Mechanical and Automation Engineering
Applicable to students admitted in 2014-15

Major Programme Requirement

Students are required to complete a minimum of 75 units of courses as follows:

			Units
1.	Faculty Package: ENGG1100/ESTR1000, ENGG1110/ESTR1002, ENGG2601, 2602		9
2.	Foundation Science Courses:		9
(a)	PHYS1110		
(b)	i)	One course from the following[a]: CHEM1070, 1280, 1380, ENGG1310/2520/ESTR1003/2006	
	OR		
	ii)	One course from the following [b]: CHEM1070, 1280, 1380, ENGG1310/2520/ESTR1003/2006, LSCI1001, 1003	
(c)	i)	One course from the following[a][c]: ENGG1310/2520/ESTR1003/2006, LSCI1001, 1003	
	OR		
	ii)	PHYS1003[b]	
3.	Foundation Mathematics Courses: ENGG1410/ESTR1004, ENGG2420/ESTR2000, ENGG2430/ESTR2002, MATH1510[d]		12
4.	Required Courses:		
(a)	ELEG2202#, MAEG2020/ESTR2400, MAEG2030/ESTR2402, MAEG3010, MAEG3020/ESTR3404, MAEG3050/ESTR3406		18
(b)	Research Component Courses[e]: MAEG4998, 4999		6
5.	Elective Courses (at least 9 units of courses at MAEG4000 and above level or ENGG5000 level):		21
(a)	Breadth Electives (12 units chosen from the following courses): CSCI1020, 1040, 1050, CSCI2100#/ESTR2102, CSCI2120#, 2800#, 3170#, ELEG2401#, 3101#, ENER2010, 2020, ENER3030/ESTR3402, ENGG1820, ENGG2020/ESTR2104, MAEG1010, 2010 (or 1020), 3030, 3040, MAEG3060/ESTR3408, MAEG3070, 3080, 3920, 5040, MAEG5050/ENGG5404, MAEG5080, 5120, 5130, 5140, MGNT1010, 4090, SEEM2440#/ESTR2500 (or DSME1030), SEEM3450#/ESTR3502, SEEM3490#, 3500#		
(b)	Depth Electives (9 units chosen from the following courses): ENER4010/ESTR4400, ENER4020/ESTR4402, ENER4030/		

ESTR4404, ENER4050/ESTR4422, ENER4060/ESTR4424, MAEG4010/ESTR4408, MAEG4020/ESTR4410, MAEG4030/ ESTR4412, MAEG4040/ESTR4414, MAEG4050/ESTR4416, MAEG4060, MAEG4070/ESTR4418, MAEG4080/ESTR4420, MAEG5010/ENGG5402, MAEG5020/ENGG5403, MAEG5030, 5060, 5070, 5090, MAEG5100/ENGG5405, MAEG5110

Streams
Students may choose not to specialize in any stream or to specialize in one of the three streams by completing a minimum of 15 units of courses prescribed by the stream.

Design and Manufacturing
(a) Required Courses:
   CSCI1020, MAEG2010 (or 1020), 3040
(b) Elective Courses:
   ENER3030/ESTR3402, MAEG3060/ESTR3408, MAEG3070, 3080, 3920, MAEG4010/ESTR4408, MAEG4020/ESTR4410, MAEG4060, MAEG4070/ESTR4418, MAEG5030, MAEG5050/ ENGG5404, MAEG5100/ENGG5405, MAEG5120, 5130, SEEM3500

Mechatronics
(a) Required Courses:
   CSCI1020, MAEG4040/ESTR4414, MAEG4050/ESTR4416
(b) Elective Courses:
   ELEG2401, ENER3030/ESTR3402, ENGG2020/ESTR2104, MAEG3080, MAEG5050/ENGG5404, MAEG5080

Robotics and Automation
(a) Required Courses:
   CSCI1020, MAEG3060/ESTR3408, MAEG4050/ESTR4416
(b) Elective Courses:
   ENER3030/ESTR3402, MAEG1010, MAEG4010/ESTR4408, MAEG5010/ENGG5402, MAEG5020/ENGG5403, MAEG5040, MAEG5050/ENGG5404, MAEG5090, 5120

	Total:	**75**

In addition to fulfilling the above Major Programme Requirement, students may also challenge themselves by taking the following stream offered by the Faculty:

Engineering Leadership, Innovation, Technology and Entrepreneurship (ELITE) Stream[f]
Elective Courses:
15 units of courses[g]:
i)   12 units of ESTR courses of which at most 6 units of courses at 1000 or 2000 level and at least 6 units of courses at 3000 or 4000 level[h]
ii) 3 units of BMEG/CENG/CSCI/ELEG/ENGG/IERG/MAEG/SEEM courses at 5000

level[i]

Explanatory Notes:
1. Students who have completed the courses ENGG1110/ESTR1002, ENGG2601 and 2602 (or equivalent courses as approved by the Sub-Committee on Education Technologies) will be eligible to apply for exemption of 1 unit of University Core IT Requirement.
   Students are required to apply for the exemption. When exemption from a particular course is recognized, students can only be exempted from the course but not the units. Please follow the application procedures as announced by the IT Foundation Course Office at https://engg1000.cse.cuhk.edu.hk.
2. EEEN, ENER, ENGG and MAEG courses at 2000 and above level as well as those labeled as #, and their reciprocal ESTR courses will be included in the calculation of Major GPA for honours classification, excluding courses in Faculty Package, Foundation Science courses and Foundation Mathematics courses.
3. Students satisfying all the requirements of a stream (except the ELITE Stream, which will be officially recorded on the academic transcript) will be given a certifying letter upon request. Further information is available from the Department.
[a] For students who have attained Level 3 or above in HKDSE Physics or Combined Science with Physics component or equivalent.
[b] For students without HKDSE Physics or who have attained Level 2 or below in HKDSE Physics or Combined Science with Physics component or equivalent.
[c] Courses used to fulfill item 2(b) requirement cannot be used to fulfill item 2(c) requirement.
[d] Students without HKDSE Mathematics Extended Modules I or II are required to take MATH1020 on top of the 12 units of the Foundation Mathematics Course requirements. MATH1020 will be exempted for students who opt to take and pass the assessment test in the first lecture of MATH1020.
[e] Students who have declared to specialize in the ELITE Stream will be required to complete 6 units of ESTR4998 and 4999 to substitute for MAEG4998 and 4999.
[f] Details of the entrance and coursework requirements, and declaration procedures for the ELITE Stream can be found at the ELITE website (www.erg.cuhk.edu.hk/elite).
   Non-ELITE Engineering students may be allowed to take ESTR courses. Students are required to seek approval from their respective Major Programmes for using ESTR courses taken to fulfill the Major Programme Requirement. Details are available at the ELITE website.
[g] Students can use up to 9 units of courses which have been taken to fulfill the requirements of items 1 to 5 above to fulfill the elective requirements of the ELITE Stream. Item 4(b) Research Component Courses will not be included in these 9 units. A full list of ESTR courses is available at the ELITE website.
[h] Students can use BMEG/CENG/CSCI/ELEG/ENGG/IERG/MAEG/SEEM courses at 5000 level to substitute for ESTR courses at 3000 or 4000 level, subject to the approval of the Stream Director and the Associate Dean (Education).
[i] The requirement of at least 3 units of Engineering courses at 5000 level is a requirement for the ELITE Stream only. It should not be interpreted as a requirement of the Major Programme.

