Curriculum for BSc in Mathematics - Mathematical Sciences Option in Physical and Engineering Science

Major Program Requirements

Core courses

	MATH	102	Multivariable and 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	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]
(1)	MATH	304	Complex Analysis	[3-1-0:4]
	COMP	102	Computer and Programming Fundamentals I	[3-0-2:3]

Elective courses

	Elective types		Minimum no. of courses	Minimum total credits
(2)	MATH	Mathematics Elective	3	9
(3)	FREE	Free Elective	4	12
(4)	SCI/ENGG	Science/Engineering Elective	7	22

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

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	
(3)	GEE(SB&M)	Business and Management General Education Elective	1	6
(5)	GEE(H&SS)	Humanities and Social Science General Education Elective	4	12

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]

Notes:
(1) This course can be replaced by MATH 303, MATH 311 or MATH 321 provided that enrolment quota of these courses is available.
(2) MATH electives must include MATH 144, MATH 306 and MATH 308. MATH 306 and MATH 308 can be replaced only by 300-level or higher mathematics courses.
(3) ISOM 111 cannot be used to satisfy any FREE elective requirement as well as the GEE(SB&M) requirement.
(4) SCI/ENGG electives must include PHYS 002, PHYS 111/121, PHYS 112/126 and MECH 131/221. The course identified as Science or Engineering elective (SCI/ENGG) will be selected in consultation with the student's academic advisor.
(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 - Mathematical Sciences Option in Physical and Engineering Science. 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 - Mathematical Sciences Option in Physical and Engineering Science

1st year	Fall	C	MATH 102, MATH 111, MATH 202	
		R	COMP 102, HLTH 001, LANG 108	
		E	PHYS 002, PHYS 111	(Total: 14 credits)
	Spring	C	MATH 102, MATH 202	
		R	MATH 151, HLTH 001, LANG 108	
		E	PHYS 112, SCI/ENGG, GEE(H&SS)	(Total: 23* credits)
2nd year	Fall	R	MATH 231, MATH 301, LANG 208	
		E	MATH 306, GEE(ENGG)	(Total: 16 credits)
	Spring	R	MATH 304, LANG 209	
		E	MATH 144, MECH 131/221	
			GEE(H&SS)	(Total: 15 credits)
3rd year	Fall	R	LANG 308	
		E	MATH 308, FREE, SCI/ENGG,	
			GEE(SB&M), GEE(H&SS)	(Total: 17 credits)
	Spring	E	SCI/ENGG, 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