technology.



#### List B: Disciplinary courses (3 courses, 18 credits)

List B-1 (with at least 6 credits from courses below)	List B-2 (with at least 6 credits from courses below)
COMP7802 Introduction to Financial computing (6 credits)	FITE7407 Securities transaction banking (6 credits)
COMP7906 Introduction to cyber security (6 credits)	FITE7410 Financial Fraud Analytics (6 credits)
ECOM6016 Electronic payment systems (6 credits)	STAT6013 Financial data analysis (6 credits)



#### List C: Disciplinary courses

#### (4 courses with at least 24 credits)

List C-1 (with at least 6 credits from courses below)	List C-2 (with at least 6 credits from courses below)
FITE7405 Techniques in computational finance (6 credits)	ECOM6023 E-financial services (6 credits)
FITE7406 Software development for quantitative finance (6 credits)	IELM7018 Financial engineering (6 credits)
FITE7801 Topics in financial technology (6 credits)	LLAW6046 Privacy and data protection (9 credits)
COMP7103 Data Mining (6 credits)	LLAW6126 E-Finance: law, compliance and technology challenges (9 credits)
COMP7305 Cluster and cloud computing (6 credits)	LLAW6256 Law of anti-money laundering and counter-terrorist financing and compliance issues (9 credits)
COMP7404 Computational intelligence and machine learning (6 credits)	MFIN7034 ^ Machine learning and artificial intelligence in finance (6 credits) or MFIN7037 ^ Quantitative trading (6 credits)
DASC7606 Deep learning (6 credits)	STAT6015 Advanced quantitative risk management and finance (6 credits)
STAT8020 Quantitative strategies and algorithmic trading (6 credits)	

^ Students can select either MFIN7034 Machine learning and artificial intelligence in finance or MFIN7037 Quantitative trading.



#### **Capstone requirement**

(12 credits)

- All students would have to enrol in FITE7001 Project.
- Recommend to be a group project.
- Can be case study or software prototype implementation.
- Not required to be basic research.

# HKU-ASTRI WORK-STUDY SCHEME

- Collaborate with The Hong Kong Applied Science and Technology Research Institute (ASTRI) to cultivate future FinTech talent.
- This scheme is for first-year students enrolled in MSc(FTDA), suitable for newly graduate in June 2021.
- ASTRI will provide paid full-time employment for up to 30 students for a nine-month period and assigning them to one of ASTRI's many ongoing FinTech projects.
- Students can gain practical experience while doing their internship with local financial institutions.

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 It is optional for MSc(FTDA) students to join the Work-Study Scheme.



# ADMISSION REQUIREMENTS

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- A Bachelor's degree in Engineering or Science discipline with honours; or an equivalent qualification
- For applicants graduating from universities not using English as a teaching medium
  - English Language Proficiency Requirement
  - TOEFL : 550 or above (paper-based test) or 80 or above (internet-based test)
  - IELTS: a minimum overall band of 6 with no subtest lower than 5.5





# ADMISSION PROCEDURES

Online application ONLY:

http://hku.hk/tpg/

Application deadlines

	Main Round	Clearing Round
MSc(ECom&IComp) / MSc(FTDA)	31 Dec 2020	15 Apr 2021



We offer scholarships to attract and reward the best students. All scholarships shall be awarded on the basis of academic merit and personal qualities.

#### **HKU-SCF Scholarship in Financial Technology**

The HKU-SCF FinTech Academy will offer five scholarship\*, each at the value of HK\$60,000, exclusively for MSc(FTDA) and MSc(CompSc) [Financial Computing Stream] students. It shall be awarded to local students who are Hong Kong permanent residents.

\* Supported by Standard Chartered Hong Kong 150th Anniversary Community Foundation (SCF).





## THE UNIVERSITY OF HONG KONG MSc in Electronic Commerce and Internet Computing

Innovate your Global Business with Technology





#### **Our Mission**

- To deliver the best e-commerce and Internet computing Master-level programme
- To bridge between technology and business
- To meet the demand of the mature students with a state-of-the-art in curriculum
- To build a growing community and network of ecommerce professionals in various businesses & occupations for Hong Kong & China



### **The Programme Management Team**

- Dr KP Chow Programme Director
- Professor CL Wang Associate Programme Director
- Professor Paul Cheung Project Coordinator









### **How We Make a Difference**

- First of its kind in Hong Kong since 1999
  - We have attracted the cream of the applicants to build a solid foundation

#### International and Responsible Faculty

- About half of our instructors are overseas experts knowledgeable about the latest developments in global e-business
- All instructors are subject experts with understanding of business applications of Internet and communication technologies
- All instructors take their teaching responsibility seriously to enthuse and interest you



### **MSc Degree – Complete 72 credits**

#### Enrolment modes:

- 10 Courses (60 Credits) ^ + Case Study Project (12 Credits) or
- 8 Courses (48 Credits) ^ + Dissertation (24 Credits)

^ Each course normally carries 6 credits.