	Recommended Course Pattern	Units
First Year of Attendance	1st term Faculty Package: ENGG1100/1110/ESTR1000/1002 Major Required: CHEM1070/1280/1380/ENGG1310/2520/ ESTR1003/2006/LSCI1001/1003/PHYS1003/1110, MATH1510 Major Elective(s):	3 6-9
	2nd term Faculty Package: ENGG1100/1110/ESTR1000/1002 Major Required: CHEM1070/1280/1380/ENGG1310/2520/ ESTR1003/2006/LSCI1001/1003/PHYS1003/1110, ENGG1410/ESTR1004 Major Elective(s):	3 6-9
Second Year of Attendance	1st term Major Required: ELEG2202, ENGG2420/ESTR2000, MAEG2020/ESTR2400 Major Elective(s):	9
	2nd term Faculty Package: ENGG2601 Major Required: ENGG2430/ESTR2002, MAEG2030/ ESTR2402 Major Elective(s): 0 or 1 Breadth Elective course	2 6 0-3
	Summer session Faculty Package: ENGG2602	1
Third Year of Attendance	1st term Major Required: MAEG3010, MAEG3050/ESTR3406 Major Elective(s): 0 or 1 Breadth Elective course	6 0-3
	2nd term Major Required: MAEG3020/ESTR3404 Major Elective(s): 1 to 2 Breadth / Depth Elective course(s)	3 3-6
Fourth Year of Attendance	1st term Major Required: MAEG4998 Major Elective(s): 1 to 2 Breadth / Depth Elective course(s)	3 3-6
	2nd term Major Required: MAEG4999 Major Elective(s): 1 to 2 Breadth / Depth Elective course(s)	3 3-6
Total (including Faculty Package):		**75**

Mechanical and Automation Engineering
Applicable to students admitted in 2015-16

Major Programme Requirement

Students are required to complete a minimum of 75 units of courses as follows:

		Units
1.	Faculty Package: ENGG1100/ESTR1000, ENGG1110/ESTR1002, ENGG2601, 2602	9
2.	Foundation Science Courses:	9
(a)	PHYS1110	
(b)	i) One course from the following[a]: CHEM1070, 1280, 1380, ENGG1310/ESTR1003 OR ii) One course from the following[b]: CHEM1070, 1280, 1380, ENGG1310/ESTR1003, LSCI1001, 1003	
(c)	i) One course from the following[a][c]: ENGG1310/ESTR1003, LSCI1001, 1003 OR ii) PHYS1003[b]	
3.	Foundation Mathematics Courses: ENGG1410/ESTR1004, ENGG2420/ESTR2000, ENGG2430/ESTR2002, MATH1510[d]	12
4.	Required Courses:	
(a)	ELEG2202#, MAEG2020/ESTR2400, MAEG2030/ESTR2402, MAEG3010, MAEG3020/ESTR3404, MAEG3050/ESTR3406	18
(b)	Research Component Courses[e]: MAEG4998, 4999	6
5.	Elective Courses (at least 9 units of courses at MAEG4000 and above level or ENGG5000 level):	21
(a)	Breadth Electives (12 units chosen from the following courses): CSCI1020, 1040, 1050, CSCI2100#/ESTR2102, CSCI2120#, 2800#, 3170#, ELEG2401#, 3101#, ENER2010, 2020, ENER3030/ESTR3402, ENGG1820, ENGG2020/ESTR2104, MAEG1010, 2010 (or 1020), 3030, 3040, MAEG3060/ESTR3408, MAEG3070, 3080, 3920, 5040, MAEG5050/ENGG5404, MAEG5080, 5120, 5130, 5140, MGNT1010, 4090, SEEM2440#/ESTR2500 (or DSME1030), SEEM3450#/ESTR3502, SEEM3490#, 3500#	
(b)	Depth Electives (9 units chosen from the following courses):	

ENER4010/ESTR4400, ENER4020/ESTR4402, ENER4030/ ESTR4404, ENER4050/ESTR4422, ENER4060/ESTR4424, MAEG4010/ESTR4408, MAEG4020/ESTR4410, MAEG4030/ ESTR4412, MAEG4040/ESTR4414, MAEG4050/ESTR4416, MAEG4060, MAEG4070/ESTR4418, MAEG4080/ESTR4420, MAEG5010/ENGG5402, MAEG5020/ENGG5403, MAEG5030, 5060, 5070, 5090, MAEG5100/ENGG5405, MAEG5110, 5150

Streams

Students may choose not to specialize in any stream or to specialize in one of the three streams by completing a minimum of 15 units of courses prescribed by the stream.

Design and Manufacturing
(a)   Required Courses:
        CSCI1020, MAEG2010 (or 1020), 3040
(b)   Elective Courses:
        ENER3030/ESTR3402, MAEG3060/ESTR3408, MAEG3070, 3080, 3920, MAEG4010/ESTR4408, MAEG4020/ESTR4410, MAEG4060, MAEG4070/ESTR4418, MAEG5030, MAEG5050/ ENGG5404, MAEG5100/ENGG5405, MAEG5120, 5130, SEEM3500

Mechatronics
(a)   Required Courses:
        CSCI1020, MAEG4040/ESTR4414, MAEG4050/ESTR4416
(b)   Elective Courses:
        ELEG2401, ENER3030/ESTR3402, ENGG2020/ESTR2104, MAEG3080, MAEG5050/ENGG5404, MAEG5080

Robotics and Automation
(a)   Required Courses:
        CSCI1020, MAEG3060/ESTR3408, MAEG4050/ESTR4416
(b)   Elective Courses:
        ENER3030/ESTR3402, MAEG1010, MAEG4010/ESTR4408, MAEG5010/ENGG5402, MAEG5020/ENGG5403, MAEG5040, MAEG5050/ENGG5404, MAEG5090, 5120

	Total:	**75**

In addition to fulfilling the above Major Programme Requirement, students may also challenge themselves by taking the following stream offered by the Faculty:

Engineering Leadership, Innovation, Technology and Entrepreneurship (ELITE) Stream[f]
Elective Courses:
15 units of courses[g]:
i)   12 units of ESTR courses of which at most 6 units of courses at 1000 or 2000 level and at least 6 units of courses at 3000 or 4000 level[h]

ii)   3 units of BMEG/CENG/CSCI/ELEG/ENGG/IERG/MAEG/SEEM courses at 5000 level[i]

Explanatory Notes:

1. Students who have completed the courses ENGG1110/ESTR1002, ENGG2601 and 2602 (or equivalent courses as approved by the Sub-Committee on Education Technologies) will be eligible to apply for exemption of 1 unit of University Core IT Requirement.
   Students are required to apply for the exemption. When exemption from a particular course is recognized, students can only be exempted from the course but not the units. Please follow the application procedures as announced by the IT Foundation Course Office at https://engg1000.cse.cuhk.edu.hk.

