

# School of Computing and Data Science

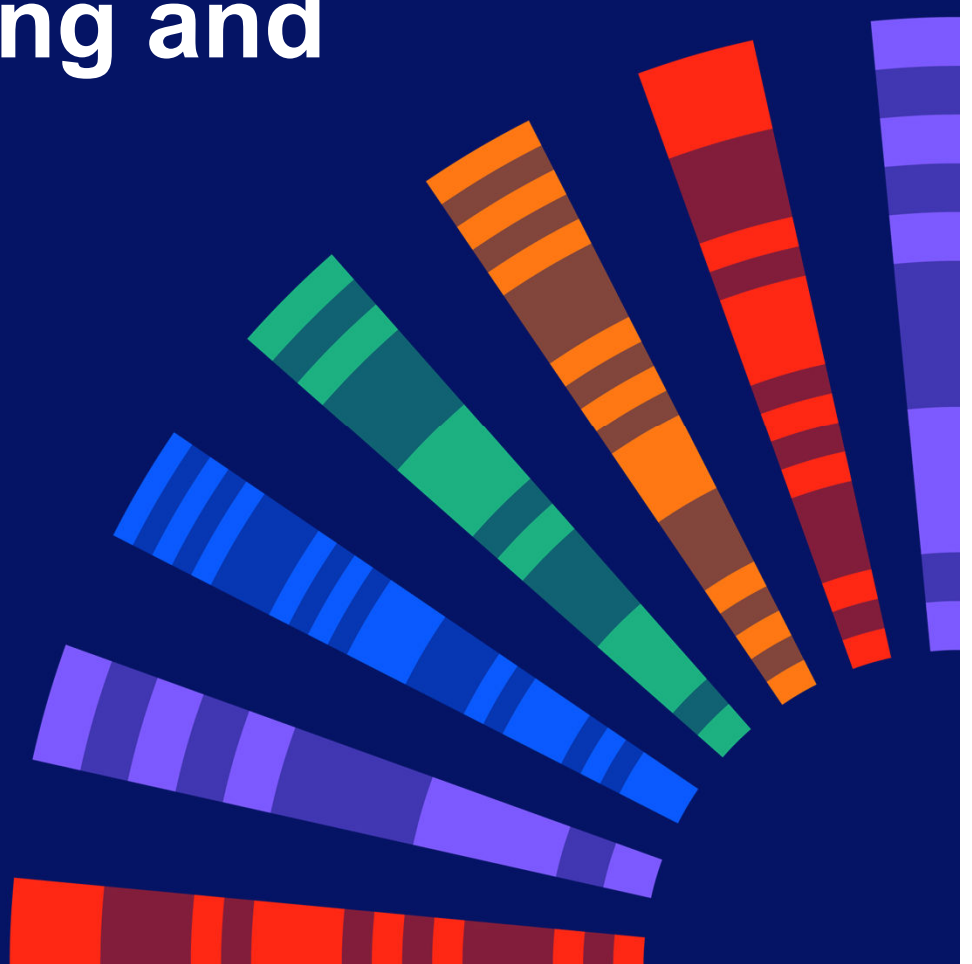
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*Empowering Changemakers of the Future*

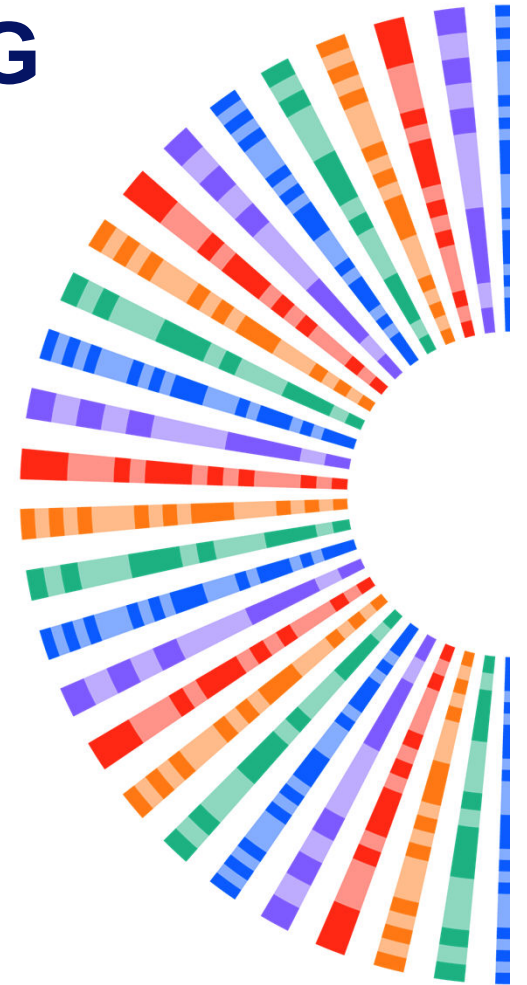
## MSc Programmes Information Session



SCHOOL OF  
COMPUTING &  
DATA SCIENCE  
The University of Hong Kong



# THE UNIVERSITY OF HONG KONG (HKU)



# Something about HKU

- **Renowned Tradition**
  - Hong Kong's first tertiary institution since 1912
- **Academic Excellence**
  - Top-tier academic and research staff from around the world
- **Cross-Cultural Exposure**
  - **Mix of “international faculty and students”**
  - **“English-speaking” university**



The University of Hong Kong  
School of Computing & Data Science



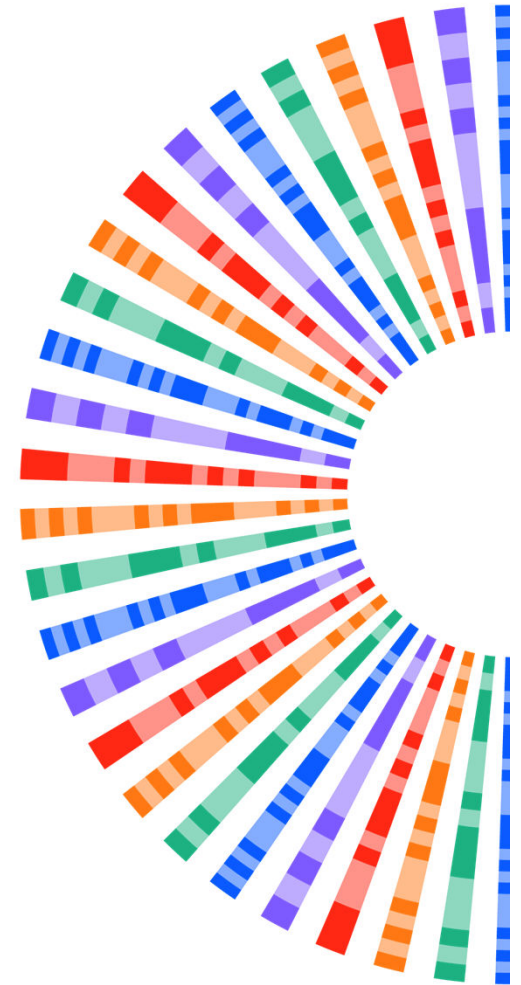
# School of Computing and Data Science (HKUCDS)

