Quantitative Finance
Applicable to students admitted in 2020-21

Major Programme Requirement

Students are required to complete a minimum of 72 units of courses as follows:

		Units
1.	Faculty Package: ACCT1111, DSME1030, 1040	9
2.	Faculty Co-curricular Courses: IBBA3040, MGNT2511, 2512[a]	3
3.	Required Courses:	27

(a) FINA3080, MATH1010, 1030, 2010#
(b) ACCT3142# or CSCI2100# or 2520# or DSME2051# or SEEM3550#
(c) CSCI1510 or 1520 or 1530 or 1540 or 1580
(d) {DSME2011# and (DSME2021# or FINA2020)} or {STAT2001# and 2006#}
(e) FINA2010 or 2110

4. Elective Courses: 33

(a) At least 9 units of Quantitative Methods courses from the following:
    CSCI2800#, 3170#, DSME4070#, 4130#, 4220#, ECON3121#, 4120#, FINA3220, 3221, 3222, 3290, 3295, 4210, 4211, 4220, 4221, 4250, 4260, MATH3215#, 3230#, 3240#, 3270#, 3280#, 3290#, 3310#, 3320#, 4220#, 4230#, 4240#, SEEM3440#, STAT3006#, 3007#, 3008#, 4001#, 4002#, 4003#, 4004#, 4005#, 4006#, 4008#, 4010#, 4012#

(b) At least 12 units of Business courses from the following, including at least 6 units of FINA courses, with at most 6 one-unit courses:
    ACCT2121, 2151 or 3151#, 4212# or 4213# or 4214#, 4251#, FINA2210, 3010, 3020, 3030, 3040, 3060, 3070, 3090, 3110, 3210, 3230, 3240, 3280, 3310, 3320, 3330, 3340, 3350, 3360, 3370, 3398, 3399, 3420, 4010, 4020, 4030, 4040, 4050, 4060, 4230, 4240, 4310, 4320, 4330, 4340, 4350, 4400, 4410, MGNT1020, 2611, 4010#, MKTG2010#

(c) At least 12 units of Core courses from the following:
    FINA4110, 4120, 4130 (capstone course), 4140 (capstone course), 4150 (capstone course), 4160 (capstone course), 4190 (capstone course), 4370 (capstone course), 4380 (capstone course), 4390[b] (capstone course), 4420, 4430 (capstone course), 6232 (capstone course), 6242 (capstone course), 6252 (capstone course)

Total:	**72**

Explanatory Notes:
1. FINA courses at 2000 and above level as well as those labeled with # will be included in the calculation of Major GPA for honours classification.
2. Non-JUPAS admittees and JUPAS admittees without HKDSE Mathematics Extended Modules I or II are required to take MATH1530 before taking MATH1010, except those who pass the Mathematics Placement Test arranged by the Programme.
3. Completion of an eligible second major or minor programme from the Faculty of Engineering (Computer Science, Electronic Engineering, Information Engineering, Web and Cloud Computing) or the Faculty of Science (Mathematics, Physics, Risk Management Science, Statistics) is deemed to have satisfied 4(a) Quantitative Methods area of elective courses requirement. Only relevant courses listed under 4(a) will be included in the calculation of Major GPA.
[a] Students are advised to take MGNT2512 once their Global Experiential Learning Activities are completed.
[b] Subject to the approval of the major programme, students who have completed the Co-operative Education Programme are deemed to have fulfilled the core requirement FINA4390.

	Recommended Course Pattern	Units
First Year of Attendance	1st term Faculty Package: ACCT1111, DSME1030 Faculty Co-curricular Courses: MGNT2511 Major Required: MATH1010 Major Elective(s):	6 1 3
	2nd term Faculty Package: DSME1040 Faculty Co-curricular Courses: IBBA3040 Major Required: FINA2010 or 2110, MATH1030 Major Elective(s):	3 1 6
Second Year of Attendance	1st term Major Required: CSCI1510 or 1520 or 1530 or 1540 or 1580, DSME2011 or STAT2001, MATH2010	9-10
	Major Elective(s): 3 units from Quantitative Methods and Business electives	3
	2nd term Major Required: ACCT3142 or CSCI2100 or 2520 or DSME2051 or SEEM3550, DSME2021 or FINA2020 or STAT2006, FINA3080	9
	Major Elective(s): 3 units from Quantitative Methods and Business electives	3
Third Year of Attendance	1st term Major Required:	
	Major Elective(s): 12 units from Quantitative Methods, Business, and Core electives	12
	2nd term Major Required:	
	Major Elective(s): 12 units from Quantitative Methods, Business, and Core electives	12
Fourth Year of Attendance	1st term Major Required:	
	Major Elective(s): 3 units from Quantitative Methods, Business, and Core electives	3
	2nd term Faculty Co-curricular Courses: MGNT2512	1
	Major Required:	
	Major Elective(s):	
	Total (including Faculty Package):	**72**