2. EEEN, ENER, ENGG and MAEG courses at 2000 and above level as well as those labeled as #, and their reciprocal ESTR courses will be included in the calculation of Major GPA for honours classification, excluding courses in Faculty Package, Foundation Science courses and Foundation Mathematics courses.

3. Students satisfying all the requirements of a stream (except the ELITE Stream, which will be officially recorded on the academic transcript) will be given a certifying letter upon request. Further information is available from the Department.

[a] For students who have attained Level 3 or above in HKDSE Physics or Combined Science with Physics component or equivalent.

[b] For students without HKDSE Physics or who have attained Level 2 or below in HKDSE Physics or Combined Science with Physics component or equivalent.

[c] Courses used to fulfill item 2(b) requirement cannot be used to fulfill item 2(c) requirement.

[d] Students without HKDSE Mathematics Extended Modules I or II are required to take MATH1020 on top of the 12 units of the Foundation Mathematics Course requirements. MATH1020 will be exempted for students who opt to take and pass the assessment test in the first lecture of MATH1020.

[e] Students who have declared to specialize in the ELITE Stream will be required to complete 6 units of ESTR4998 and 4999 to substitute for MAEG4998 and 4999.

[f] Details of the entrance and coursework requirements, and declaration procedures for the ELITE Stream can be found at the ELITE website (www.erg.cuhk.edu.hk/elite).
   Non-ELITE Engineering students may be allowed to take ESTR courses. Students are required to seek approval from their respective Major Programmes for using ESTR courses taken to fulfill the Major Programme Requirement. Details are available at the ELITE website.

[g] Students can use up to 9 units of courses which have been taken to fulfill the requirements of items 1 to 5 above to fulfill the elective requirements of the ELITE Stream. Item 4(b) Research Component Courses will not be included in these 9 units. A full list of ESTR courses is available at the ELITE website.

[h] Students can use BMEG/CENG/CSCI/ELEG/ENGG/IERG/MAEG/SEEM courses at 5000 level to substitute for ESTR courses at 3000 or 4000 level, subject to the approval of the Stream Director and the Associate Dean (Education).

[i] The requirement of at least 3 units of Engineering courses at 5000 level is a requirement for the ELITE Stream only. It should not be interpreted as a requirement

of the Major Programme.

	Recommended Course Pattern	Units
First Year of Attendance	1st term Faculty Package: ENGG1100/1110/ESTR1000/1002 Major Required: CHEM1070/1280/1380/ENGG1310/ ESTR1003/LSCI1001/1003/PHYS1003/1110, MATH1510 Major Elective(s):	3 6-9
	2nd term Faculty Package: ENGG1100/1110/ESTR1000/1002 Major Required: CHEM1070/1280/1380/ENGG1310/ ESTR1003/LSCI1001/1003/PHYS1003/1110, ENGG1410/ ESTR1004 Major Elective(s):	3 6-9
Second Year of Attendance	1st term Major Required: ELEG2202, ENGG2420/ESTR2000, MAEG2020/ESTR2400 Major Elective(s):	9
	2nd term Faculty Package: ENGG2601 Major Required: ENGG2430/ESTR2002, MAEG2030/ ESTR2402 Major Elective(s): 0 or 1 Breadth Elective course	2 6 0-3
	Summer session Faculty Package: ENGG2602	1
Third Year of Attendance	1st term Major Required: MAEG3010, MAEG3050/ESTR3406 Major Elective(s): 0 or 1 Breadth Elective course	6 0-3
	2nd term Major Required: MAEG3020/ESTR3404 Major Elective(s): 1 to 2 Breadth / Depth Elective course(s)	3 3-6
Fourth Year of Attendance	1st term Major Required: MAEG4998 Major Elective(s): 1 to 2 Breadth / Depth Elective course(s)	3 3-6
	2nd term Major Required: MAEG4999 Major Elective(s): 1 to 2 Breadth / Depth Elective course(s)	3 3-6
Total (including Faculty Package):		**75**

Mechanical and Automation Engineering
Applicable to students admitted in 2016-17

Major Programme Requirement

Students are required to complete a minimum of 75 units of courses as follows:

		Units
1.	Faculty Package: ENGG1100/ESTR1000, ENGG1110/ESTR1002, ENGG2601, 2602	9
2.	Foundation Science Courses:	9

(a)   PHYS1110

(b)   i)   One course from the following[a]: CHEM1380, ENGG1310/ESTR1003

OR

ii)   One course from the following[b]: CHEM1380, ENGG1310/ESTR1003, LSCI1001, 1003

(c)   i)   One course from the following[a][c]: ENGG1310/ESTR1003, LSCI1001, 1003

OR

ii)   PHYS1003[b]

| 3. | Foundation Mathematics Courses:
ENGG1410/ESTR1004, ENGG2420/ESTR2000, ENGG2430/ESTR2002, MATH1510[d] | 12 |

4.   Required Courses:

(a)	ELEG2202#, MAEG2020/ESTR2400, MAEG2030/ESTR2402, MAEG3010, MAEG3020/ESTR3404, MAEG3030, MAEG3050/ESTR3406	21
(b)	Research Component Courses[e]: MAEG4998, 4999	6

5.	Elective Courses (at least 9 units of courses at MAEG4000 and above level or ENGG5000 level):	18

(a)   <u>Breadth Electives</u> (9 units chosen from the following courses with at least 3 units at MAEG3000 level):
CSCI1020, 1040, 1050, CSCI2100#/ESTR2102, CSCI2120#, 2800#, 3170#, EEEN2020, EEEN3030/ESTR3402, ELEG2401#, 3101#, ENGG1820, ENGG2020/ESTR2104, MAEG1010, 2010 (or 1020), 3040, MAEG3060/ESTR3408, MAEG3070, 3080, 3920, MAEG5050/ENGG5404, MAEG5080, 5120, 5130, 5140, MGNT1010, 4090, SEEM2440#/ESTR2500 (or DSME1030), SEEM3450#/ESTR3502, SEEM3490#, 3500#

(b)   <u>Depth Electives</u> (9 units chosen from the following courses):
EEEN4010/ESTR4400,   EEEN4020/ESTR4402,   EEEN4030/
ESTR4404,   EEEN4050/ESTR4422,   EEEN4060/ESTR4424,
MAEG4010/ESTR4408,   MAEG4020/ESTR4410,   MAEG4030/
ESTR4412,   MAEG4040/ESTR4414,   MAEG4050/ESTR4416,
MAEG4060,   MAEG4070/ESTR4418,   MAEG4080/ESTR4420,
MAEG5010/ENGG5402,   MAEG5020/ENGG5403,   MAEG5030,
5060, 5070, 5090, MAEG5100/ENGG5405, MAEG5110, 5150

Streams

Students may choose not to specialize in any stream or to specialize in
one of the three streams by completing a minimum of 15 units of courses
prescribed by the stream.

