

Risk Management Science

Applicable to students admitted in 2023-24

There is one enrichment stream in the Risk Management Science Programme: *Risk Analytics Stream*. Students who got a total score of 30 or above in the best five HKDSE subjects or have obtained a cumulative GPA of 3.7 or above in the first or second year of attendance may apply for specializing in the *Risk Analytics Stream*.

Major Programme Requirement

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

	Units
1. Faculty Package: Group C: MATH1010 (preferred) or 1018 Group E: STAT1011 One course from the following Group A: LSCI1001 or 1002 or 1012 Group B: CHEM1070 or 1072 or 1280 Group D: PHYS1001 or 1002 or 1111 or 1113, or Courses from Faculty Package of the Faculty of Business Administration: DOTE[DSME]1031 or 1040 or HTMG1010 or MGNT1020	9
2. Required Courses: ACCT1111 or 2111, DOTE[DSME]1030[a], FINA2010#, 3080#[b], MATH1030 (preferred) or 1038, 2010 (preferred) or 2018, RMSC1101#, 2001, 2101, 3101, 4001, 4003, STAT2001#, 2006#, 3007#, 3008#	42
3. Elective Courses:	21
(a) One course from CSCI1510, 1520, 1530, 1540, 1580 or STAT2005	
(b) Choose five courses from the following list, with at least two RMSC courses: CSCI2520#[c], ECON3420#, FINA3010#, 3210#, MATH3215#, 3230#, 3240#, 4210#, 4230#, RMSC4002, 4004, 4005, 4006, 4007, STAT4002#, 4003#, 4004#, 4005#, 4006#, 4008#, 4010#, 4012#	
(c) One capstone/research course from RMSC4102 or 4202	
Total:	72

Explanatory Notes:

- RMSC courses at 2000 and above level as well as those labelled as # will be included in the calculation of Major GPA for honours classification.
 - Students admitted to the Dual Undergraduate Degree Programme (DDP) with The University of Edinburgh (UoE) are required to follow the major programme requirement and will not be able to declare a stream.
- [a] Students may take ECON1010 as a substitute for DOTE[DSME]1030.
 [b] Students may take RMSC3001 as a substitute for FINA3080.
 [c] Students may take CSCI2100# as a substitute for CSCI2520.
 [] Subject area code “DSME” changed to “DOTE” with effect from 2024-25.

Risk Analytics Stream

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

	Units
1. Faculty Package:	9

Group C: MATH1010 (preferred) or 1018
 Group E: STAT1011
 One course from the following
 Group A: LSCI1001 or 1002 or 1012
 Group B: CHEM1070 or 1072 or 1280
 Group D: PHYS1001 or 1002 or 1111 or 1113, or
 Courses from Faculty Package of the Faculty of Business Administration:
 DOTE[DSME]1031 or 1040 or HTMG1010 or MGNT1020

2. Required Courses: 48
- (a) ACCT1111 or 2111, DOTE[DSME]1030[a], FINA2010#, 3080#[b], MATH1030 (preferred) or 1038, 2010 (preferred) or 2018, RMSC1101#, 2001, 2101, 3101, 4001, 4003, STAT2001#, 2006#, 3007#, 3008#
- (b) One course from CSCI1510, 1520, 1530, 1540 or 1580
- (c) One course from CSCI2510, 2720 or 3100
3. Elective Courses: 15
- (a) Two courses from the following list:
 CSCI2520#[c], 3150#, 3160#, 3170#, 3230#, 3320#, 4130#, 4160#, 4180#, 4190#, 4230#, 5030#, 5150#, 5510#, ENGG5108#
- (b) Two courses from the following list:
 RMSC4002, 4004, 4005, 4006, 4007, STAT4002#, 4003#, 4004#, 4005#, 4006#, 4008#, 4010#, 4012#
- (c) One capstone/research course from RMSC4112 or 4212

Total: 72

Explanatory Notes:

1. RMSC courses at 2000 and above level as well as those labelled as # will be included in the calculation of Major GPA for honours classification.
- [a] Students may take ECON1010 as a substitute for DOTE[DSME]1030.
- [b] Students may take RMSC3001 as a substitute for FINA3080.
- [c] Students may take CSCI2100# as a substitute for CSCI2520.
- [] Subject area code "DSME" changed to "DOTE" with effect from 2024-25.

