DEPARTMENT OF
SYSTEMS ENGINEERING AND
ENGINEERING MANAGEMENT

香港中文大學
The Chinese University of Hong Kong

Bachelor of Engineering Programme in Financial Technology

金融科技學工程學士學位課程

Department of Systems Engineering and Engineering Management
系統工程與工程管理學系

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Programme Mission

To educate and equip students with the essential knowledge and capabilities to apply technological innovations to financial services; to nurture leadership and entrepreneurship for the next generation of financial talents in support of Hong Kong's endeavor to grow to an international FinTech hub.

Admission Requirement

Applicants applying on the strength of the HKDSE examination results will be admitted through the Joint University Programmes Admissions System (JUPAS) (JUPAS Code – JS4428). Please visit the JUPAS website (www.jupas.edu.hk) for eligibility and details of JUPAS application.

Non-JUPAS applications are encouraged.

Curriculum and Representative Courses

Students are required to complete a minimum of 75 units of major courses to graduate. The curriculum consists of a combination of FinTech foundation courses, required and elective courses, and practicum and research component courses. Students are also encouraged to take other courses offered by the Engineering, Business, and Law Faculties.

Highlights of some new courses uniquely offered by the programme:

Introduction to Financial Infrastructures

Trading venues and platforms; securities settlement systems; payment systems; cross-border transactions; central counterparties and clearance; infrastructure-related systemic risk and its impact on monetary and financial stability.

E-payment Systems and Cryptocurrency Technologies

Money and banking; automated clearing and settlement systems; B2B payment systems; smartcard technologies; digital wallets and mobile payment systems; E-cash, Bitcoin and cryptocurrencies; blockchain technologies and their emerging applications.

Financial Informatics

Data stream processing and analytics; high-dimensional data processing and search; big graph analysis; web mining; recommendation systems; applications in financial time series, portfolio management, and social networks.

Internet Finance

Third-party payments; Internet currency; P2P lending; crowdfunding; big data analytics in finance.

Financial Innovation & Structured Products

Fundamental mechanics of derivative markets; risk neutral evaluation theory of asset pricing; numerical procedures related to derivatives evaluation and risk managements; principle of financial engineering and structured product design; financial crisis and regulation.

FinTech Regulation and Legal Policy

This course examines the legal aspects of FinTech, particularly in the context of Hong Kong and Mainland China, to set the foundation for a practical understanding of the legal environment in which FinTech develops and evolves.

Career Prospects

Programme Outcomes:

FinTech graduates are expected to be able to

- derive and develop financial and managerial insights from big data
- design and engineer innovative solutions to meet financial service needs
- optimize financial decisions in complex business environment
- understand and analyze the social, economic, security, and legal impacts from their solutions

Career Prospects:

Global FinTech financing has risen seven-fold over the past three years to an estimated US$20billion for 2015, a rise of 66% on the level of investment in 2014. The industry creates a great amount of employment opportunities to accommodate innovative young talents.

FinTech programme graduates will be ideally suited for positions requiring strong technological and quantitative skills. Besides the traditional careers in the financial service industry, the graduates will be very competitive for jobs with innovative nature, such as

- Insurance (automatic underwriting and claiming, precision marketing, risk management)
- Asset and wealth management (data-driven investment strategy design, robot advisor, algo trading)
- Internet finance (P2P lending, crowdfunding, mobile payment system, credit analytics, electronic currencies)
- Retail and Investment banks, security companies, and other trading platforms (IT system development, financial infrastructure architecture)
- Government regulatory agencies (Data analytics, Regtech)
- FinTech related startups

The Programme also provides a good foundation for pursuit of further advanced studies.