Quantitative Finance and Risk Management Science
Applicable to students admitted in 2026-27

Major Programme Requirement

Students are required to complete a minimum of 78 units of courses as follows:

		Units
1.	Faculty Package: MATH1010 or 1018, DOTE1030, 1040	9
2.	Required Courses:	36
(a)	FINA2010, 3080, RMSC, 4001, 4003	
(b)	STAT2001#, 2006#, 3008#	
(c)	MATH1030 or 1038 or 1630, 2010# or 2018#	
(d)	ACCT1111 or 2111	
(e)	CSCI1510 or 1520 or 1530 or 1540 or 1550 or 1580	
(f)	CSCI2100# or 2520# or DOTE2051# or SEEM3550#	
3.	Elective Courses:	33
(a)	Business (choose at least 6 units of courses from the following list, but no more than six 1-unit courses): ACCT 3151#, 4212# or 4213# or 4214#, 4251#, DOTE3010#, FINA, 3010, 3020, 3030, 3040, 3060, 3070, 3090, 3110, 3210, 3230, 3240, 3310, 3320, 3330, 3340, 3350, 3360, 3370, 3398, 3399, 3420, 4010, 4020, 4030, 4040, 4050, 4060, 4310, 4320, 4330, 4340, 4350, 4400, 4410, IBBA3040, MGNT1020, 2511, 2512, 2611, 4010#, MKTG2010#	
(b)	Quantitative/Mathematical Finance (choose at least 9 units of courses from the following list): FINA4110, 4120, 4150, 4160, 4370, 4420, MATH3215#, 3230#, 3240#, 4210#	
(c)	Risk Management/Data Analytics (choose at least 15 units of courses from the following list): RMSC2001, 3001, 4002, 4004, 4005, 4006, 4007, STAT3007#, 4001#, 4004#, 4005# 4010#, 4012#	
(d)	Capstone/Research (choose at least 3 units of courses from the following list): FINA4130, 4140, 4190, 4380, 4390, 4430, 6232, 6242, 6252, RMSC4102, 4202, STAT4011#	
	Total:	**78**

Explanatory Notes:

1. FINA and RMSC courses at 2000 and above level as well as those labeled as # will be included in the calculation of Major GPA for honours classification.
2. JUPAS admittees without HKDSE Mathematics Extended Modules I or II are required to take a preparatory Mathematics course MATH1530 before taking MATH1010 or 1018, except those who pass the Mathematics Placement Test arranged by the Programme.
3. Subject to the approval of the major programme, students who have completed the Co-operative Education Programme are deemed to have fulfilled the capstone requirement FINA4390.

	Recommended Course Pattern	Units
First Year of Attendance	1st term Faculty Package: DOTE1030, MATH1010 or 1018 Major Required: ACCT1111 or 2111 Major Elective(s):	 6 3
	2nd term Faculty Package: DOTE1040 Major Required: FINA2010, MATH1030 or 1038 or 1630 Major Elective(s):	 3 6
Second Year of Attendance	1st term Major Required: CSCI1510 or 1520 or 1530 or 1540 or 1550 or 1580, MATH2010 or 2018, , STAT2001 Major Elective(s): 3 units from Business, Quantitative/ Mathematical Finance, and Risk Management/Data Analytics elective	 9 3
	2nd term Major Required: CSCI2100 or 2520 or DOTE2051 or SEEM3550, FINA3080, STAT2006 Major Elective(s): 3 units from Business, Quantitative/ Mathematical Finance, and Risk Management/Data Analytics elective	 9 3
Third Year of Attendance	1st term Major Required: RMSC4003, STAT3008 Major Elective(s): 6 units from Business, Quantitative/ Mathematical Finance, and Risk Management/Data Analytics elective	 6 6
	2nd term Major Required: RMSC4001 Major Elective(s): 9 units from Business, Quantitative/ Mathematical Finance, and Risk Management/Data Analytics elective	 3 9
Fourth Year of Attendance	1st term Major Required: Major Elective(s): 9 units from Business, Quantitative/ Mathematical Finance, and Risk Management/Data Analytics elective	 9
	2nd term Major Required: Major Elective(s): 3 units from Capstone/Research electives	 3
	Total (including Faculty Package):	**78**

	Recommended Course Pattern for CUHK Students in fulfilment of requirements of the Dual Undergraduate Degree Programme (DDP) with the University of Edinburgh (UoE) (Bachelor of Science in Mathematics and Business)	**Units**
First Year of Attendance (Study at CUHK)	1st term[a] Faculty Package: DOTE1030, MATH1010 Major Required: ACCT1111 or 2111, STAT2001 University Core: CHLT1100, ENGG1003, one PHED course	 6 6 7
	2nd term[a] Faculty Package: DOTE1040	 3