Risk Management Science		
	Recommended Course Pattern	Units
First Year of Attendance	1 st term	
	Faculty Package: Group E: STAT1011	3
	Major Required: ACCT1111 or 2111, DOTE[DSME]1030, RMSC1101	7
	Major Elective(s):	
	2 nd term	
	Faculty Package: Group C: MATH1010	6
	One course from Science Faculty Package A, B, D or BA Faculty Package: DOTE[DSME]1031 or 1040 or HTMG1010 or MGNT1020	
	Major Required: FINA2010	3
Second Year of Attendance	Major Elective(s):	
	1 st term	
	Major Required: MATH1030, RMSC2001, STAT2001	9
	Major Elective(s): STAT2005	0-3

	2 nd term Major Required: MATH2010, RMSC2101, STAT2006 Major Elective(s): One CSCI course at 1000 level (if STAT2005 not taken)	7 0-3
Third Year of Attendance	1 st term Major Required: FINA3080 (if RMSC3001 not taken), RMSC4003, STAT3007, 3008 Major Elective(s):	9-12
	2 nd term Major Required: RMSC3001 (if FINA3080 not taken), 3101, 4001 Major Elective(s): One ECON or FINA course, one MATH course	4-7 6
Fourth Year of Attendance	1 st term Major Required: Major Elective(s): RMSC4202, two RMSC courses	6-9
	2 nd term Major Required: Major Elective(s): RMSC4102 (if RMSC4202 not taken), one RMSC or STAT course	3-6
Total (including Faculty Package):		72

Risk Management Science (Risk Analytics Stream)		
	Recommended Course Pattern	Units
First Year of Attendance	1 st term Faculty Package: Group E: STAT1011 Major Required: ACCT1111 or 2111, DOTE[DSME]1030, RMSC1101 Major Elective(s):	3 7
	2 nd term Faculty Package: Group C: MATH1010 A course from Science Faculty Package A, B, D or BA Faculty Package: DOTE[DSME]1031 or 1040 or HTMG1010 or MGNT1020 Major Required: FINA2010 Major Elective(s):	6 3
	1 st term Major Required: CSCI2510 or 2720 or 3100, MATH1030, RMSC2001, STAT2001 Major Elective(s): One CSCI course at 1000 level	9-12 3
Second Year of Attendance	2 nd term Major Required: CSCI2510 or 2720 or 3100 (if not taken), MATH2010, RMSC2101, STAT2006 Major Elective(s): CSCI2520	7-10 3
	1 st term Major Required: FINA3080 (if RMSC3001 not taken), RMSC4003, STAT3007, 3008 Major Elective(s):	9-12
Third Year of Attendance	2 nd term Major Required: RMSC3001 (if FINA3080 not taken), 3101, 4001 Major Elective(s): One CSCI or ENGG course, one RMSC or STAT course at 4000 level	4-7 6
	1 st term Major Required: Major Elective(s): RMSC4212, one RMSC or STAT course at 4000 level	3-6
Fourth Year of Attendance		

	2 nd term Major Required: Major Elective(s): RMSC4112 (if RMSC4212 not taken)	0-3
Total (including Faculty Package):		72

	Recommended Course Pattern for CUHK students in fulfillment of requirements of the Dual Undergraduate Degree Programme (DDP) with The University of Edinburgh (UoE) (BSc in Mathematics and Business)	Units
First Year of Attendance (Study at CUHK)	1 st term Faculty Package: STAT1011 Major Required: ACCT1111, DOTE[DSME]1030, RMSC1101 University Core Requirements: 1 College GE course[a], ELTU1001, 1 PHED course	3 7 6-7
	2 nd term Faculty Package: DOTE[DSME]1040, MATH1010 Major Required: FINA2010 University Core Requirements: CHLT1001, ENGG1003, 1 PHED course	6 3 7
	Summer Session Major Required: MATH1030 University Core Requirements: 1 UGFH or UGFN course	3 3
Second Year of Attendance (Study at CUHK)	1 st term[b] Major Required: RMSC2001, STAT2001 Major Elective(s): CSCI1510, 1520, 1530 or 1540 Free Elective(s): MATH1050 University Core Requirements: 0-1 College GE course[a], ELTU2018, 1 UGFH or UGFN course	6 3 3 6-8
	2 nd term[b] Major Required: MATH2010, RMSC2101, 3001, 3101, STAT2006 Major Elective(s): CSCI2100 or 2520, FINA3210 University Core Requirements: CHLT1002, UGCP1001 or 1002	11 6 3
	Summer Session[b] University Core Requirements: 1 UGEA course[c], 1 UGEC course[c], UGCP1001 or 1002	5
Third Year of Attendance (Study at UoE)	1 st term Major Required: CMSE10002 (20 units)[d], MATH10066 (20 units) Major Elective(s): MATH10007 (10 units)[e], MATH10095 (10 units)[f]	60 units (with 9 units for fulfillment of the Major requirements to be transferred to CUHK)
	2 nd term Major Required: MATH10068 (20 units) Major Elective(s): BUST10023 (20 units)[g], MATH10003 (10 units)[h], 1 elective course (10 units)	60 units (with 6 units for fulfillment of the Major requirements to be transferred to CUHK)