## HKUCDS Postgraduate Programmes

- MPhil/PhD (not for today's talk)
- **MSc in Computer Science**
- **MSc in Electronic Commerce and Internet Computing**
- **MSc in Financial Technology and Data Analytics**
- Master of Data Science
- Master of Statistics
- MSc in Artificial Intelligence



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# Our Programme Team

- Professor SM Yiu – Associate Director (TPg),  
School of Computing and Data Science
- Professor KP Chow – MSc Programme Director
- Dr Loretta Choi – Assistant Director (TPg),  
School of Computing and Data Science
- Dr Dirk Schnieders – Associate Programme Director
- Dr HF Ting – Associate Programme Director (Admission Director)



# Our Visiting Professors

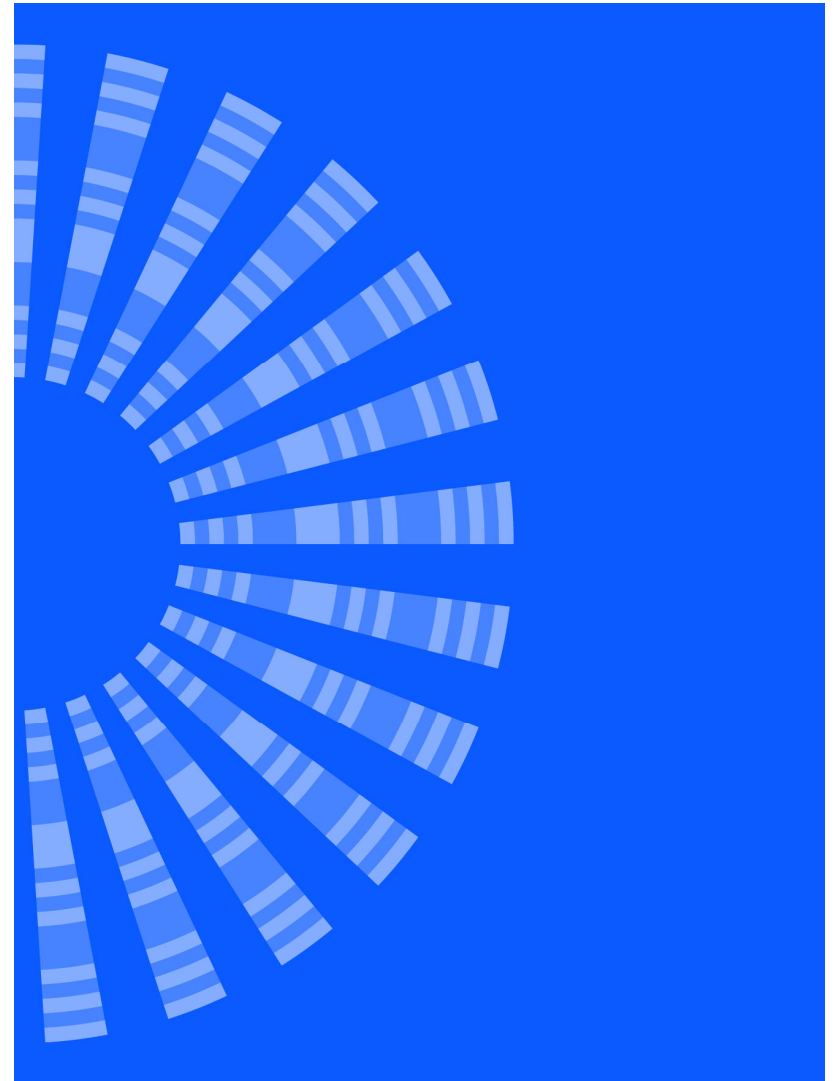




# Master of Science in Computer Science



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## Our Programme

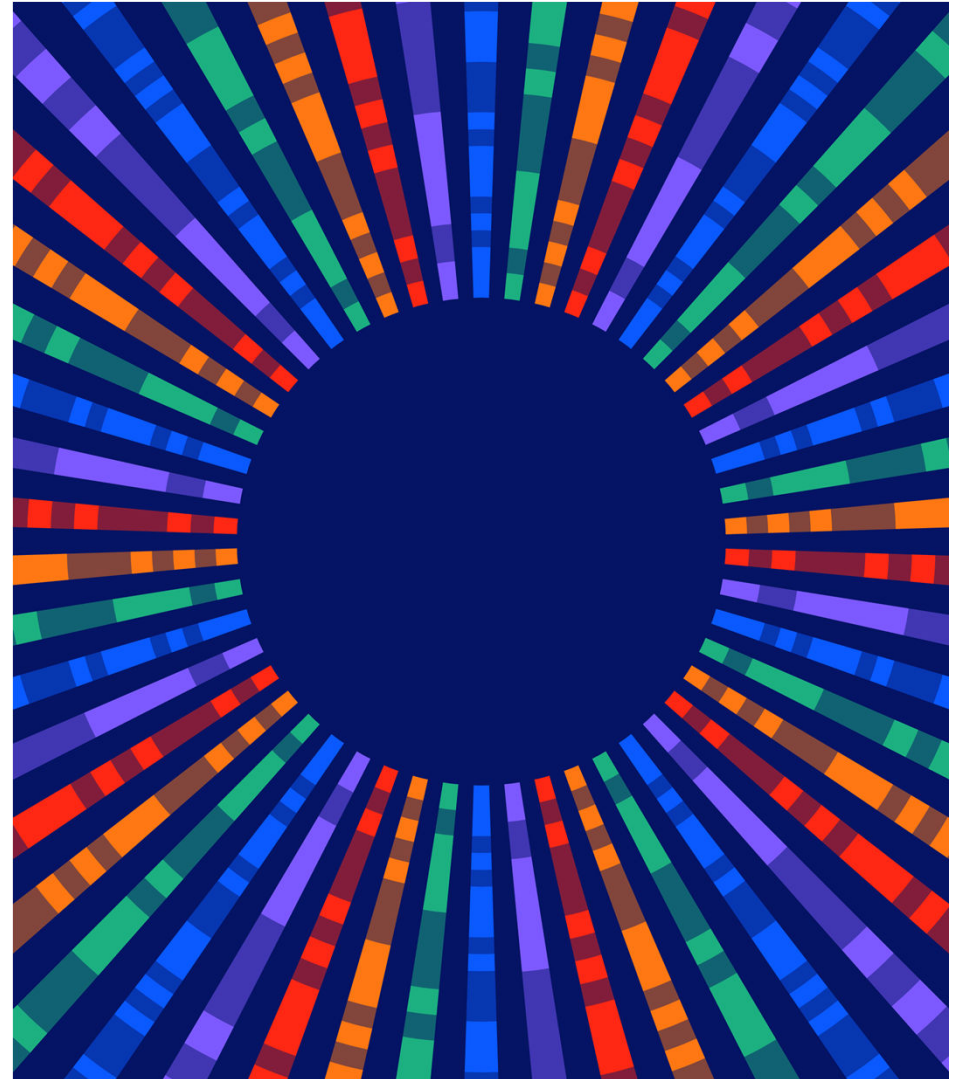
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- Our programme trains students **professional skills**; emphasizes on **hands-on ability**  
(不是空談理論，紙上談兵)
- **Solid foundation for further research**
- **Teaching style**

Companies like our graduates very much (**multiple offers**; about **100% employment rate**)



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# MSc(CompSc) Degree – Complete 72 credits

- Enrolment modes:

- **Project Mode**

Courses (60 Credits) + Project (12 Credits)

i.e. **10 Courses + Project**

or

- **Dissertation Mode**

Courses (48 Credits) + Dissertation (24 Credits)

i.e. 8 Courses + Dissertation

**3 Semesters**

- Sem 1 (Sep to Dec)

- Sem 2 (Jan to May)