	Major Required: FINA2010, MATH1030 or 1630, 2010, STAT2006 University Core: ELTU1001, one PHED course	12 4
	Summer Session[a] University Core: one UGEA or UGEB course, one UGFH or UGFN course	5
Second Year of Attendance (Study at CUHK)	1st term[a] Major Required: CSCI1510 or 1520 or 1530 or 1540 or 1550, RMSC4003, Major Elective: FINA3210, RMSC2001[b], STAT3007 University Core: CHLT1200, one College GE course[c]	 6 9 4-5
	2nd term[a] Major Required: CSCI2100 or 2520 or DOTE2051 or SEEM3550, , 3080, STAT3008 Major Elective: FINA3010, 4120 University Core: ELTU2012, UGCP1001, 1002	 9 6 5
	Summer Session[a] University Core: 0-1 College GE course[c], one UGEA or UGEB course, one UGFH or UGFN course	5-7
Third Year of Attendance (Study at UoE)	1st term Major Required: MATH10066 (20 units), CMSE10002 (20 units) Major Elective: ACCT10026 (20 units)[d], MATH10095 (10 units)[e]	70 units (with 6 units for fulfilment of the Major requirements to be transferred to CUHK)
	2nd term Major Required: MATH10067 (20 units) Major Elective: BUST10023 (20 units)[f], MATH10003 (10 units)[g]	50 units (with 6 units for fulfilment of the Major requirements to be transferred to CUHK)
Fourth Year of Attendance (Study at UoE)	1st term Major Required: MATH10031 (40 units)[h] Major Elective: MATH10024 (20 units)[i], MATH10053 (10 units)[j]	70 units (with 9 units for fulfilment of the Major requirements to be transferred to CUHK)
	2nd term Major Required: BUST10012 (20 units)[k], BUST10149 (20 units) Major Elective: MATH11202 (10 units)[l]	50 units (with 6 units for fulfilment of the Major requirements to be transferred to CUHK)
	Units taken at CUHK:	**88-89**
	Units recognized from courses taken at UoE:	**27**
	Total:	**115-116**[m]

Explanatory Notes:

1. Subject to approval by the Major Programme concerned, students may opt out of the Dual Degree Programme. The decision to opt out is irrevocable. Students who have opted out are required to complete and fulfill all graduation requirements of the Major Programme at CUHK. Courses and units completed at the Host Institution can be transferred back for fulfillment of CUHK requirements, in accordance with the course mapping table.

[a] Students taking a term and a year load exceeding the maximum will need to seek approval from the Registrar.

[b] Students are required to take MATH1050 as a substitute for RMSC2001.

[c] The recommended course pattern of College GE courses varies slightly depending on students' College affiliation. Students who are required to take 4 units of College GE should take two 2-unit courses at different terms.

[d] ACCT10026 taken at UoE can be transferred to fulfil the requirement of FINA4400.

[e] MATH10095 taken at UoE can be transferred to fulfil the requirement of STAT4001.

[f] BUST10023 taken at UoE can be transferred to fulfil the requirement of FINA4110.

[g] MATH10003 taken at UoE can be transferred to fulfil the requirement of FINA4150.

[h] MATH10031 taken at UoE can be transferred to fulfil the requirement of RMSC4202.

[i] MATH10024 taken at UoE can be transferred to fulfil the requirement of RMSC4005.

[j] MATH10053 taken at UoE can be transferred to fulfil the requirement of RMSC4007.

[k] BUST10012 taken at UoE can be transferred to fulfil the requirement of FINA3070.

[l] MATH11202 taken at UoE can be transferred to fulfil the requirement of RMSC4001.

[m] Students are required to complete at least 52 units of major courses offered by CUHK.

Course List

Course Code	*Course Title*	*Unit(s)*
Required Courses		
ACCT1111	Foundations in Financial Accounting	3
ACCT2111	Introductory Financial Accounting	3
CSCI1510	Computer Principles and C Programming	3
CSCI1520	Computer Principles and C++ Programming	3
CSCI1530	Computer Principles and Java Programming	3
CSCI1540	Fundamental Computing with C++	3
CSCI1550	Computer Principles and Python Programming	3
CSCI1580	Visual Programming	3
CSCI2100	Data Structures	3
CSCI2520	Data Structures and Applications	3
DOTE1030	Economics for Business Studies I	3
DOTE1040	Economics for Business Studies II	3
DOTE2051	Business Information Systems	3
FINA2010	Financial Management	3
FINA3080	Investment Analysis and Portfolio Management	3
MATH1010	University Mathematics	3
MATH1018	Honours University Mathematics	3
MATH1030	Linear Algebra I	3
MATH1038	Honours Linear Algebra I	3
MATH1630	Linear Algebra and Applications	3
MATH2010	Advanced Calculus I	3
MATH2018	Honours Advanced Calculus I	3
RMSC4001	Simulation Methods for Risk Management Science and Finance	3
RMSC4003	Statistical Modelling in Financial Markets	3