Fourth Year of Attendance (Study at UoE)	1 st term Major Required: MATH10031 (40 units)[i] Major Elective(s): MATH11187 (10 units)[j]	50 units (with 6 units for fulfillment of the Major requirements to be transferred to CUHK)
	2 nd term Major Required: BUST10012 (20 units), BUST10149 (20 units) Major Elective(s): MATH11202 (10 units)[k], MATH11205 (10 units)[l], MATH11131 (10 units)[m]	70 units (with 9 units for fulfillment of the Major requirements to be transferred to CUHK)
Units taken at CUHK:		82-83
Units taken at UoE and recognized by CUHK:		30
Total:		112-113[n]
Explanatory Notes: [a] 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. [b] Students taking a term and a year load exceeding the maximum will need to seek approval from the Registrar. [c] Students should take one 2-unit UGEA course and one 2-unit UGEC course. [d] CMSE10002 taken at UoE can be transferred to fulfill the requirement of RMSC4003. [e] MATH10007 taken at UoE can be transferred to fulfill the requirement of STAT3007. [f] MATH10095 taken at UoE can be transferred to fulfill the requirement of STAT4003. [g] BUST10023 taken at UoE can be transferred to fulfill the requirement of RMSC4007. [h] MATH10003 taken at UoE can be transferred to fulfill the requirement of RMSC4005. [i] MATH10031 taken at UoE can be transferred to fulfill the requirement of RMSC4202. [j] MATH11187 taken at UoE can be transferred to fulfill the requirement of STAT3008. [k] MATH11202 taken at UoE can be transferred to fulfill the requirement of RMSC4001. [l] MATH11205 taken at UoE can be transferred to fulfill the requirement of RMSC4002. [m] MATH11131 taken at UoE can be transferred to fulfill the requirement of STAT4005. [n] Students are required to complete at least 48 units (out of 72) of major courses offered by CUHK.		

Minor Programme Title Risk Management Science
Minor Programme Requirement Students are required to complete a minimum of 21 units of courses as follows: Units

1. Required Course: RMSC2001 3
2. Elective Courses:
 - (a) STAT1011[a] 3
 - (b) STAT2102[a] 3
 - (c) STAT2005 or one course from CSCI1510, 1520, 1530, 1540, 1580 3
 - (d) Three courses from RMSC4001, 4002, 4003, 4004, 4005, 4007, STAT4004 9

Total: 21

Explanatory Notes:

- [a] Students can take either the STAT course or its corresponding equivalent or closely related course, but not both, as listed below to fulfill the requirement:

STAT courses		Equivalent/closely related courses	
STAT1011	Introduction to Statistics	STAT1012	Statistics for Life Sciences
		STAT2001	Basic Concepts in Statistics and Probability I
		DOTE[DSME]2011	Statistical Analysis for Business Decisions
		FINA2220	Quantitative Methods for Actuarial Analysis I
		ENGG2760 or ESTR2018	Probability for Engineers
		ECON2121	Methods of Economic Statistics
		GRMD2102	Fundamental Statistics for Geographers
		SOCI2004	Social Statistics
STAT2102	Basic Statistical Concepts and Methods II	STAT2006	Basic Concepts in Statistics and Probability II
		DOTE[DSME]2021	Applied Econometrics for Business Decisions

- [] Subject area code “DSME” changed to “DOTE” with effect from 2024-25.

Course List

Course Code	Course Title	Unit(s)
RMSC1101	Elementary Concepts in Risk Management	1
RMSC2001	Introduction to Risk Management	3
RMSC2101	Introductory Topics in Risk Management	1
RMSC3001	Principles of Credit Risk Management	3
RMSC3101	Special Topics in Risk Management	1
RMSC4001	Simulation Methods for Risk Management Science and Finance	3
RMSC4002	Financial Data Analytics with Machine Learning	3
RMSC4003	Statistical Modelling in Financial Markets	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
RMSC4102	Research Project	3
RMSC4112	Research Project in Risk Analytics	3
RMSC4202	Practicum	3
RMSC4212	Practicum in Risk Analytics	3