- Summer Sem (Jun to Aug)

**Project:** Case study, System development, Industrial projects

(offered by research institutes or industry partners)

**Dissertation:** Research-based projects

# MSc(CompSc) Areas of Specialization

- **4 streams of study in MSc(CompSc)**
- MSc(CS) in **Cyber Security**
- MSc(CS) in **Financial Computing**
- MSc(CS) in General Stream
- MSc(CS) in **Multimedia Computing**



## 3 Specialized Streams + 1 General Stream

- Each course may be classified as belonging to more than specialized stream or not belonging to any specialized stream
- If you go for a specialized stream, say cyber security, you need to take **4 courses belonging to that stream + project/dissertation belonging to that stream**
- The remaining courses, you can freely to choose any others

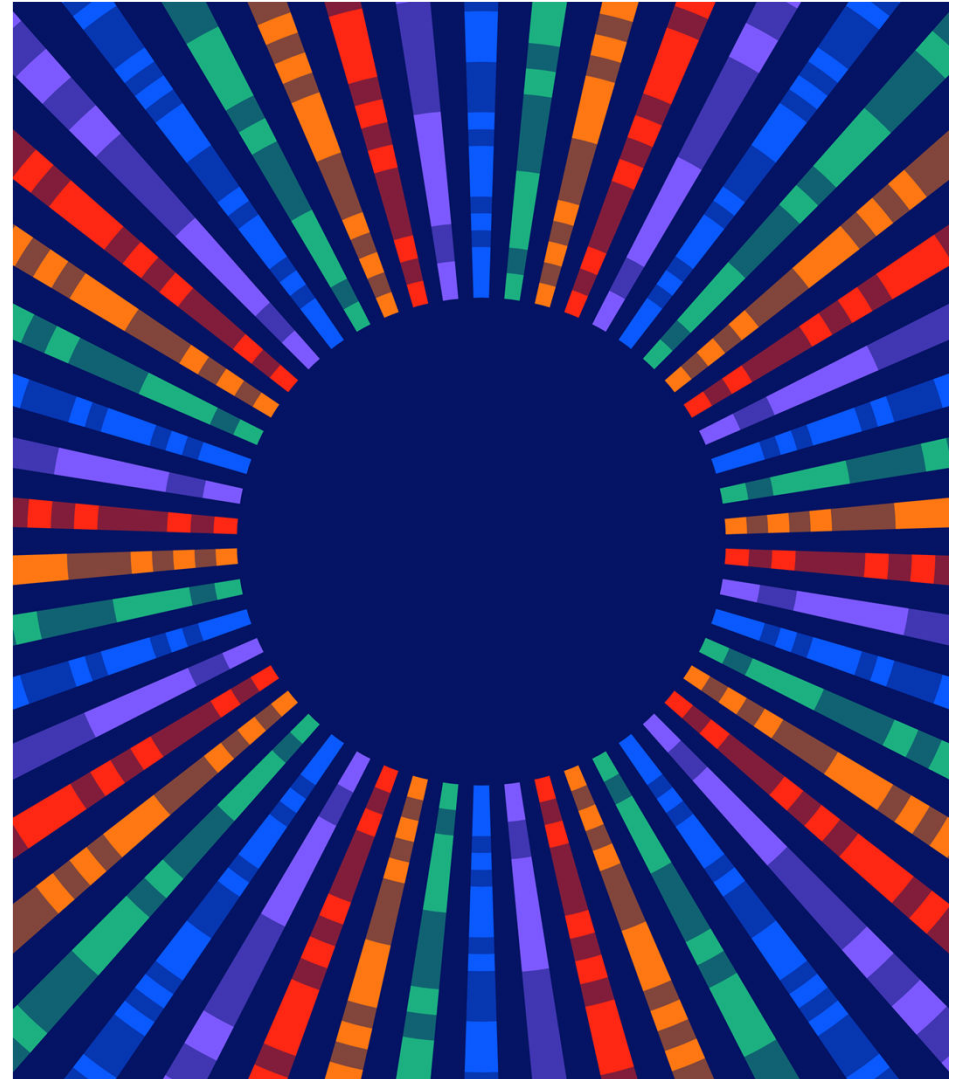


# Introduction to Different Streams of the Programme

## Multimedia Computing Stream



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# Multimedia Computing Stream

- **Metaverse, Web3, VR & AR:** There is a growing demand in the Hong Kong, mainland China, and worldwide industry for multimedia computing professionals (e.g. **virtual KOL**)
- In this stream you will gain **theoretical and practical skills** that will enable you to **develop innovative and creative multimedia computing technologies**

# Focus



## Multimedia Computing Courses:

- Multimedia technologies
- Visualization and visual analytics
- Image processing and computer vision
- Smart phone apps development
- Game design and development
- Data-driven computer animation

Check our website for more details!