Design and Manufacturing
(a)   Required Courses:
CSCI1020, MAEG2010 (or 1020), 3040
(b)   Elective Courses:
EEEN3030/ESTR3402,   MAEG3060/ESTR3408,   MAEG3070,
3080, 3920, MAEG4010/ESTR4408, MAEG4020/ESTR4410,
MAEG4060, MAEG4070/ESTR4418, MAEG5030, MAEG5050/
ENGG5404,   MAEG5100/ENGG5405,   MAEG5120,   5130,
SEEM3500

Mechatronics
(a)   Required Courses:
CSCI1020, MAEG4040/ESTR4414, MAEG4050/ESTR4416
(b)   Elective Courses:
EEEN3030/ESTR3402,   ELEG2401,   ENGG2020/ESTR2104,
MAEG3080, MAEG5050/ENGG5404, MAEG5080

Robotics and Automation
(a)   Required Courses:
CSCI1020, MAEG3060/ESTR3408, MAEG4050/ESTR4416
(b)   Elective Courses:
EEEN3030/ESTR3402,   MAEG1010,   MAEG4010/ESTR4408,
MAEG5010/ENGG5402, MAEG5020/ENGG5403, MAEG5050/
ENGG5404, MAEG5090, 5120

Total:	**75**

In addition to fulfilling the above Major Programme Requirement, students may also
challenge themselves by taking the following stream offered by the Faculty:

**Engineering Leadership, Innovation, Technology and Entrepreneurship (ELITE)
Stream**[f]
Elective Courses:
15 units of courses[g]:
i)   12 units of ESTR courses of which at most 6 units of courses at 1000 or 2000 level

      and at least 6 units of courses at 3000 or 4000 level[h]

ii)   3 units of BMEG/CENG/CSCI/ELEG/ENGG/IERG/MAEG/SEEM courses at 5000 level[i]

Explanatory Notes:

1.   Students who have completed the courses ENGG1110/ESTR1002, ENGG2601 and 2602 (or equivalent courses as approved by the Sub-Committee on Education Technologies) will be eligible to apply for exemption of 1 unit of University Core IT Requirement.
Students are required to apply for the exemption. When exemption from a particular course is recognized, students can only be exempted from the course but not the units. Please follow the application procedures as announced by the IT Foundation Course Office at https://engg1000.cse.cuhk.edu.hk.

2.   EEEN, ENER, ENGG and MAEG courses at 2000 and above level as well as those labeled as #, and their reciprocal ESTR courses will be included in the calculation of Major GPA for honours classification, excluding courses in Faculty Package, Foundation Science courses and Foundation Mathematics courses.

3.   Students satisfying all the requirements of a stream (except the ELITE Stream, which will be officially recorded on the academic transcript) will be given a certifying letter upon request. Further information is available from the Department.

[a]   For students who have attained Level 3 or above in HKDSE Physics or Combined Science with Physics component or equivalent.

[b]   For students without HKDSE Physics or who have attained Level 2 or below in HKDSE Physics or Combined Science with Physics component or equivalent.

[c]   Courses used to fulfill item 2(b) requirement cannot be used to fulfill item 2(c) requirement.

[d]   i)   Non-JUPAS admittees and JUPAS admittees with HKDSE Mathematics Extended Modules I or II are required to attend a Mathematics Placement Test. Students who fail or are absent from the Placement Test will be required to take MATH1020 in the same term when they take MATH1510.

       ii)   JUPAS admittees without HKDSE Mathematics Extended Modules I or II are required to take MATH1020 concurrently with MATH1510.

       iii)   Students who fail MATH1510 in Term 1 will have to retake the course in Term 2. The pre-assigned course, ENGG1410, will also be dropped.

[e]   Students who have declared to specialize in the ELITE Stream will be required to complete 6 units of ESTR4998 and 4999 to substitute for MAEG4998 and 4999.

[f]   Details of the entrance and coursework requirements, and declaration procedures for the ELITE Stream can be found at the ELITE website (www.erg.cuhk.edu.hk/elite).
Non-ELITE Engineering students may be allowed to take ESTR courses. Students are required to seek approval from their respective Major Programmes for using ESTR courses taken to fulfill the Major Programme Requirement. Details are available at the ELITE website.

[g]   Students can use up to 9 units of courses which have been taken to fulfill the requirements of items 1 to 5 above to fulfill the elective requirements of the ELITE Stream. Item 4(b) Research Component Courses will not be included in these 9 units. A full list of ESTR courses is available at the ELITE website.

[h]	Students can use BMEG/CENG/CSCI/ELEG/ENGG/IERG/MAEG/SEEM courses at 5000 level to substitute for ESTR courses at 3000 or 4000 level, subject to the approval of the Stream Director and the Associate Dean (Education).
[i]	The requirement of at least 3 units of Engineering courses at 5000 level is a requirement for the ELITE Stream only. It should not be interpreted as a requirement of the Major Programme.

	Recommended Course Pattern	Units
First Year of Attendance	1st term Faculty Package: ENGG1100/1110/ESTR1000/1002 Major Required: CHEM1380/ENGG1310/ESTR1003/ LSCI1001/1003/PHYS1003/1110, MATH1510 Major Elective(s):	3 6-9
	2nd term Faculty Package: ENGG1100/1110/ESTR1000/1002 Major Required: CHEM1380/ENGG1310/ESTR1003/ LSCI1001/1003/PHYS1003/1110, ENGG1410/ESTR1004 Major Elective(s):	3 6-9
Second Year of Attendance	1st term Major Required: ELEG2202, ENGG2420/ESTR2000, MAEG2020/ESTR2400 Major Elective(s):	9
	2nd term Faculty Package: ENGG2601 Major Required: ENGG2430/ESTR2002, MAEG2030/ ESTR2402 Major Elective(s): 0 or 1 Breadth Elective course	2 6 0-3
	Summer session Faculty Package: ENGG2602	1
Third Year of Attendance	1st term Major Required: MAEG3010, MAEG3050/ESTR3406 Major Elective(s): 0 or 1 Breadth Elective course	6 0-3
	2nd term Major Required: MAEG3020/ESTR3404, MAEG3030 Major Elective(s): 0 or 1 Breadth / Depth Elective course	6 0-3
Fourth Year of Attendance	1st term Major Required: MAEG4998 Major Elective(s): 1 to 2 Breadth / Depth Elective course(s)	3 3-6
	2nd term Major Required: MAEG4999 Major Elective(s): 1 to 2 Breadth / Depth Elective course(s)	3 3-6
Total (including Faculty Package):		**75**

Mechanical and Automation Engineering
Applicable to students admitted in 2017-18

Major Programme Requirement

Students are required to complete a minimum of 75 units of courses as follows:

		Units
1.	Faculty Package:	9

ENGG1100/ESTR1000, ENGG1110/ESTR1002, ENGG1410/ESTR1004

2.	Foundation Science Courses:	9

(a) PHYS1110
(b) i) One course from the following[a]: CHEM1380, ENGG1310/ESTR1003

OR

ii) One course from the following[b]: CHEM1380, ENGG1310/ESTR1003, LSCI1001, 1003

(c) i) One course from the following[a][c]: ENGG1310/ESTR1003, LSCI1001, 1003

OR

ii) PHYS1003[b]

3.	Foundation Mathematics Courses:	9

ENGG2420/ESTR2000, ENGG2430/ESTR2002, MATH1510[d]

4. Required Courses:

(a)	ELEG2202#, MAEG2020/ESTR2400, MAEG2030/ESTR2402, MAEG2601, 2602, 3010, MAEG3020/ESTR3404, MAEG3030, MAEG3050/ESTR3406	24
(b)	Research Component Courses[e]: MAEG4998, 4999	6

5.	Elective Courses (at least 9 units of courses at MAEG4000 and above level or ENGG5000 level):	18

(a) <u>Breadth Electives</u> (9 units chosen from the following courses with at least 3 units at MAEG3000 level):
CSCI1020, 1040, 1050, CSCI2100#/ESTR2102, CSCI2120#, 2800#, 3170#, EEEN2020, EEEN3030/ESTR3402, ELEG2401#, 3101#, ENGG1820, ENGG2020/ESTR2104, MAEG1010, 2010 (or 1020), 3040, MAEG3060/ESTR3408, MAEG3070, 3080, 3920, MAEG5050/ENGG5404, MAEG5080, 5120, 5130, 5140, MGNT1010, 4090, SEEM2440#/ESTR2500 (or DSME1030), SEEM3450#/ESTR3502, SEEM3490#, 3500#

(b)   <u>Depth Electives</u> (9 units chosen from the following courses):
EEEN4010/ESTR4400, EEEN4020/ESTR4402, EEEN4030/ESTR4404, EEEN4050/ESTR4422, EEEN4060/ESTR4424, MAEG4010/ESTR4408, MAEG4020/ESTR4410, MAEG4030/ESTR4412, MAEG4040/ESTR4414, MAEG4050/ESTR4416, MAEG4060, MAEG4070/ESTR4418, MAEG4080/ESTR4420, MAEG5010/ENGG5402, MAEG5020/ENGG5403, MAEG5030, 5060, 5070, 5090, MAEG5100/ENGG5405, MAEG5110, 5150

Streams

Students may choose not to specialize in any stream or to specialize in one of the three streams by completing a minimum of 15 units of courses prescribed by the stream.

Design and Manufacturing
(a)   Required Courses:
CSCI1020, MAEG2010 (or 1020), 3040
(b)   Elective Courses:
EEEN3030/ESTR3402, MAEG3060/ESTR3408, MAEG3070, 3080, 3920, MAEG4010/ESTR4408, MAEG4020/ESTR4410, MAEG4060, MAEG4070/ESTR4418, MAEG5030, MAEG5050/ENGG5404, MAEG5100/ENGG5405, MAEG5120, 5130, SEEM3500

Mechatronics
(a)   Required Courses:
CSCI1020, MAEG4040/ESTR4414, MAEG4050/ESTR4416
(b)   Elective Courses:
EEEN3030/ESTR3402, ELEG2401, ENGG2020/ESTR2104, MAEG3080, MAEG5050/ENGG5404, MAEG5080

Robotics and Automation
(a)   Required Courses:
CSCI1020, MAEG3060/ESTR3408, MAEG4050/ESTR4416
(b)   Elective Courses:
EEEN3030/ESTR3402, MAEG1010, MAEG4010/ESTR4408, MAEG5010/ENGG5402, MAEG5020/ENGG5403, MAEG5050/ENGG5404, MAEG5090, 5120

Total:	**75**

In addition to fulfilling the above Major Programme Requirement, students may also challenge themselves by taking the following stream offered by the Faculty:

Engineering Leadership, Innovation, Technology and Entrepreneurship (ELITE) Stream[f]
Elective Courses:
15 units of courses[g]:
i)   12 units of ESTR courses of which at most 6 units of courses at 1000 or 2000 level

and at least 6 units of courses at 3000 or 4000 level[h]
ii)   3 units of BMEG/CENG/CSCI/ELEG/ENGG/IERG/MAEG/SEEM courses at 5000 level[i]

Explanatory Notes:

1.   Students who have fulfilled the Major Programme Requirements of their respective Engineering programmes (or equivalent courses as approved by the Sub-Committee on Education Technologies) will be eligible to apply for exemption of 1 unit of University Core IT Requirement.
     Students are required to apply for the exemption. When exemption from a particular course is recognized, students can only be exempted from the course but not the units. Please follow the application procedures as announced by the IT Foundation Course Office at https://engg1000.cse.cuhk.edu.hk.

2.   EEEN, ENER, ENGG and MAEG courses at 2000 and above level as well as those labeled as #, and their reciprocal ESTR courses will be included in the calculation of Major GPA for honours classification, excluding courses in Faculty Package, Foundation Science courses and Foundation Mathematics courses.

3.   Students satisfying all the requirements of a stream (except the ELITE Stream, which will be officially recorded on the academic transcript) will be given a certifying letter upon request. Further information is available from the Department.

[a]   For students who have attained Level 3 or above in HKDSE Physics or Combined Science with Physics component or equivalent.

[b]   For students without HKDSE Physics or who have attained Level 2 or below in HKDSE Physics or Combined Science with Physics component or equivalent.

[c]   Courses used to fulfill item 2(b) requirement cannot be used to fulfill item 2(c) requirement.

[d]   i)   Non-JUPAS admittees and JUPAS admittees with HKDSE Mathematics Extended Modules I or II are required to attend a Mathematics Placement Test. Students who fail or are absent from the Placement Test will be required to take MATH1020 in the same term when they take MATH1510.
     ii)   JUPAS admittees without HKDSE Mathematics Extended Modules I or II are required to take MATH1020 concurrently with MATH1510.
     iii)   Students who fail MATH1510 in Term 1 will have to retake the course in Term 2. The pre-assigned course, ENGG1410, will also be dropped.

[e]   Students who have declared to specialize in the ELITE Stream will be required to complete 6 units of ESTR4998 and 4999 to substitute for MAEG4998 and 4999.

[f]   Details of the entrance and coursework requirements, and declaration procedures for the ELITE Stream can be found at the ELITE website (www.erg.cuhk.edu.hk/elite).
     Non-ELITE Engineering students may be allowed to take ESTR courses. Students are required to seek approval from their respective Major Programmes for using ESTR courses taken to fulfill the Major Programme Requirement. Details are available at the ELITE website.

