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

The industry creates a great amount of employment opportunities to accommodate innovative young talents. Some students of the programme have taken internship opportunities at Hong Kong Monetary Authority, Goldman Sachs, HSBC, ZhongAn Insurance, Haitong International, CreditEase Wealth Management, Deloitte, etc. Employers of the recent graduates include HSBC, BOCHK, Goldman Sachs, and Deloitte.

FinTech graduates are ideally suited for positions requiring strong technological and quantitative skills. Besides the traditional careers in the financial industry, the graduates are 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, robo-advisory, 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, investment analysis, trading)
- Government regulatory agencies (data analytics, Regtech)
- FinTech related startups

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

Department of Systems Engineering and Engineering Management

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Double Major Programme Admission

Dual Degree Programme Admission

Programme Website

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課程

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 strongly encouraged.

Study Scheme

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.

Major Programme Requirement (Tentative)
(All are 3-unit courses unless specified)

		Units
1	**Faculty Package**	**9**
	ENGG1110/ESTR1002 Problem Solving By Programming	
	ENGG1120/ESTR1005 Linear Algebra for Engineers	
	ENGG1130/ESTR1006 Multivariable Calculus for Engineers	
2	**FinTech Foundation Courses**	**13**
	CSCI1120/ESTR1100 or	Introduction to Computing Using C++
	CSCI1130/ESTR1102	Introduction to Computing Using Java
	ENGG2440/ESTR2004	Discrete Mathematics for Engineers
	ENGG2760/ESTR2018	Probability for Engineers (2-unit)
	ENGG2780/ESTR2020	Statistics for Engineers (2-unit)
	MATH1510	Calculus for Engineers
3a	**Required Courses**	**30**
	CSCI2100/ESTR2102	Data Structures
	CSCI4130/IERG4130/ESTR4306	Introduction to Cyber Security
	ECON2011	Basic Microeconomics
	FINA2310	Fundamentals of Business Finance
	FTEC2101/ESTR2520	Optimization Methods
	FTEC3001	Financial Innovation & Structured Products
	FTEC3002	Introduction to Financial Infrastructures
	SEEM2520	Fundamentals in Financial Engineering
	SEEM3550/ESTR3506	Fundamentals in Information Systems
	SEEM3590/ESTR3509	Investment Science
3b	**Research Component Courses**	**6**
	FTEC4998	Final Year Project I
	FTEC4999	Final Year Project II
3c	**Practicum Course**	**1**
	FTEC2602	Financial Technology Practicum (1-unit)
3d	**Legal Course**	**2**
	FTEC2001	FinTech Regulation and Legal Policy (2-unit)

Major Programme Requirement (Tentative)
(All are 3-unit courses unless specified)

		Units
4	**Elective Courses**	**14**
	ACCT2111	Introductory Financial Accounting
	AIST4010/ESTR4140	Foundation of Applied Deep Learning
	AIST4010/ESTR4140	Foundation of Applied Deep Learning
	CSCI2040	Introduction to Python (2-unit)
	CSCI2120	Introduction to Software Engineering (2-unit)
	CSCI3150/ESTR3102	Introduction to Operating Systems
	CSCI3160/ESTR3104	Design and Analysis of Algorithms
	CSCI3320	Fundamentals of Machine Learning
	CSCI4160/ESTR4104	Distributed and Parallel Computing
	CSCI4180/ESTR4106	Introduction to Cloud Computing and Storage
	CSCI4430/ESTR4120 or IERG3310/ESTR3310	Data Communication and Computer Networks Computer Networks
	ECON2021	Basic Macroeconomics
	ENGG1820	Engineering Internship (1-unit)
	FINA3020	International Finance
	FINA3030	Management of Financial Institutions
	FINA3070	Corporate Finance: Theory and Practice
	FINA3210	Risk Management and Insurance
	FINA4010	Security Analysis
	FTEC4001	Advanced Database Technologies
	FTEC4002	Behavioral Analytics
	FTEC4003	Data Mining for FinTech
	FTEC4004/IERG4004	E-payment Systems and Cryptocurrency Technologies
	FTEC4005	Financial Informatics
	FTEC4006	Internet Finance
	FTEC4007	Introduction to Blockchain and Distributed Ledger Technology
	IERG4080/ESTR4312	Building Scalable Internet-based Services
	IERG4210	Web Programming and Security
	MKTG4120	Quantitative Marketing
	SEEM3410	System Simulation
	SEEM3450/ESTR3502	Engineering Innovation and Entrepreneurship
	SEEM3570/ESTR3508	Stochastic Models
	SEEM3580	Risk Analysis for Financial Engineering
	SEEM4730/ESTR4508	Statistics Modeling and Analysis in Financial Engineering
Total		**75**

Dual Degree Programme

Background

Department of Systems Engineering and Engineering Management (SEEM), The Chinese University of Hong Kong (CUHK) offers a dual degree programme (DDP) together with Department of Financial Mathematics (FMA), Peking University (PKU). Under this framework, students of this programme will obtain Bachelor degree of Engineering in Financial Technology offered by CUHK and Bachelor degree of Science in Financial Mathematics offered by PKU upon completion of the graduation requirements of the concerned programmes. Students participating in this programme benefit from rigorous training in both mathematics and engineering, which significantly enhance their competitiveness.

Study Plan and Graduation Requirements

Students are required to take mathematical foundation courses at PKU in the first two years, and study FinTech in CUHK in the third and fourth years.

Year 1 (PKU) > **Year 2 (PKU)** > **Year 3 (CUHK)** > **Year 4 (CUHK)**

Admission

https://fintech.se.cuhk.edu.hk/dual-degree-programme/admission/

Double Major Programme

Background

Department of Systems Engineering and Engineering Management together with the Faculty of Business offers Bachelor of Engineering in Financial Technology and Integrated BBA Programme Double Major Programme (DMP). The two major programmes have natural complementarities. While the FinTech major equips students with the technical knowledge in designing and implementing FinTech solutions, extensive trainings in various business areas in the IBBA major can help students identify the most suitable areas to apply such solutions, realising full potentials of financial technology.

Study Plan and Graduation Requirements

The normative study period for the DMP is four years and students are required to complete a minimum of 90 units of major courses to fulfill the graduation requirements.

BEng + BBA

Admission

https://fintech.se.cuhk.edu.hk/double-major-programme/admission/