# Multimedia Facilities

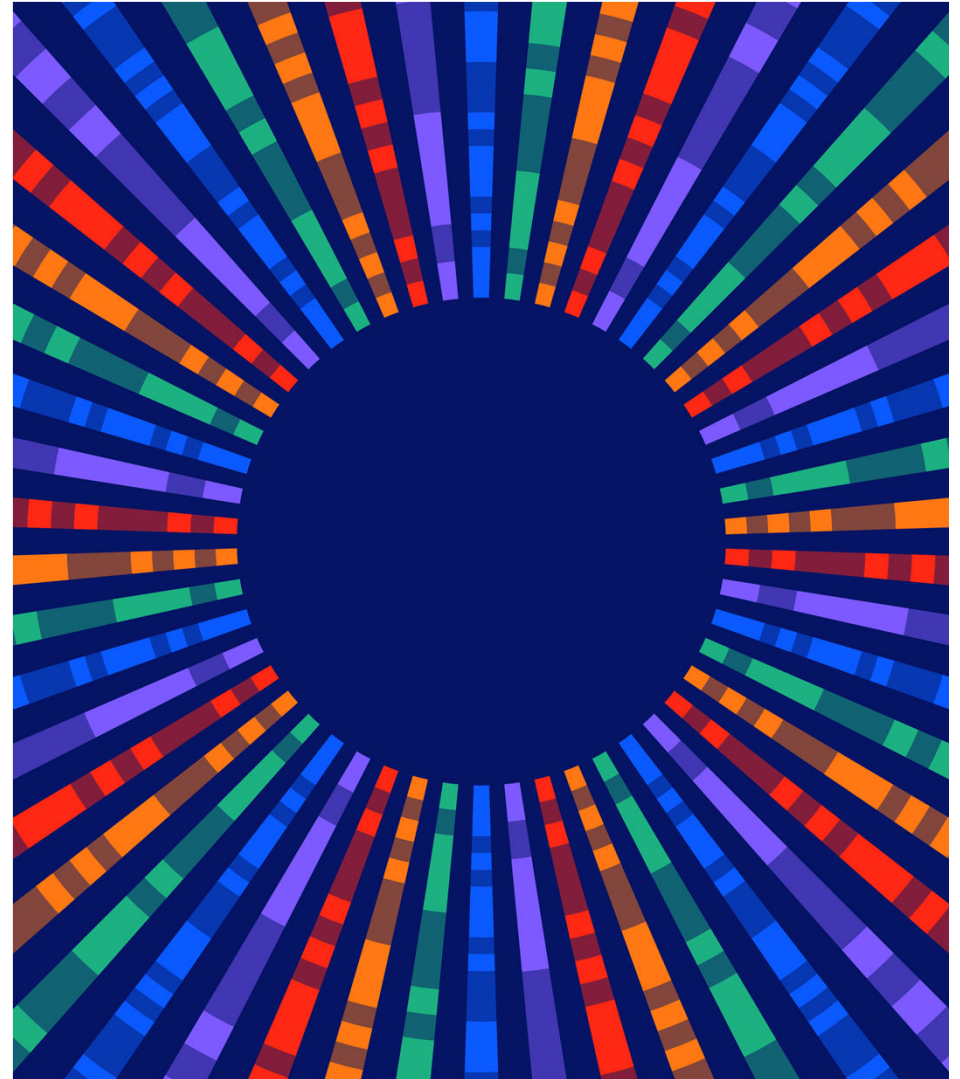
- MSc(CS) **Multimedia Laboratory** [MM Lab]
- State of the art **high-spec computing (GPU farm)** and **specialized multimedia equipment**
- **24h access** for Multimedia Computing Stream students



# MSc(CS) in Financial Computing Stream



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# Our programme focuses on **FinTech (Financial Technology)**

- Our graduates are able to do the followings
  - **Algo-trading** (write s/w to do automatic stock selection & trading: quantitative to high-frequency trading)
  - **Pricing & Risk assessment** (evaluate the risk & set a price for a financial product)
  - **IT Infrastructure design and implementation** for a financial or investment company
  - **Big data analytics** for financial data
  - **Blockchain** (platform & applications development)
  - **Security** (fraud identification and investigation)
  - .....

**Many job openings with very high salary**  
**\$\$\$\$\$\$\$\$** (in particular, in HK and overseas)

## Who are the teachers?

- Peter Ng: Deutsche Bank, BNP Paribas
- Jingrui Zhang: ExodusPoint Capital Management
- C.D. Shum: JP Morgan Chase Bank
- J.H. Rahmel: HSBC



HSBC






Professionals from industry

Sorry, I don't have any background in finance, can I join the Financial Computing Stream?