### Curriculum – Discipline courses At least 4 out of 8 Fundamental courses

ECOM6004	Legal aspects of IT and e-commerce
ECOM6008	Supply chain and e-logistics management
ECOM6013	E-commerce technologies
ECOM6029	E-business transformation
ICOM6012	Internet infrastructure technologies
ICOM6034	Website engineering
ICOM6045	Fundamentals of e-commerce security
ICOM6046	Semantic data architecture



### **Curriculum – Discipline courses Any combinations of your choice**

ECOM	Legal aspects of IT and
6004	e-commerce
ECOM	Supply chain and e-
6008	logistics management
ECOM	E-commerce
6013	technologies
ECOM	E-business
6029	transformation
ICOM 6012	Internet infrastructure technologies
ICOM 6034	Website engineering
ICOM	Fundamentals of e-
6045	commerce security
ICOM	Semantic data
6046	architecture

ECOM 6014	E-marketing
ECOM 6023	E-financial services
ECOM 7122	Entrepreneurship development and FinTech ventures in Asia
ECOM 7124	Mobile and IoT computing services and applications
ICOM 6044	Data science for business
COMP 7404	Computational intelligence and machine learning
COMP 7802	Introduction to financial computing
FITE 7410	Financial fraud analytics

ECOM 6016	Electronic payment systems
ECOM 7121	Dynamic digital capabilities
ECOM 7123	Building smart cities: an information system approach
ICOM 6027	E-crimes: digital crime scenes & legal sanctions
ICOM 7125	Digital forensics
COMP 7407	Securities transaction banking
COMP 7901	Legal protection of digital property

\* The curriculum is subject to review every year. New courses may be added to the curriculum and some courses may be removed. Some courses are only offered in alternate years.

#### Cross-curriculum enrolment

- May select up to 12 credits of elective courses (i.e. normally 2 courses) from other taught-postgraduate programmes in the Faculty of Engineering, e.g. MSc(CompSc), MSc(Eng)(EEE)
- o Subject to approval by the directors of the home programme and the offering programme



#### **Capstone Requirement**

- All students would have to enrol in either a Case Study Project (ECOM7001) or a Dissertation (ECOM7000)
- Normally the project starts after the student has completed at least 2 courses of the degree
- All projects should commence in the second semester of an academic year

Project Type	Full-Time Students	Part-Time Students
Case Study Project	2 – 3 semesters	3 – 5 semesters
Dissertation	3 – 5 semesters	5 – 8 semesters



### **Case Study Project**

12 credits (equivalent to 2 courses)

- Designed for students interested in real E-Commerce experience and integration of what have been learned
- Work on an innovative E-Commerce business plan and try to execute the plan as a genuine company
- Work in group of 4 (nominal, min 3 max 5)



### **Case Study Project**

12 credits (equivalent to 2 courses)

Some project titles:

- DigNews
- STEM Course Matching Platform
- BitComp The Price Quoting Platform of Cryptocurrencies
- Return Water Flight Compensation Claim
- Secretarial Management Solutions





### **Dissertation**

24 credits (equivalent to 4 courses)

 Designed for research-oriented students with a suitable background to work on a substantive, indepth dissertation of a Master-degree level, in an area of E-Commerce technology or business topic

Self-proposed individual project



#### Words from our graduates



#### Vincent Chung (Class of 2020)

System Analyst, Speedy Group Corporation Limited "I chose to study in MSc(ECom&IComp) because the programme allows me to customize my own course profile based on my interest. If you are already a tech-savvy, you might consider taking more ICOM courses or some CS electives to challenge your problem solving skills and broaden your technical knowledge. The Case Study Project impressed me most with this programme. I enjoy thinking about different creative and feasible ideas, then select the best one with my teammates and turn it into reality."

#### Adrian Darmansyah (Class of 2020)

#### Engineer, ARUP

"I would recommend this programme to the prospective students who are keen to discover unique approaches particularly in adoption of transformative technologies. To those who have accepted the offer to enter the programme, I would highly encourage taking the more challenging courses offered within this programme, as they are rewarding and well worth your time and effort.





#### Shizhu Wang (Class of 2020)

"The most amazing part of HKU MSc(ECom&IComp) programme is its wide spectrum of topics covering the most updated technologies and applications around the globe. All lectures are well designed, prepared and given by domestic or overseas experienced professors.."



### **2020 Admission**

- Total number of applicants: > 540
- Total number of students admitted: 118
  - 72 Part-time
  - 46 Full-time
- Age range: 22-66
- Undergraduate degrees: BBA, CS, Accounting, Translation, Arts, etc.



### **Admission Requirements**

- A Bachelor's degree with honours, or an equivalent qualification
- For applicants graduating from universities not using English as a teaching medium
  - English Language Proficiency Requirement
  - TOEFL : 550 or above (paper-based test) or 80 or above (internet-based test)
  - IELTS: a minimum overall band of 6 with no subtest lower than 5.5





#### **Programme Fees**

- Each 6-credit course: HK\$13,000
- Case Study Project: HK\$26,000
- Dissertation: HK\$52,000
- Total composition fee for the two enrolment modes:
  - 10 courses + Case Study Project: (HK\$13,000 x 10) + HK\$26,000 = HK\$156,000
  - 8 courses + Dissertation: (HK\$13,000 x 8) + HK\$52,000 = HK\$156,000