SEEM3550	Fundamentals in Information Systems	3
STAT2001	Basic Concepts in Statistics and Probability I	3
STAT2006	Basic Concepts in Statistics and Probability II	3
STAT3008	Applied Regression Analysis	3
Elective Courses		
Electives 3(a)		
ACCT3151	Business Law	3
ACCT4212	China Business Valuation and Analysis	3
ACCT4213	Financial Statement Analysis and Valuation	3
ACCT4214	Applied Financial Statement Analysis	3
ACCT4251	Regulation and Compliance in the Financial Markets	3
DOTE3010	Artificial Intelligence Empowered Business	3
FINA3010	Financial Markets	3
FINA3020	International Finance	3
FINA3030	Management of Financial Institutions	3
FINA3040	Central Banking and Regulation of Financial Institutions	3
FINA3060	Real Estate Finance and Investment	3
FINA3070	Corporate Finance: Theory and Practice	3
FINA3090	Understanding China's Financial System	3
FINA3110	Issues in Finance	3
FINA3210	Risk Management and Insurance	3
FINA3230	Life and Health Insurance	3
FINA3240	Corporate Property and Liability Insurance	3
FINA3310	Introduction to Investment Banking	1
FINA3320	Introduction to Credit Rating	1
FINA3330	Introduction to Alternative Investment	1
FINA3340	Trading Strategies: Behavioral and Technical Analysis	1
FINA3350	Foreign Exchange Market Practices	1
FINA3360	Derivative Warrants, Proprietary and Arbitrage Trading Concepts	1
FINA3370	Introduction to Bloomberg and Reuters	1
FINA3398	Special Issues in Finance	1
FINA3399	Current Issues in Finance	1
FINA3420	Credit Rating in Global Economy	3
FINA4010	Security Analysis	3
FINA4020	Fund Management and Asset Allocation	3
FINA4030	Selected Topics in Finance	3
FINA4040	Cases in Corporate Finance	3
FINA4050	Mergers And Acquisitions	3
FINA4060	China Finance	3
FINA4310	China Banking and Financial System	1
FINA4320	China Equity Securities Market	1
FINA4330	China Derivative Securities Market	1
FINA4340	Structured Products: Fundamentals and Analysis	1
FINA4350	Bond Markets: Analysis and Strategies	1
FINA4400	Behavioral Finance	3
FINA4410	Current Developments in FinTec	3
IBBA3040	Business Lecture Series	1
MGNT1020	Management	3
MGNT2511	Global Experiential Learning I	1
MGNT2512	Global Experiential Learning II	1
MGNT2611	Business Sustainability	2
MGNT4010	Strategic Management	3

MKTG2010	Marketing Management	3
Electives 3(b)		
FINA4110	Options and Futures	3
FINA4120	Fixed Income Securities Analysis	3
FINA4150	Quantitative Methods for Financial Derivatives	3
FINA4160	Intermediate Financial Theory	3
FINA4370	Derivatives Trading: Analysis and Strategies	3
FINA4420	Financial Markets from Macro Perspective	3
MATH3215	Operations Research	3
MATH3230	Numerical Analysis	3
MATH3240	Numerical Methods for Differential Equations	3
MATH4210	Financial Mathematics	3
Electives 3(c)		
RMSC2001	Introduction to Risk Management	3
RMSC3001	Principles of Credit Risk Management	3
RMSC4002	Financial Data Analytics with Machine Learning	3
RMSC4004	Theory of Risk and Insurance	3
RMSC4005	Stochastic Calculus for Finance and Risk	3
RMSC4006	Operational Risk Management	3
RMSC4007	Risk Management with Derivatives Concepts	3
STAT3007	Introduction to Stochastic Processes	3
STAT4001	Data Mining and Statistical Learning	3
STAT4004	Actuarial Science	3
STAT4005	Time Series	3
STAT4010	Bayesian Learning	3
STAT4012	Statistical Principles of Deep Learning with Business Applications	3
Electives 3(d)		
FINA4130	Empirical Finance	3
FINA4140	Computational Finance	3
FINA4190	Research Project in Quantitative Finance	3
FINA4380	Algorithmic Trading Strategies, Arbitrage and HFT	3
FINA4390	Banking and Finance Practicum	3
FINA4430	Computerized Trading and Big Data	3
FINA6232	Seminar in Asset Pricing	3
FINA6242	Seminar in Corporate Finance	3
FINA6252	Empirical Methods in Asset Pricing	3
RMSC4102	Research Project	3
RMSC4202	Practicum	3
STAT4011	Statistics Projects	3