**No problem, we do NOT assume that you have knowledge in finance**

# Basic and Advanced Financial Computing Courses

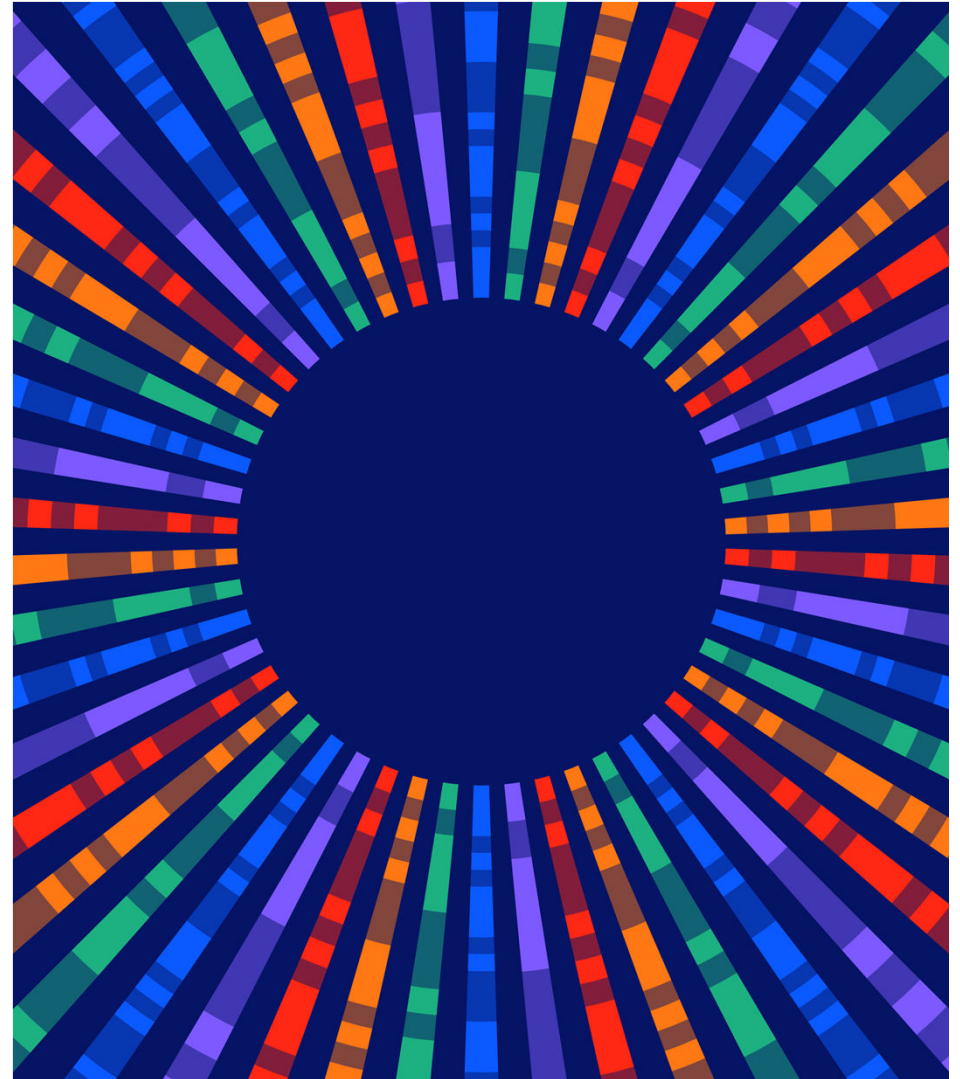
- Introduction to financial computing
- Securities transaction banking
- Techniques in computational finance
- Distributed ledger and **blockchain technology**
- Introduction to cyber security
- Banking in Web 3.0 - Metaverse, DeFi, NFTs and beyond
- Data mining
- **Financial fraud analytics**
- Machine learning in trading and finance
- Smart banking and innovative finance 
- Generative AI in financial services 
- Mastering the markets: Financial analytics and algorithmic trading 

Check our website for more details!

# MSc(CS) in Cyber Security Stream



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## **Highlights** of our stream – What make us different from others

What you expect to learn from this stream?

- Cryptography
- Basics of computer/network security
- Advanced topics: wireless/cloud/big data security

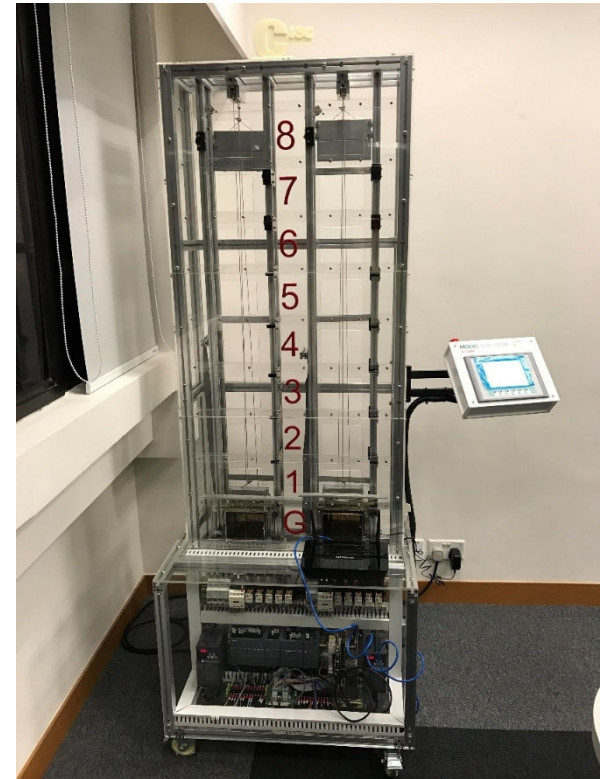
Common to almost all master programmes  
focused on information security.

