

Curriculum for BSc in Mathematics - Applied Mathematics Option

Major Program Requirements

Core courses

MATH 102	Multivariable Vector Calculus	[2-1-0:4]
MATH 111	Linear Algebra	[3-1-0:4]
MATH 202	Introduction to Real Analysis	[2-1-0:4]

Required courses

MATH 144	Applied Statistics	[3-1-0:4]
MATH 151	Differential Equations and Applications	[3-1-0:4]
MATH 231	Numerical Analysis	[3-1-0:4]
MATH 301	Real Analysis	[3-1-0:4]
MATH 304	Complex Analysis	[3-1-0:4]
MATH 306	Partial Differential Equations	[3-1-0:4]
(1) MATH 308	Introduction to Fluid Dynamics	[3-1-0:4]
(2) COMP 102	Computer and Programming Fundamentals I	[3-0-2:3]

Elective courses

Elective types		Minimum no. of courses	Minimum total credits
(3) MATH	Mathematics Elective	2	6
(4) FREE	Free Elective	5	15
(3) PHYS	Physics Elective	1	3

Note: Unless otherwise approved by the Department, zero-level mathematics courses cannot be used to fulfill the FREE elective requirement.

General Education Requirements

Electives must be selected from amongst those general education courses that are listed under the section “Designated General Education Courses for Undergraduate Students”.

Elective types		Minimum no. of courses	Minimum total credits
GEE(ENGG)	Engineering General Education Elective	1	6
(4) GEE(SB&M)	Business and Management General Education Elective	1	
(5) GEE(H&SS)	Humanities and Social Science General Education Elective	4	

Required Courses in English Communication

LANG 108	English for Science Students	[0-2-0:2]
LANG 208	English Communication for Science Students I	[0-2-0:1]

LANG 209	English Communication for Science Students II	[0-2-0:1]
LANG 308	English Communication for Science Students III	[0-2-0:1]

Other Requirement

(6) HLTH 001	Healthy Life Style	[0 credit]
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Notes:

- (1) The course can be replaced by MATH 331, MATH 361, MATH 365 or MATH 399 provided that enrolment quota of these courses is available.
- (2) This course can be replaced by COMP 104 provided that enrolment quota is available.
- (3) PHYS 111 is recommended; however, it may be replaced by another PHYS course of 100-level or above except PHYS 180, PHYS 280 and PHYS 380. Other recommended electives are determined by the specific concentration a student elects to follow. There are four concentrations: scientific computation, financial mathematics, atmospheric & astrophysical sciences, and mathematical biology.
- (4) ISOM 111 cannot be used to satisfy any FREE elective requirement as well as the GEE(SB&M) requirement.
- (5) Of these courses, at least one course in Humanities and one in Social Science are required.
- (6) Students are required to take and pass this course in their first year of study. Details of the course and its requirements are announced on the course website <http://www.ab.ust.hk/sao/HLTH001> managed by the Student Affairs Office.

A minimum of 101 credits is required for the BSc program in Mathematics - Applied Mathematics Option. Students must take additional course(s) and/or elective(s) of higher-than-required credit value to meet this minimum total of 101 credits.

Recommended Pattern of Study for BSc in Mathematics - Applied Mathematics Option

1st year	Fall	C MATH 102, MATH 111, MATH 202 R COMP 102, HLTH 001, LANG 108 E PHYS 111, GEE(SB&M)	(Total: 14 credits)
	Spring	C MATH 102, MATH 202 R MATH 144, MATH 151, HLTH 001, LANG 108 E GEE(ENGG)	(Total: 21* credits)
2nd year	Fall	R MATH 231, MATH 301, MATH 306, LANG 208 E GEE(H&SS)	(Total: 16 credits)
	Spring	R MATH 304, LANG 209 E GEE(H&SS), three FREE	(Total: 17 credits)
3rd year	Fall	R MATH 308, LANG 308 E MATH, GEE(H&SS), two FREE	(Total: 17 credits)
	Spring	E MATH, GEE(H&SS), three FREE	(Total: 16 credits)

* LANG 108, MATH 102 and MATH 202 are two-semester courses. The course credits will be earned on completion of the courses at the end of 1st year Spring.

C = core course; R = required course; E = elective course