# SYLLABUSES FOR THE DEGREE OF BACHELOR OF SCIENCE (QUANTITATIVE FINANCE)

These syllabuses apply to candidates admitted to the first year of study of the 4-year curriculum in the academic year 2012-13 and thereafter.

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1. Candidates must enroll and attempt examination in not fewer than 240 credits of courses in accordance with the regulations and the syllabuses. In addition, the 240 credits of courses should be completed in the following manner:

UG 5 requirements [54 credits]	
Languages*	18 credits
HKU Common Core Curriculum*	36 credits
Major in Quantitative Finance [96 credits]	
- First year Core courses	36 credits
- Second year Core courses	36 credits
- Third year Core courses	12 credits
- Fourth year Core courses	12 credits
Free Electives	90 credits
Total credits for degree programme	240 credits

- 2. To fulfill the graduation requirement of this degree as specified in the Board of the Faculty of Business and Economics in accordance with UG 5 of the Regulations for the First Degree Curricula, candidates must satisfactorily complete the credits of courses identified by an asterisk (\*). Those courses include the following areas of study: English language enhancement (12 credits), Chinese language enhancement (6 credits) and Common Core courses (36 credits), and successful completion of a capstone experience.
- 3. The Common Core courses are categorized under four Areas of Inquiry (AoI): Scientific and Technological Literacy, Humanities, Global Issues, and China: Culture, State and Society. Candidates must complete a total of 36 credits, comprising at least one and not more than two courses from each Area of Inquiry with not more than 24 credits of courses being selected within one academic year except where candidates are required to make up for failed credits.
- 4. The following courses are designated as Faculty Core courses: ACCT1101, ECON1210, FINA1310 and a statistics course, as prescribed in syllabuses. Candidates are not required to retake Faculty Core courses where any of these courses form part of the requirements of a second major or a minor offered by the Faculty of Business of Economics, however, candidates must complete an equivalent number of credits of free electives in lieu.
- 5. The courses listed in the syllabus will not necessarily be offered every year; from time to time, depending on the exigencies of staffing, additional courses may be offered. The School of Economics and Finance will only offer electives for which sufficient student demand has been expressed in any one year.
- 6. For courses offered by the School of Economics and Finance, the final examination is normally 2 hours in length. Final grading will be determined by performance in the final examination (30-60%) and an assessment of coursework (40-70%) except for final project/final papers which will be assessed by 100% coursework.
- 7. Candidates may take a maximum of 114 credits of junior level/Year 1 courses, inclusive of all common core and required language courses, unless otherwise specified in the syllabuses.
- 8. Candidates may select up to four courses offered under the syllabuses for the Master of Economics (MEcon) as third or fourth year free electives, subject to availability and the approval of the Director of the School of Economics and Finance. Each of these MEcon courses carries 6 credits, unless otherwise specified.

- 9. Candidates should take note of any impermissible combinations of majors/minors listed in "Major/Minor Programs offered by FBE" on page xx.
- 10. Candidates are not permitted to enroll in courses where significant portions of the course contents overlap with each other, or where the courses are mutually exclusive. See the list of "Mutually Exclusive Course for FBE Students" on page xx.
- 11. Each candidate shall be required to take an English Proficiency Test at two different junctures; firstly in Year 1 and secondly in the final or penultimate year of study.

### 1. UG 5 requirements [54 credits]

(a) Languages\* [18 credits]

Course code	Course title	Year of Study	Credits
CAES1000 <sup>#</sup>	Core University English *	1	6
CAES9920	Academic Communication for Business and	2	6
	Economics*		
CBBA9003^	Practical Chinese for	3	6
	BEcon/BEcon&Fin/BSc(QFin) students*		

<sup>\*</sup> Candidates who achieved Level 5\*\* in English Language in the HKDSE or equivalent are exempted but must take an elective in lieu.

(b) HKU Common Core Curriculum\* [36 credits]

Course code	Course title	Year of Study	Credits
CCxxxxxx	3 CC courses in any three Areas of Inquiry*	1	18
CCxxxxxx	2 CC courses in any two Areas of Inquiry*	2	12
CCxxxxxx	1 CC course in any Area of Inquiry*	3	6

#### 2. Major in Quantitative Finance [96 credits]

Course code	Course title	Year of Study	Credits	
Junior Level Courses				
ACCT1101	Introduction to financial accounting 1			
ECON1210	Introduction to economics I 1			
ECON1220	220 Introduction to economics II 1			
FINA1310	Corporate finance	1	6	
MATH1013	University mathematics II	1	6	
COMP1117	Computer programming (note: junior level	2	6	
	course)			
	Senior Level Courses			
STAT2601	Probability and statistics I	1	6	
FINA2320	Investments and portfolio analysis	2	6	
FINA2322	Derivatives		6	
MATH2101	I2101 Linear algebra I		6	
MATH2211	Multivariable calculus	2	6	
STAT3603	STAT3603 Probability modeling		6	

<sup>^</sup> Putonghua-speaking students must take CUND9002 or CUND9003. Students who have not studied the Chinese language during their secondary education or who have not attained the requisite level of competence in the Chinese language to take CBBA9003 can apply to the Faculty: (i) to take credit-bearing Cantonese or Putonghua language courses offered by the School of Chinese (especially for international and exchange students), or

<sup>(</sup>ii) for exemption from Chinese language requirement and take an elective course in lieu.

FINA3350	Mathematical finance	al finance 3		
FINA3351	Spreadsheet financial modeling	3	6	
FINA4341	Quantitative risk management <i>or</i>	4	6	
FINA4353	Operational issues and cases in quantitative			
	finance			
FINA4354	Financial engineering* (Capstone course)	4	6	

Total credits for a major in Quantitative Finance

96

**3. Free Electives [90 credits]** – any courses except Common Core courses.

90

#### REFERENCE TABLE

Year	Lang.	<b>Common Core</b>	Major (Core)	Free Electives	Total
I	6 credits	18 credits	36 credits	0 credits	60 credits
II	6 credits	12 credits	36 credits	6 credits	60 credits
III	6 credits	6 credits	12 credits	36 credits	60 credits
IV	-	-	12 credits	48 credits	60 credits
Total	18 credits	36 credits	96 credits	90 credits	240 credits

## Notes:

- 1. It is strongly recommended that candidates complete MATH2211 before taking FINA2322.
- 2. Deviations from the recommended course schedule are allowed as long as the pre-requisites are not violated as a result. Such deviations are not considered as "changes" in curriculum and do not require any approval. (e.g., with respect to this study schedule, COMP1117 can be taken any time before the second semester in Year 3.)