# Practical Hacking and Defense

State-of-the-art **Cyber security lab!**

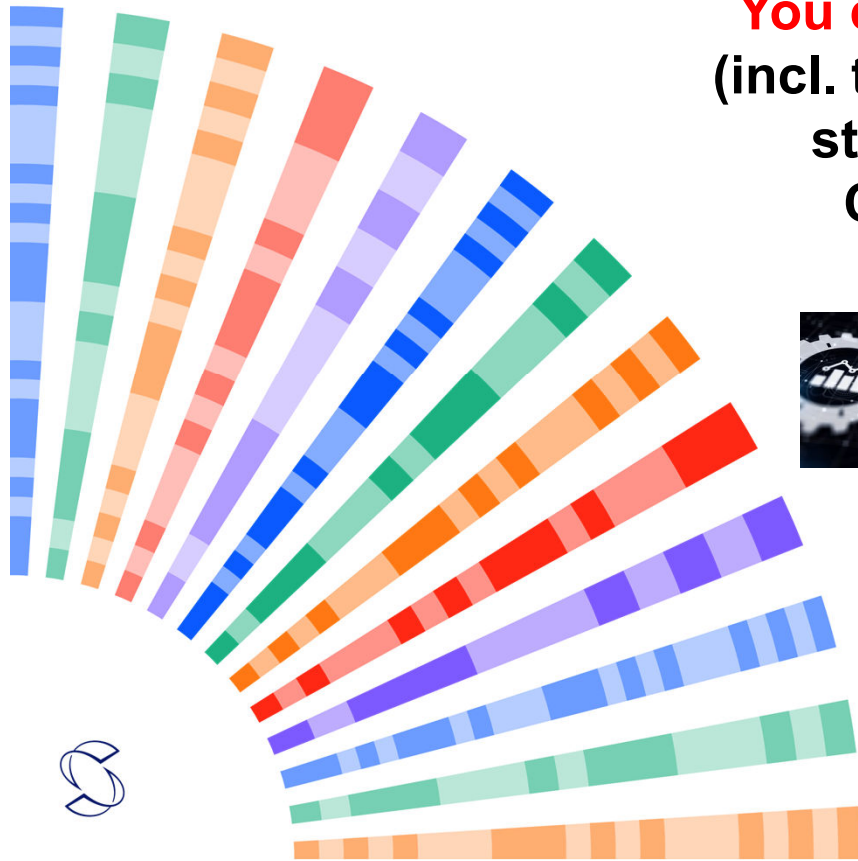
## Hacking/Defense Tools:

- Password cracking tools
- Key logger
- Social network hacking tools
- Windows/games hacking tools
- Exam?



# General Stream

**You can take any courses in the curriculum**  
(incl. the courses offered by the 3 specialized streams: Cyber Security + Multimedia Computing + Financial Computing)







# Master of Science in Electronic Commerce and Internet Computing

*Innovate your Global Business with Technology*



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# MSc(CompSc) vs MSc(ECom&IComp)

More technical,  
e.g. how to setup a cloud,  
how to write smart  
contracts.....

- To train students to bridge “technology” and “business”
- To nurture entrepreneurship (e.g. goes for start-ups?)
- Mix with our part-time executive officers in major companies

## Remarks:

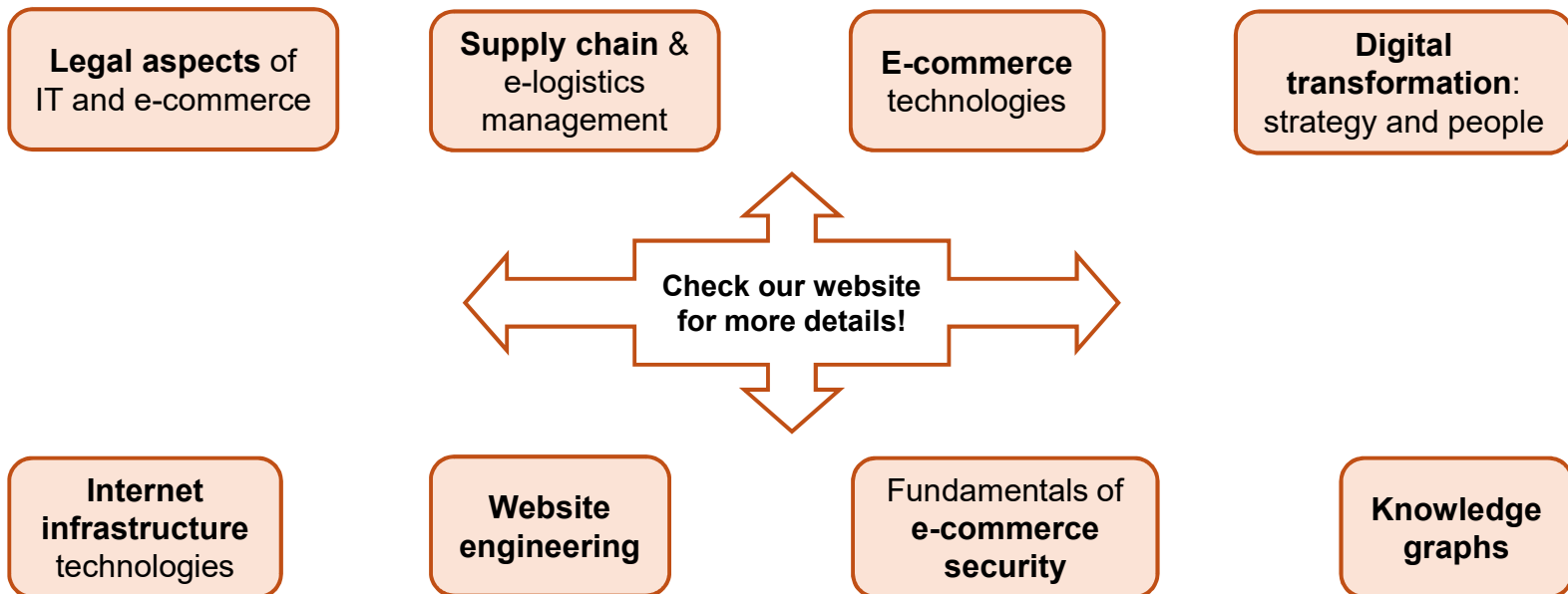
(1) Pick a programme to fit you!!

(2) Study mode: similar (two modes, do you still remember?)



# Curriculum

## At least 4 out of 8 Fundamental Discipline Courses



# Curriculum: Other Discipline Courses



# Curriculum - Discipline courses

## Any combinations of your choice

ECOM 6004	Legal aspects of IT and e-commerce
ECOM 6008	Supply chain and e-logistics management
ECOM 6013	E-commerce technologies
ECOM 7127	Digital transformation: strategy and people
ICOM 6012	Internet infrastructure technologies
ICOM 6034	Website engineering
ICOM 6045	Fundamentals of e-commerce security
ICOM 7128	Knowledge graphs

ECOM 6014	E-marketing
ECOM 6016	Electronic payment systems
ECOM 6023	E-financial services
ECOM 7121	Dynamic digital capabilities
ECOM 7122	Entrepreneurship development and ventures in Asia
ECOM 7123	Building smart cities: an information system approach
ECOM 7124	Mobile and IoT computing services and applications
ECOM 7126	Machine learning for business and e-commerce
ICOM 6027	E-crimes: digital crime scenes & legal sanctions
ICOM 6044	Data science for business
ICOM 7125	Digital forensics