[g]   Students can use up to 9 units of courses which have been taken to fulfill the requirements of items 1 to 5 above to fulfill the elective requirements of the ELITE Stream. Item 4(b) Research Component Courses will not be included in these 9 units. A full list of ESTR courses is available at the ELITE website.

[h]   Students can use BMEG/CENG/CSCI/ELEG/ENGG/IERG/MAEG/SEEM courses at 5000 level to substitute for ESTR courses at 3000 or 4000 level, subject to the approval of the Stream Director and the Associate Dean (Education).

[i]   The requirement of at least 3 units of Engineering courses at 5000 level is a requirement for the ELITE Stream only. It should not be interpreted as a requirement of the Major Programme.

	Recommended Course Pattern	Units
First Year of Attendance	1st term Faculty Package: ENGG1100/1110/ESTR1000/1002 Major Required: CHEM1380/ENGG1310/ESTR1003/ LSCI1001/1003/PHYS1003/1110, MATH1510 Major Elective(s):	3 6-9
	2nd term Faculty Package: ENGG1100/1110/ESTR1000/1002, ENGG1410/ESTR1004 Major Required: CHEM1380/ENGG1310/ESTR1003/ LSCI1001/1003/PHYS1003/1110 Major Elective(s):	6 3-6
Second Year of Attendance	1st term Major Required: ELEG2202, ENGG2420/ESTR2000, MAEG2020/ESTR2400 Major Elective(s):	9
	2nd term Major Required: ENGG2430/ESTR2002, MAEG2030/ ESTR2402, MAEG2601 Major Elective(s): 0 or 1 Breadth Elective course	8 0-3
	Summer session Major Required: MAEG2602	1
Third Year of Attendance	1st term Major Required: MAEG3010, MAEG3050/ESTR3406 Major Elective(s): 0 or 1 Breadth Elective course	6 0-3
	2nd term Major Required: MAEG3020/ESTR3404, MAEG3030 Major Elective(s): 0 or 1 Breadth / Depth Elective course	6 0-3
Fourth Year of Attendance	1st term Major Required: MAEG4998 Major Elective(s): 1 to 2 Breadth / Depth Elective course(s)	3 3-6
	2nd term Major Required: MAEG4999 Major Elective(s): 1 to 2 Breadth / Depth Elective course(s)	3 3-6
Total (including Faculty Package):		**75**

Mechanical and Automation Engineering
Applicable to students admitted in 2018-19

Major Programme Requirement

Students are required to complete a minimum of 75 units of courses as follows:

		Units
1.	Faculty Package: ENGG1100/ESTR1000, ENGG1110/ESTR1002, ENGG1410/ESTR1004	9
2. (a) (b)	Foundation Science Courses[a]: PHYS1110[b] Two courses from the following: CHEM1380, ENGG1310/ESTR1003, LSCI1001, 1003, PHYS1003[b]	9
3.	Foundation Mathematics Courses: ENGG2420/ESTR2000, ENGG2430/ESTR2002, MATH1510[c]	9
4. (a)	Required Courses: ELEG2202#, MAEG2020/ESTR2400, MAEG2030/ESTR2402, MAEG2601, 2602, 3010, MAEG3020/ESTR3404, MAEG3030, MAEG3050/ESTR3406	24
(b)	Research Component Courses[d]: MAEG4998, 4999	6
5.	Elective Courses (at least 9 units of courses at MAEG4000 and above level or ENGG5000 level):	18
(a)	Breadth Electives (9 units chosen from the following courses with at least 3 units at MAEG3000 level): CSCI1020, 1040, 1050, CSCI2100#/ESTR2102, CSCI2120#, 2800#, 3170#, EEEN2020, EEEN3030/ESTR3402, ELEG2401#, 3101#, ENGG1820, ENGG2020/ESTR2104, MAEG1010, 2010 (or 1020), 3040, MAEG3060/ESTR3408, MAEG3070, 3080, 3920, MAEG5050/ENGG5404, MAEG5080, 5120, 5130, 5140, MGNT1010, 4090, SEEM2440#/ESTR2500 (or DSME1030), SEEM3450#/ESTR3502, SEEM3490#, 3500#	
(b)	Depth Electives (9 units chosen from the following courses): EEEN4010/ESTR4400, EEEN4020/ESTR4402, EEEN4030/ESTR4404, EEEN4050/ESTR4422, EEEN4060/ESTR4424, MAEG4010/ESTR4408, MAEG4020/ESTR4410, MAEG4030/ESTR4412, MAEG4040/ESTR4414, MAEG4050/ESTR4416, MAEG4060, MAEG4070/ESTR4418, MAEG4080/ESTR4420,	

MAEG5010/ENGG5402, MAEG5020/ENGG5403, MAEG5030, 5060, 5070, 5090, MAEG5100/ENGG5405, MAEG5110, 5150

Streams
Students may choose not to specialize in any stream or to specialize in one of the three streams by completing a minimum of 15 units of courses prescribed by the stream.

Design and Manufacturing
(a)   Required Courses:
        CSCI1020, MAEG2010 (or 1020), 3040
(b)   Elective Courses:
        EEEN3030/ESTR3402, MAEG3060/ESTR3408, MAEG3070, 3080, 3920, MAEG4010/ESTR4408, MAEG4020/ESTR4410, MAEG4060, MAEG4070/ESTR4418, MAEG5030, MAEG5050/ ENGG5404, MAEG5100/ENGG5405, MAEG5120, 5130, SEEM3500

Mechatronics
(a)   Required Courses:
        CSCI1020, MAEG4040/ESTR4414, MAEG4050/ESTR4416
(b)   Elective Courses:
        EEEN3030/ESTR3402, ELEG2401, ENGG2020/ESTR2104, MAEG3080, MAEG5050/ENGG5404, MAEG5080

Robotics and Automation
(a)   Required Courses:
        CSCI1020, MAEG3060/ESTR3408, MAEG4050/ESTR4416
(b)   Elective Courses:
        EEEN3030/ESTR3402, MAEG1010, MAEG4010/ESTR4408, MAEG5010/ENGG5402, MAEG5020/ENGG5403, MAEG5050/ ENGG5404, MAEG5090, 5120

	Total:	**75**

In addition to fulfilling the above Major Programme Requirement, students may also challenge themselves by taking the following stream offered by the Faculty:

Engineering Leadership, Innovation, Technology and Entrepreneurship (ELITE) Stream[e]
Elective Courses:
15 units of courses[f]:
i)   12 units of ESTR courses of which at most 6 units of courses at 1000 or 2000 level and at least 6 units of courses at 3000 or 4000 level[g]
ii)   3 units of BMEG/CENG/CSCI/ELEG/ENGG/IERG/MAEG/SEEM courses at 5000 level[h]

Explanatory Notes:
1.   Students who have fulfilled the Major Programme Requirements of their

	respective Engineering programmes (or equivalent courses as approved by the Sub-Committee on Education Technologies) will be eligible to apply for exemption of 1 unit of University Core IT Requirement.
	Students are required to apply for the exemption. When exemption from a particular course is recognized, students can only be exempted from the course but not the units. Please follow the application procedures as announced by the IT Foundation Course Office at https://engg1000.cse.cuhk.edu.hk.
2.	EEEN, ENER, ENGG and MAEG courses at 2000 and above level as well as those labeled as #, and their reciprocal ESTR courses will be included in the calculation of Major GPA for honours classification, excluding courses in Faculty Package, Foundation Science courses and Foundation Mathematics courses.
3.	Students satisfying all the requirements of a stream (except the ELITE Stream, which will be officially recorded on the academic transcript) will be given a certifying letter upon request. Further information is available from the Department.
[a]	Students cannot take two LSCI courses to fulfill the requirements of Foundation Science courses in item 2(b).
[b]	PHYS1110 is a required Foundation Science course. Students who have passed PHYS1110 shall not take PHYS1003 afterwards, otherwise PHYS1003 will be counted as a free elective and cannot be used to fulfill the Foundation Science course requirements.

