Curriculum for BSc in Applied Physics - Management Science Option

Two options are offered for this program. One is **Management Science Option** and the other is **Science and Technology Option**. Two sequences of courses are offered for each program option: Sequence A for students with AL Physics but without AL Mathematics and Sequence B for those with AL Physics and AL Mathematics. For students who fall outside the above categories, please consult the academic advisor.

Major Program Requirements

Core courses

(1)	PHYS	121	Fundamentals of Physics	[3-1-2:4]
	PHYS	126	Introduction to Modern Physics	[3-1-0:3]
	PHYS	223	Intermediate Electricity and Magnetism I	[3-1-0:4]
	PHYS	234	Elementary Quantum Mechanics I	[3-1-0:4]
	PHYS	321	Thermodynamics and Statistical Physics	[4-0-0:4]

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	214	Mathematical Methods in Physics	[4-0-0:4]
	PHYS	280	Physics Seminar and Tutorial II	[0-1-0:1]
	PHYS	370	Information Physics	[3-1-0:4]
	PHYS	371	Physics of Management Science	[3-1-0:4]
	PHYS	380	Physics Seminar and Tutorial III	[0-1-0:1]
	PHYS	381	Computational Physics I	[3-0-3:4]
(2)	COMP	102	Computer and Programming Fundamentals I	[3-0-2:3]
	ISOM	111	Business Statistics	[3-1-0:4]
	ISOM	162	Introduction to Operations Management	[3-0-0:3]
	ISOM	253	A Second Course in Business Statistics	[3-1-0:4]
	ISOM	354	Time Series Analysis and Forecasting	[3-1-0:4]
	MATH	101	Multivariable Calculus	[3-1-0:4]
(3)	MATH	111	Linear Algebra	[3-1-0:4]
	MATH	151	Differential Equations and Applications	[3-1-0:4]

For Sequence A:

	MATH	021	Concise Calculus	[3-1-0:4]

Elective courses

	Elective types		Minimum no. of courses	Minimum total credits
(4)	FREE	Free Elective		
		For Sequence A	2	5
		For Sequence B	3	9

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	
(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) With the Department's recommendation, students can replace PHYS 121 by PHYS 111 under the condition that they complete PHYS 112 as well. Under this special arrangement, PHYS 112 can be counted as a free elective.
(2) The course COMP 102 can be replaced by COMP 104.
(3) The course MATH 111 can be replaced by MATH 111H.
(4) Students are not permitted to take more than eight credits of 000-level courses as free elective. Free electives must be at 200-level or higher if Physics course are chosen, with the exception of PHYS 140 and PHYS 191.
(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 103 credits is required for the BSc program in Applied Physics - Management Science Option.

Recommended Pattern of Study for BSc in Applied Physics - Management Science Option - Sequence A

1st year	Fall	C	PHYS 121	
		R	PHYS 180, HLTH 001, ISOM 111, LANG 108, MATH 021	
		E	GEE(ENGG)	(Total: 15 credits)
	Spring	C	PHYS 126	
		R	PHYS 127, PHYS 180, COMP 102, HLTH 001, LANG 108, MATH 101, MATH 111	(Total 18* credits)

	Summer	R	MATH 151	(Total: 4 credits)
2nd year	Fall	C	PHYS 223	
		R	PHYS 211, PHYS 214, PHYS 280, ISOM 162 LANG 208	
		E	GEE(H&SS)	(Total: 17 credits)
	Spring	C	PHYS 234	
		R	PHYS 280, PHYS 381, ISOM 253, LANG 209	
		E	GEE(H&SS)	(Total: 17* credits)
3rd year	Fall	C	PHYS 321	
		R	PHYS 370, PHYS 380, LANG 308	
		E	GEE(SB&M), GEE(H&SS), FREE	(Total: 18 credits)
	Spring	R	PHYS 371, PHYS 380, ISOM 354	
		E	GEE(H&SS), FREE	(Total: 14* 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

Recommended Pattern of Study for BSc in Applied Physics - Management Science Option - Sequence B

1st year	Fall	C	PHYS 121	
		R	PHYS 180, HLTH 001, ISOM 111, LANG 108, MATH 101, MATH 111	(Total: 16 credits)
	Spring	C	PHYS 126	
		R	PHYS 127, PHYS 180, COMP 102 HLTH 001, LANG 108, MATH 151	
		E	GEE(ENGG)	(Total: 17* credits)
2nd year	Fall	C	PHYS 223	
		R	PHYS 211, PHYS 214, PHYS 280, ISOM 162, LANG 208	
		E	GEE(H&SS)	(Total: 17 credits)
	Spring	C	PHYS 234	
		R	PHYS 280, PHYS 381, ISOM 253, LANG 209	
		E	two GEE(H&SS)	(Total: 20* credits)
3rd year	Fall	C	PHYS 321	
		R	PHYS 370, PHYS 380, LANG 308	
		E	GEE(SB&M), GEE(H&SS), FREE	(Total: 18 credits)
	Spring	R	PHYS 371, PHYS 380, ISOM 354	
		E	two to three FREE	(Total: 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