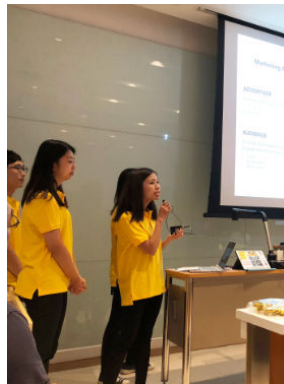
COMP 7311	Legal issues in artificial intelligence and data science
COMP 7404	Computational intelligence and machine learning
COMP 7412	Banking in Web 3.0 – Metaverse, DeFi, NFTs and beyond
COMP 7802	Introduction to financial computing
COMP 7901	Legal protection of digital property
FITE 7407	Securities transaction banking
FITE 7409	Blockchain and cryptocurrency
FITE 7410	Financial fraud analytics
FITE 7411	RegTech in finance
FITE 7413	Smart banking and innovative finance

# Capstone Requirement

All students would have to enrol in either a Case Study Project (ECOM7001) or a Dissertation (ECOM7000)

## Case Study Project

- 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 **genuine company**
- Work in group of 4



# Master of Science in Financial Technology and Data Analytics



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1. I don't know finance
2. I don't know blockchain
3. I don't have money
4. My mother wants me to start working
5. ...



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

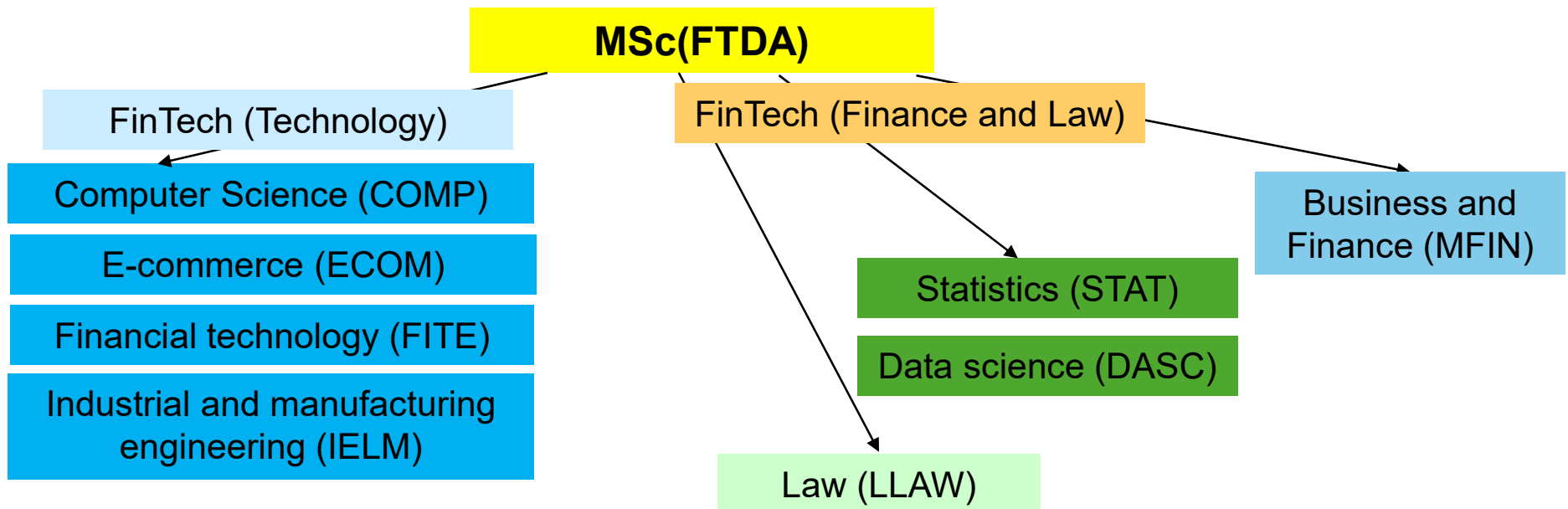
# Some Highlights

- Truly interdisciplinary and highly integrated programmes
- Two-year part-time curriculum
- Enrolment mode:  
10 Courses (at least 60 Credits)^ + Project (12 Credits)

^ Most courses in the curriculum has 6 credits. However, courses offered by Faculty of Law has 9 credits.

# Uniqueness

- MSc(FTDA) has an interdisciplinary curricula by drawing on the expertise from diverse areas of engineering, law, statistics and business, with a technology focus
- Courses are offered from different disciplines



# Curriculum

## List A: Disciplinary compulsory courses (*3 courses*)

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.*

# Curriculum

## List B: Disciplinary courses (*at least 3 courses*)

List B-1 (with at least one course from List-B-1)	List B-2 (with at least one course from List-B-2)
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)	ECOM7126 Machine learning for business and e-commerce (6 credits)

# Curriculum

## List C: Disciplinary courses (*at least 2 courses*)

List C-1 (with at least one course from List-C-1)	List C-2 (with at least one course from List-C-2)
FITE7405 Techniques in computational finance (6 credits)	COMP7412 Banking in Web3.0 – Metaverse, DeFi, NFTs and beyond (6 credits)
FITE7406 Software development for quantitative finance (6 credits)	ECOM6023 E-financial services (6 credits)
FITE7801 Topics in financial technology (6 credits)	FITE7411 RegTech in finance (6 credits)
COMP7103 Data Mining (6 credits)	FITE7413 Smart banking and innovative finance (6 credits)
COMP7305 Cluster and cloud computing (6 credits)	FITE7414 Generative AI in financial services (6 credits)
COMP7404 Computational intelligence and machine learning (6 credits)	IELM7018 Financial engineering (6 credits)
COMP7409 Machine learning in trading and finance (6 credits)	LLAW6046 Privacy and data protection (9 credits)
DASC7606 Deep learning (6 credits)	LLAW6256 Law of anti-money laundering and counter-terrorist financing and compliance issues (9 credits)
STAT8020 Quantitative strategies and algorithmic trading (6 credits)	MFIN7034 ^ Machine learning and artificial intelligence in finance (6 credits) or MFIN7037 ^ Quantitative trading (6 credits)
	STAT6015 Advanced quantitative risk management and finance (6 credits)

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

# Curriculum

Capstone requirement  
(12 credits)

- All students would have to enrol in FITE7001 Project
- Group project
- Case study or software prototype implementation
- **Not** required to be basic research



# Our Students



# Past events: (i) Career Talks



Calling all women code-breakers and puzzle solvers to join.

