

Curriculum for BSc in Physics - Physics and Mathematics Option

Only students with both AL Physics and AL Mathematics attainments are allowed to enrol in this option.

Major Program Requirements

Core courses

	PHYS 121	Fundamentals of Physics	[3-1-2:4]
	PHYS 126	Introduction to Modern Physics	[3-1-0:3]
	PHYS 221	Intermediate Classical Mechanics	[3-1-0:4]
	PHYS 223	Intermediate Electricity and Magnetism I	[3-1-0:4]
	PHYS 234	Elementary Quantum Mechanics I	[3-1-0:4]
	MATH 101	Multivariable Calculus	[3-1-0:4]
(1)	MATH 111	Linear Algebra	[3-1-0:4]

Required courses

	PHYS 127	Introduction to Modern Physics Laboratory	[0-0-3:1]
	PHYS 180	Physics Seminar and Tutorial I	[0-1-0:1]
	PHYS 211	Experimental Physics	[1-0-3:2]
	PHYS 280	Physics Seminar and Tutorial II	[0-1-0:1]
	PHYS 321	Thermodynamics and Statistical Physics	[4-0-0:4]
	PHYS 331	Elementary Quantum Mechanics II	[4-0-0:4]
or	PHYS 224	Intermediate Electricity and Magnetism II	[3-0-0:3]
	PHYS 380	Physics Seminar and Tutorial III	[0-1-0:1]
	MATH 151	Differential Equations and Applications	[3-1-0:4]
(2)	MATH 201	Introduction to Analysis	[3-1-0:4]
(3)	MATH 304	Complex Analysis	[3-1-0:4]
	MATH 306	Partial Differential Equations	[3-1-0:4]
	MATH 301	Real Analysis	[3-1-0:4]
or	MATH 311	Algebra I	[3-1-0:4]
or	MATH 321	Differential Geometry	[3-1-0:4]

Elective courses

	Elective types		Minimum no. of courses	Minimum total credits
(4)	PHMA	Physics/Mathematics Elective	1	4
(5)	FREE	Free Elective	4	15 or 16

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
GEE(SB&M)	Business and Management General Education Elective	1	
(6) 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

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

- (1) The course MATH 111 can be replaced by MATH 111H.
- (2) The course MATH 201 can be replaced by MATH 201H.
- (3) MATH 304 may be replaced by MATH 321.
- (4) Physics Elective Courses have to be chosen from PHYS 191 and any PHYS courses at 200-level or higher. For Mathematics Elective Courses, one must be of 200-level or higher and the rest must be of 300-level or higher.
- (5) Students are not permitted to take more than 8 credits of 000-level courses as free elective. Free electives must be at 200-level or higher if physics courses are chosen, with the exception of PHYS 140 and PHYS 191. Free electives must be at 100-level or higher if mathematics courses are chosen. For those who opt for PHYS 331, the minimum total credits for free electives will be 15 and for those who opt for PHYS 224, the minimum total credits for free electives will be 16.
- (6) Of these courses, at least one course in Humanities and one in Social Science are required.
- (7) 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 103 credits is required for the BSc program in Physics - Physics and Mathematics Option.

Recommended Pattern of Study for BSc in Physics - Physics and Mathematics Option

1st year	Fall	C PHYS 121, MATH 101, MATH 111 R PHYS 180, HLTH 001, LANG 108 E GEE(ENGG)	(Total: 15 credits)
	Spring	C PHYS 126 R PHYS 127, PHYS 180, HLTH 001, LANG 108, MATH 151, MATH 201 E GEE(H&SS)	(Total: 18* credits)

CURRICULUM FOR UNDERGRADUATE PROGRAMS

2nd year	Fall	C PHYS 221, PHYS 223 R PHYS 211, PHYS 280, MATH 306, LANG 208 E FREE	(Total: 19 credits)
	Spring	C PHYS 234 R PHYS 280, PHYS 321, LANG 209, MATH 304 E GEE(H&SS)	(Total: 17* credits)
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3rd year	Fall	R PHYS 380, MATH 301/311/321, LANG 308 R/E PHYS 331 or PHMA E GEE(SB&M), GEE(H&SS), FREE	(Total: 19 credits)
	Spring	R PHYS 224 or PHMA, PHYS 380 E GEE(H&SS), two FREE	(15* credits)

* LANG 108, PHYS 180, PHYS 280 and PHYS 380 are two-semester courses. The course credit(s) will be earned on completion of the courses at the end of the respective Spring Semester.

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