Course List		
Course Code	*Course Title*	*Unit(s)*
Faculty Package		
ACCT1111	Foundations in Financial Accounting	3
DSME1030	Economics for Business Studies I	3
DSME1040	Economics for Business Studies II	3
Faculty Co-curricular Courses		
IBBA3040	Business Lecture Series	1
MGNT2511	Global Experiential Learning I	1
MGNT2512	Global Experiential Learning II	1
Required Courses		
ACCT3142	Contemporary Accounting Information Systems	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
CSCI1580	Visual Programming	3

CSCI2100	Data Structures	3
CSCI2520	Data Structures and Applications	3
DSME2011	Statistical Analysis for Business Decisions	4
DSME2021	Applied Econometrics for Business Decisions	3
DSME2051	Business Information Systems	3
FINA2010	Financial Management	3
FINA2020	Introduction to Empirical Methods in Finance	3
FINA2110	Financial Management: Foundations and Analysis	3
FINA3080	Investment Analysis and Portfolio Management	3
MATH1010	University Mathematics	3
MATH1030	Linear Algebra I	3
MATH2010	Advanced Calculus I	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
Elective Courses		
Quantitative Methods		
CSCI2800	Numerical Computation	3
CSCI3170	Introduction to Database Systems	3
DSME4070	Data Management and Big Data Analytics	3
DSME4130	Business Applications Programming	3
DSME4220	Data Mining for Business Intelligence	3
ECON3121	Introductory Econometrics	3
ECON4120	Applied Forecasting Methods	3
FINA3220	Life Contingencies I	3
FINA3221	Basic Long-term Actuarial Mathematics	3
FINA3222	Basic Short-term Actuarial Mathematics	3
FINA3290	Linear Models for Actuaries	3
FINA3295	Advanced Statistical Modeling for Insurance and Finance	3
FINA4210	Life Contingencies II	3
FINA4211	Advanced Long-term Actuarial Mathematics	3
FINA4220	Non-life Actuarial Models	3
FINA4221	Advanced Short-term Actuarial Mathematics	3
FINA4250	Applications of Risk Models	3
FINA4260	Construction and Evaluation of Actuarial Models II	3
MATH3215	Operations Research	3
MATH3230	Numerical Analysis	3
MATH3240	Numerical Methods for Differential Equations	3
MATH3270	Ordinary Differential Equations	3
MATH3280	Introductory Probability	3
MATH3290	Mathematical Modeling	3
MATH3310	Computational and Applied Mathematics	3
MATH3320	Foundation of Data Analytics	3
MATH4220	Partial Differential Equations	3
MATH4230	Optimization Theory	3
MATH4240	Stochastic Processes	3
SEEM3440	Operations Research II	3
STAT3006	Statistical Computing	3
STAT3007	Introduction to Stochastic Processes	3
STAT3008	Applied Regression Analysis	3
STAT4001	Data Mining and Statistical Learning	3
STAT4002	Applied Multivariate Analysis	3
STAT4003	Statistical Inference	3

STAT4004	Actuarial Science	3
STAT4005	Time Series	3
STAT4006	Categorical Data Analysis	3
STAT4008	Survival Modelling	3
STAT4010	Bayesian Learning	3
STAT4012	Statistical Principles of Deep Learning with Business Applications	3
Business		
ACCT2121	Introductory Management Accounting	3
ACCT2151	Legal Environment for Business	2
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
FINA2210	Interest Theory and Finance	3
FINA3010	Financial Markets	3
FINA3020	International Finance	3
FINA3030	Management of Financial Institutions	3
FINA3040	Central Banking and Regulations 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
FINA3280	Insurance Company Operations and Management	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
FINA4230	Reinsurance and Alternative Risk Transfer	3
FINA4240	Employee Benefits, Retirement and Estate Planning	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
MGNT1020	Management	3

MGNT2611	Business Sustainability	2
MGNT4010	Strategic Management	3
MKTG2010	Marketing Management	3
Core		
FINA4110	Options and Futures	3
FINA4120	Fixed Income Securities Analysis	3
FINA4130	Empirical Finance	3
FINA4140	Computational Finance	3
FINA4150	Quantitative Methods for Financial Derivatives	3
FINA4160	Intermediate Financial Theory	3
FINA4190	Research Project in Quantitative Finance	3
FINA4370	Derivatives Trading: Analysis and Strategies	3
FINA4380	Algorithmic Trading Strategies, Arbitrage and HFT	3
FINA4390	Banking and Finance Practicum	3
FINA4420	Financial Markets from Macro Perspective	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