[b] (continued)

PHYS1003 shall be taken in accordance with students' HKDSE results or placement test results as follows:

i) Students with HKDSE results but did not attain the following academic levels shall take PHYS1003 before taking PHYS1110: Level 4 or above in HKDSE Mathematics (Compulsory Part) AND Level 4 or above in Physics or Level 5 or above in Combined Science with Physics Component.

ii) Students without HKDSE results shall sit for the placement test arranged by the Department of Physics. Students who fail or are absent from the placement test shall take PHYS1003 before taking PHYS1110.

[c]
i) Non-JUPAS admittees and JUPAS admittees with HKDSE Mathematics Extended Modules I or II are required to attend a Mathematics Placement Test. Students who fail or are absent from the Placement Test will be required to take MATH1020 in the same term when they take MATH1510.

ii) JUPAS admittees without HKDSE Mathematics Extended Modules I or II are required to take MATH1020 concurrently with MATH1510.

iii) Students who fail MATH1510 in Term 1 will have to retake the course in Term 2. The pre-assigned course, ENGG1410, will also be dropped.

[d] Students who have declared to specialize in the ELITE Stream will be required to complete 6 units of ESTR4998 and 4999 to substitute for MAEG4998 and 4999.

[e] Details of the entrance and coursework requirements, and declaration procedures for the ELITE Stream can be found at the ELITE website (www.erg.cuhk.edu.hk/elite).

Non-ELITE Engineering students may be allowed to take ESTR courses. Students are required to seek approval from their respective Major Programmes

	for using ESTR courses taken to fulfill the Major Programme Requirement. Details are available at the ELITE website.
[f]	Students can use up to 9 units of courses which have been taken to fulfill the requirements of items 1 to 5 above to fulfill the elective requirements of the ELITE Stream. Item 4(b) Research Component Courses will not be included in these 9 units. A full list of ESTR courses is available at the ELITE website.
[g]	Students can use BMEG/CENG/CSCI/ELEG/ENGG/IERG/MAEG/SEEM courses at 5000 level to substitute for ESTR courses at 3000 or 4000 level, subject to the approval of the Stream Director and the Associate Dean (Education).
[h]	The requirement of at least 3 units of Engineering courses at 5000 level is a requirement for the ELITE Stream only. It should not be interpreted as a requirement of the Major Programme.

	Recommended Course Pattern	Units
First Year of Attendance	1st term Faculty Package: ENGG1100/1110/ESTR1000/1002 Major Required: CHEM1380/ENGG1310/ESTR1003/ LSCI1001/1003/PHYS1003/1110, MATH1510 Major Elective(s):	3 6-9
	2nd term Faculty Package: ENGG1100/1110/ESTR1000/1002, ENGG1410/ESTR1004 Major Required: CHEM1380/ENGG1310/ESTR1003/ LSCI1001/1003/PHYS1003/1110 Major Elective(s):	6 3-6
Second Year of Attendance	1st term Major Required: ELEG2202, ENGG2420/ESTR2000, MAEG2020/ESTR2400 Major Elective(s):	9
	2nd term Major Required: ENGG2430/ESTR2002, MAEG2030/ ESTR2402, MAEG2601 Major Elective(s): 0 or 1 Breadth Elective course	8 0-3
	Summer session Major Required: MAEG2602	1
Third Year of Attendance	1st term Major Required: MAEG3010, MAEG3050/ESTR3406 Major Elective(s): 0 or 1 Breadth Elective course	6 0-3
	2nd term Major Required: MAEG3020/ESTR3404, MAEG3030 Major Elective(s): 0 or 1 Breadth / Depth Elective course	6 0-3

Fourth Year of Attendance	1st term	
	Major Required: MAEG4998	3
	Major Elective(s): 1 to 2 Breadth / Depth Elective course(s)	3-6
	2nd term	
	Major Required: MAEG4999	3
	Major Elective(s): 1 to 2 Breadth / Depth Elective course(s)	3-6
Total (including Faculty Package):		**75**

Mechanical and Automation Engineering
Applicable to students admitted in 2019-20

Major Programme Requirement

Students are required to complete a minimum of 75 units of courses as follows:

		Units
1.	Faculty Package: ENGG1110/ESTR1002, ENGG1120/ESTR1005, ENGG1130/ESTR1006	9
2.	Foundation Courses: ENGG2720/ESTR2014, ENGG2740/ESTR2016, MAEG1020, MATH1510[a], PHYS1110[b]	13
3.	Required Courses:	
(a)	EEEN3030/ESTR3402, ELEG2202#, MAEG2020/ESTR2400, MAEG2030/ESTR2402, MAEG2601, 2602, 3010, MAEG3020/ESTR3404, MAEG3030, 3040, MAEG3050/ESTR3406, MAEG4030/ESTR4412	33
(b)	Research Component Courses[c]: MAEG4998, 4999	6
4.	Elective Courses (at least 6 units of courses at MAEG4000 and above level or their reciprocal ESTR courses or courses at ENGG5000 level):	14
(a)	Breadth Electives (6 units chosen from the following courses): CSCI1020, 2040, CSCI2100#/ESTR2102, CSCI2120#, 3170#, EEEN2020, ELEG2401#, 3101#, ENGG1820, ENGG2020/ESTR2104, ENGG2760/ESTR2018, ENGG2780/ESTR2020, MAEG1010, MAEG3060/ESTR3408, MAEG3070, 3080, 3920, MAEG5050/ENGG5404, MAEG5080, 5120, 5130, 5140, MGNT1010, 4090, SEEM2440#/ESTR2500 (or DSME1030), SEEM3450#/ESTR3502, SEEM3490#, 3500#	
(b)	Depth Electives (6 units chosen from the following courses): EEEN4010/ESTR4400, EEEN4020/ESTR4402, EEEN4030/ ESTR4404, EEEN4050/ESTR4422, EEEN4060/ESTR4424, MAEG4010/ESTR4408, MAEG4020/ESTR4410, MAEG4040/ESTR4414, MAEG4050/ESTR4416, MAEG4060, MAEG4070/ESTR4418, MAEG4080/ESTR4420, MAEG5010/ENGG5402, MAEG5020/ENGG5403, MAEG5030, 5060, 5070, 5090, MAEG5100/ENGG5405, MAEG5110, 5150	

Streams

Students may choose not to specialize in any stream or to specialize in one of the three streams by completing a minimum of 12 units of courses prescribed by the stream.