2024 Watson Engineering Insight Series #1

Take the first step towards a career in Engineering!

June 28 - 2024  
5:30pm - 7:00pm HKT  
Virtual via Zoom

Gain real-life perspective on the financial industry and connect with inspiring engineers.

Goldman Sachs career students graduate in 2024-2025 to attend a 1-hour-long insight series to learn about career opportunities in our Engineering Organization.

As a participant in Series #1, you will:

- Learn about Goldman Sachs Engineering
- Interact with our experts for an Q&A segment on Goldman Sachs
- Connect and learn from inspiring graduates virtually

How to register?

- Visit our event portal at [www.goldmansachs.com/insights](http://www.goldmansachs.com/insights)
- Search for "2024 Watson Engineering Insight Series #1 Q&A event"
- Registration will be open to interested students.

Please register by June 14, 2024.

For more information, please refer to the official website

**Goldman Sachs**



JP Morgan HK 摩根大通 (香港)

Women Who Inspire Series - HK Events

**Future Female Traders**  
[Ideal for students who are interested in Sales & Trading]

**Women4Tech**  
[Ideal for students who are interested in Technology]

Morgan Stanley

WOMEN'S HISTORY MONTH  
**WOMEN WHO INSPIRE SERIES**

At Morgan Stanley, we recognize the importance of having a diverse workforce. As Chicago's "Women's History Month" approaches, we are pleased to invite you to a series of events.



# Past Events: (ii) Competitions



# Alumni Events



Congregation



Graduation Dinner



Mentorship Programme



HKU Alumni Day



# Alumni Associations



The University of Hong Kong



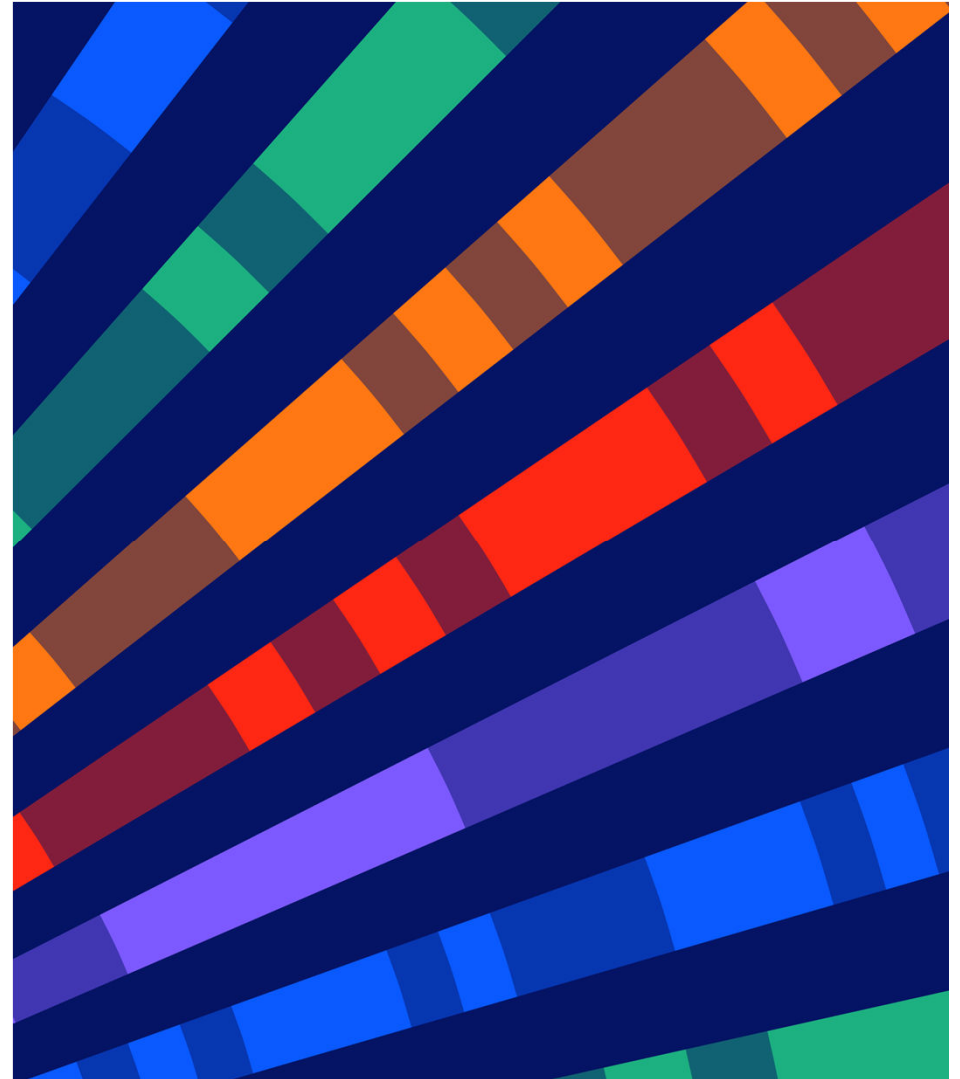
HKU MSc in FTDA Alumni Association



# Admission Important Information



The University of Hong Kong  
School of Computing & Data Science



# Admission Requirements

## **MSc(CompSc) and MSc(ECom&IComp)**

- A Bachelor's degree with honours, or an equivalent qualification

## **MSc(FTDA)**

- 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 Procedure

## Online Application

<https://admissions.hku.hk/tpg/>

## Application Deadlines

	Deadline
Main Round	January 2, 2025
Clearing Round	12:00 noon (GMT +8), April 11, 2025

**We are processing the applications now!!!**





# Tuition Fees

## MSc(CompSc) & MSc(ECom&IComp)

	Tuition Fees #
Local Student	HK\$210,800
Non-local Student	HK\$320,000



## MSc(FTDA)

	Tuition Fees #
Local Student	HK\$270,000
Non-local Student	HK\$360,000

# Subject to University's approval



# Q & A

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# Thank you!

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Contact us

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Tel: 3917-1828



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