Design and Manufacturing
(a)   Required Courses:
        CSCI1020
(b)   Elective Courses:
        MAEG3060/ESTR3408, MAEG3070, 3080, 3920, MAEG4010/ESTR4408, MAEG4020/ESTR4410, MAEG4060, MAEG4070/ESTR4418, MAEG5030, MAEG5050/ENGG5404, MAEG5100/ENGG5405, MAEG5120, 5130, SEEM3500

Mechatronics
(a)   Required Courses:
        CSCI1020, MAEG4040/ESTR4414, MAEG4050/ESTR4416
(b)   Elective Courses:
        ELEG2401, ENGG2020/ESTR2104, MAEG3080, MAEG5050/ENGG5404, MAEG5080

Robotics and Automation
(a)   Required Courses:
        CSCI1020, MAEG3060/ESTR3408, MAEG4050/ESTR4416
(b)   Elective Courses:
        MAEG1010, MAEG4010/ESTR4408, MAEG5010/ENGG5402, MAEG5020/ENGG5403, MAEG5050/ENGG5404, MAEG5090, 5120

Total: 75

In addition to fulfilling the above Major Programme Requirement, students may also challenge themselves by taking the following stream offered by the Faculty:

Engineering Leadership, Innovation, Technology and Entrepreneurship (ELITE) Stream[d]
Elective Courses:
15 units of courses[e]:
i)   12 units of ESTR courses of which at most 6 units of courses at 1000 or 2000 level and at least 6 units of courses at 3000 or 4000 level[f]
ii)   3 units of BMEG/CENG/CSCI/ELEG/ENGG/IERG/MAEG/SEEM courses at 5000 level[g]

Explanatory Notes:
1.   Students who have fulfilled the Major Programme Requirements of their respective Engineering programmes (or equivalent courses as approved by the Sub-Committee on Education Technologies) will be eligible to apply for exemption of 1 unit of University Core IT Requirement.
      Students are required to apply for the exemption. When exemption from a particular course is recognized, students can only be exempted from the course

but not the units. Please follow the application procedures as announced by the IT Foundation Course Office at https://engg1000.cse.cuhk.edu.hk.

2. EEEN, ENGG and MAEG courses at 2000 and above level as well as those labeled as #, and their reciprocal ESTR courses will be included in the calculation of Major GPA for honours classification, excluding courses in Faculty Package and Foundation courses.

3. Students satisfying all the requirements of a stream (except the ELITE Stream, which will be officially recorded on the academic transcript) will be given a certifying letter upon request. Further information is available from the Department.

[a] i) Non-JUPAS admittees and JUPAS admittees with HKDSE Mathematics Extended Modules I or II are required to attend a Mathematics Placement Test. Students who fail or are absent from the Placement Test will be required to take MATH1020 in the same term when they take MATH1510.

ii) JUPAS admittees without HKDSE Mathematics Extended Modules I or II are required to take MATH1020 concurrently with MATH1510.

iii) Students who fail MATH1510 in Term 1 will have to retake the course in Term 2. The pre-assigned course, ENGG1130, will also be dropped.

[b] i) Students who have attained Level 4 or above in HKDSE Mathematics (Compulsory Part) AND Level 4 or above in Physics or Level 5 or above in Combined Science with Physics Component shall take PHYS1110.

ii) Students with HKDSE results but did not attain the academic levels as stated in (i) shall take PHYS1003 in advance. PHYS1003 will be counted as a free elective but cannot be used to fulfill the Foundation course requirements.

iii) Students without HKDSE results shall sit for the placement test arranged by the Department of Physics. Students who pass the placement test shall take PHYS1110. Students who fail or are absent from the placement test shall take PHYS1003 in advance. PHYS1003 will be counted as a free elective but cannot be used to fulfill the Foundation course requirements.

[c] Students who have declared to specialize in the ELITE Stream will be required to complete 6 units of ESTR4998 and 4999 to substitute for MAEG4998 and 4999.

[d] Details of the entrance and coursework requirements, and declaration procedures for the ELITE Stream can be found at the ELITE website (www.erg.cuhk.edu.hk/elite).
Non-ELITE Engineering students may be allowed to take ESTR courses. Students are required to seek approval from their respective Major Programmes for using ESTR courses taken to fulfill the Major Programme Requirement. Details are available at the ELITE website.

[e] Students can use up to 9 units of courses which have been taken to fulfill the requirements of items 1 to 4 above to fulfill the elective requirements of the ELITE Stream. Item 3(b) Research Component Courses will not be included in these 9 units. A full list of ESTR courses is available at the ELITE website.

[f] Students can use BMEG/CENG/CSCI/ELEG/ENGG/IERG/MAEG/SEEM courses at 5000 level to substitute for ESTR courses at 3000 or 4000 level, subject to the approval of the Stream Director and the Associate Dean

	(Education).
[g]	The requirement of at least 3 units of Engineering courses at 5000 level is a requirement for the ELITE Stream only. It should not be interpreted as a requirement of the Major Programme.

	Recommended Course Pattern	Units
First Year of Attendance	1st term Faculty Package: ENGG1110/ESTR1002 Major Required: MATH1510, PHYS1110 Major Elective(s):	3 3-6
	2nd term Faculty Package: ENGG1120/ESTR1005, ENGG1130/ ESTR1006 Major Required: MAEG1020, PHYS1110 Major Elective(s):	6 3-6
Second Year of Attendance	1st term Major Required: ELEG2202, ENGG2720/ESTR2014, MAEG2020/ESTR2400 Major Elective(s): 0 or 1 Breadth Elective course	8 0-3
	2nd term Major Required: EEEN3030/ESTR3402, ENGG2740/ ESTR2016, MAEG2030/ESTR2402, MAEG2601 Major Elective(s):	10
	Summer session Major Required: MAEG2602	1
Third Year of Attendance	1st term Major Required: MAEG3010, MAEG3050/ESTR3406, MAEG4030/ESTR4412 Major Elective(s): 0 or 1 Breadth Elective course	9 0-3
	2nd term Major Required: MAEG3020/ESTR3404, MAEG3030, 3040 Major Elective(s): 0 or 1 Breadth / Depth Elective course	9 0-3
Fourth Year of Attendance	1st term Major Required: MAEG4998 Major Elective(s): 1 to 2 Breadth / Depth Elective course(s)	3 3-6
	2nd term Major Required: MAEG4999 Major Elective(s): 1 to 2 Breadth / Depth Elective course(s)	3 3-6
Total (including Faculty Package):		**75**