

Energy and Environmental Engineering
Applicable to students admitted in 2022-23

Major Programme Requirement (for Associate Degree holders admitted to senior-year places)

Students are required to complete a minimum of 54 units of courses as follows:

	Units
1. Faculty Package[a]: ENGG1120/1130/ESTR1005/1006	3
2. Required Courses:	
(a) EEEN2020, 2030, EEEN2040/ESTR2404, EEEN2602, EEEN3030/ESTR3402, ELEG2202#/3207#[b], ESSC2800#, MAEG2030/ESTR2402, MAEG2601, 3030, MAEG4030/ESTR4412	30
(b) Research Component Courses[c]: EEEN4998, 4999	6
3. Elective Courses:	15
(a) Core Electives (at least 6 units): EEEN3010/ESTR3410, EEEN4020/ESTR4402, EEEN4050/ESTR4422, EEEN4060/ESTR4424, EEEN4070, ESSC4240#, MAEG3050/ESTR3406, MAEG4080/ESTR4420	
(b) Non-core Electives[d]: CHEM4280#, CSCI1020, 2040#, CSCI2100#/ESTR2102, EEEN3020/ESTR3400, EEEN4010/ESTR4400, EEEN4030/ESTR4404, ELEG3601#, ENGG1820, ENGG2760/ESTR2018, ENGG2780/ESTR2020, ENSC3230#, 4240#, ESSC2020, 3200#, 3220#, 3320#, 3600#, 3800#, 4540#, GRMD2404, 3202#, 3203#, 3403#, 4202#, 4204#, 4401#, MAEG1020, 3920, 5120, 5140, 5150, PHYS4420#	

Streams

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

Sustainable Energy Technology

- (a) Required Courses:
EEEN4020/ESTR4402
- (b) Elective Courses:
CHEM4280, EEEN4010/ESTR4400, EEEN4030/ESTR4404,
EEEN4050/ESTR4422, EEEN4060/ESTR4424, ELEG3601,
MAEG5120, 5150

Green Building Technology

- (a) Required Courses:
EEEN3010/ESTR3410, EEEN4070
- (b) Elective Courses:
EEEN3020/ESTR3400, MAEG3050/ESTR3406, MAEG3920, 5150

Environmental Engineering

- (a) Required Courses:
ESSC4240, GRMD3203

(b) Elective Courses:
EEEN4070, ENSC3230, 4240, ESSC2020, GRMD4204,
MAEG4080/ESTR4420, MAEG5140

Total: 54

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. EEEN, ENGG and MAEG courses at 2000 and above level as included in the Major Programme Requirement 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.
- 2. 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] Based on the admission qualifications of the Associate Degree holders, students will be recommended by the Department to take either ENGG1120/ESTR1005 or ENGG1130/ESTR1006.
- [b] Based on the admission qualifications of the Associate Degree holders, students will be recommended by the Department to take either ELEG2202 or 3207.
- [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 EEEN4998 and 4999.
- [d] Students are allowed to take a maximum of 3 units from the following elective list: CSCI1020, 2040, CSCI2100/ESTR2102.
- [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 3 above to fulfill the elective requirements of the ELITE Stream. Item 2(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 (for Associate Degree holders admitted to senior-year places)	Units
First Year of Attendance	1 st term Faculty Package: Major Required: EEEN2020, ELEG2202/3207, ESSC2800 Major Elective(s):	9
	2 nd term Faculty Package: ENGG1120/1130/ESTR1005/1006 Major Required: EEEN2040/ESTR2404, MAEG2030/ESTR2402, MAEG2601, 3030 Major Elective(s):	3 11
	Summer session Major Required: EEEN2602	1
Second Year of Attendance	1 st term Major Required: EEEN4998, MAEG4030/ESTR4412 Major Elective(s): 3 courses	6 9
	2 nd term Major Required: EEEN2030, EEEN3030/ESTR3402, EEEN4999 Major Elective(s): 2 courses	9 6
	Total (including Faculty Packages):	

Major Programme Requirement (for Higher Diploma holders admitted to senior-year places)

Students are required to complete a minimum of 51 units of courses as follows:

	Units
1. Faculty Package[a]: ENGG1120/1130/ESTR1005/1006	3
2. Required Courses:	
(a) EEEN2020, 2030, EEEN2040/ESTR2404, EEEN2602, EEEN3030/ESTR3402, ELEG2202#/3207#[b], ESSC2800#, MAEG2030/ESTR2402, MAEG2601, 3030, MAEG4030/ESTR4412	30
(b) Research Component Courses[c]: EEEN4998, 4999	6
3. Elective Courses:	12
(a) Core Electives (at least 6 units): EEEN3010/ESTR3410, EEEN4020/ESTR4402, EEEN4050/ESTR4422, EEEN4060/ESTR4424, EEEN4070, ESSC4240#, MAEG3050/ESTR3406, MAEG4080/ESTR4420	
(b) Non-core Electives[d]: CHEM4280#, CSCI1020, 2040#, CSCI2100#/ESTR2102, EEEN3020/ESTR3400, EEEN4010/ESTR4400, EEEN4030/ESTR4404, ELEG3601#, ENGG1820, ENGG2760/ESTR2018, ENGG2780/ESTR2020, ENSC3230#, 4240#, ESSC2020, 3200#, 3220#, 3320#, 3600#, 3800#, 4540#, GRMD2404, 3202#, 3203#, 3403#, 4202#, 4204#, 4401#, MAEG1020, 3920, 5120, 5140, 5150, PHYS4420#	

Streams

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

Sustainable Energy Technology

(a) Required Courses:

EEEN4020/ESTR4402

(b) Elective Courses:

CHEM4280, EEEN4010/ESTR4400, EEEN4030/ESTR4404,
EEEN4050/ESTR4422, EEEN4060/ESTR4424, ELEG3601,
MAEG5120, 5150

Green Building Technology

(a) Required Courses:

EEEN3010/ESTR3410, EEEN4070

(b) Elective Courses:

EEEN3020/ESTR3400, MAEG3050/ESTR3406, MAEG3920, 5150

Environmental Engineering

(a) Required Courses:

ESSC4240, GRMD3203

(b) Elective Courses:

EEEN4070, ENSC3230, 4240, ESSC2020, GRMD4204,
MAEG4080/ESTR4420, MAEG5140

Total: 51

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. EEEN, ENGG and MAEG courses at 2000 and above level as included in the Major Programme Requirement 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.
 2. 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] Based on the admission qualifications of the Higher Diploma holders, students will be recommended by the Department to take either ENGG1120/ESTR1005 or ENGG1130/ESTR1006.
- [b] Based on the admission qualifications of the Higher Diploma holders, students will be recommended by the Department to take either ELEG2202 or 3207.
- [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 EEEN4998 and 4999.

- [d] Students are allowed to take a maximum of 3 units from the following elective list: CSCI1020, 2040, CSCI2100/ESTR2102.
- [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 3 above to fulfill the elective requirements of the ELITE Stream. Item 2(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 (for Higher Diploma holders admitted to senior-year places)	Units
First Year of Attendance	1 st term Faculty Package: Major Required: EEEN2020, ELEG2202/3207, ESSC2800 Major Elective(s):	9
	2 nd term Faculty Package: ENGG1120/1130/ESTR1005/1006 Major Required: EEEN2040/ESTR2404, MAEG2030/ESTR2402, MAEG2601, 3030 Major Elective(s):	3 11
	Summer session Major Required: EEEN2602	1
Second Year of Attendance	1 st term Major Required: EEEN4998, MAEG4030/ESTR4412 Major Elective(s): 2 courses	6 6
	2 nd term Major Required: EEEN2030, EEEN3030/ESTR3402, EEEN4999 Major Elective(s): 2 courses	9 6
Total (including Faculty Packages):		51

Energy and Environmental Engineering
Applicable to students admitted in 2023-24

Major Programme Requirement (for Associate Degree holders admitted to senior-year places)

Students are required to complete a minimum of 54 units of courses as follows:

	Units
1. Faculty Package[a]: ENGG1120/1130/ESTR1005/1006	3
2. Required Courses:	
(a) EEEN2020, 2030, EEEN2040/ESTR2404, EEEN2602, EEEN3030/ESTR3402, EESC2800#, ELEG2202#/3207#[b], MAEG2030/ESTR2402, MAEG2601, 3030, MAEG4030/ESTR4412	30
(b) Research Component Courses[c]: EEEN4998, 4999	6
3. Elective Courses:	15
(a) Core Electives (at least 6 units): EEEN3010/ESTR3410, EEEN4020/ESTR4402, EEEN4050/ESTR4422, EEEN4060/ESTR4424, EEEN4070, EESC4240#, MAEG3050/ESTR3406, MAEG4080/ESTR4420	
(b) Non-core Electives[d]: CHEM1380, 4280#, CSCI1020, 2040#, CSCI2100#/ESTR2102, EEEN3020/ESTR3400, EEEN4010/ESTR4400, EEEN4030/ESTR4404, EESC2020, 2515, 3200#, 3220#, 3230#, 3320#, 3600#, 3800#, 4335#, 4340#, 4540#, ELEG3601#, ENGG1820, ENGG2760/ESTR2018, ENGG2780/ESTR2020, GRMD2404, 3202#, 3203#, 3403#, 4202#, 4204#, 4401#, MAEG1020, 3920, 5120, 5140, 5150, PHYS4420#	

Streams

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

Sustainable Energy Technology

CHEM4280, EEEN4010/ESTR4400, EEEN4020/ESTR4402,
EEEN4030/ESTR4404, EEEN4050/ESTR4422, EEEN4060/ESTR4424,
ELEG3601, MAEG5120, 5150

Green Building Technology

EEEN3010/ESTR3410, EEEN3020/ESTR3400, EEEN4070,
MAEG3050/ESTR3406, MAEG3920, 5150

Environmental Engineering

EEEN4070, EESC2020, 3230, 4240, 4340, GRMD3203, 4202, 4204,
MAEG4080/ESTR4420, MAEG5140

Total: 54

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. EEEN, ENGG and MAEG courses at 2000 and above level as included in the Major Programme Requirement 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.
 2. 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] Based on the admission qualifications of the Associate Degree holders, students will be recommended by the Department to take either ENGG1120/ESTR1005 or ENGG1130/ESTR1006.
- [b] Based on the admission qualifications of the Associate Degree holders, students will be recommended by the Department to take either ELEG2202 or 3207.
- [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 EEEN4998 and 4999.
- [d] Students are allowed to take a maximum of 3 units from the following elective list: CSCI1020, 2040, CSCI2100/ESTR2102.
- [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 3 above to fulfill the elective requirements of the ELITE Stream. Item 2(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 (for Associate Degree holders admitted to senior-year places)	Units
First Year of Attendance	1 st term Faculty Package: Major Required: EEEN2020, ELEG2202/3207, EESC2800 Major Elective(s):	9
	2 nd term Faculty Package: ENGG1120/1130/ESTR1005/1006	3

	Major Required: EEEN2040/ESTR2404, MAEG2030/ESTR2402, MAEG2601, 3030 Major Elective(s):	11	
	Summer session Major Required: EEEN2602	1	
Second Year of Attendance	1 st term Major Required: EEEN4998, MAEG4030/ESTR4412 Major Elective(s): 3 courses	6 9	
	2 nd term Major Required: EEEN2030, EEEN3030/ESTR3402, EEEN4999 Major Elective(s): 2 courses	9 6	
	Total (including Faculty Packages):		54

Major Programme Requirement (for Higher Diploma holders admitted to senior-year places)

Students are required to complete a minimum of 51 units of courses as follows:

	Units
1. Faculty Package[a]: ENGG1120/1130/ESTR1005/1006	3
2. Required Courses:	
(a) EEEN2020, 2030, EEEN2040/ESTR2404, EEEN2602, EEEN3030/ESTR3402, EESC2800#, ELEG2202#/3207#[b], MAEG2030/ESTR2402, MAEG2601, 3030, MAEG4030/ESTR4412	30
(b) Research Component Courses[c]: EEEN4998, 4999	6
3. Elective Courses:	12
(a) Core Electives (at least 6 units): EEEN3010/ESTR3410, EEEN4020/ESTR4402, EEEN4050/ESTR4422, EEEN4060/ESTR4424, EEEN4070, EESC4240#, MAEG3050/ESTR3406, MAEG4080/ESTR4420	
(b) Non-core Electives[d]: CHEM1380, 4280#, CSC11020, 2040#, CSC12100#/ESTR2102, EEEN3020/ESTR3400, EEEN4010/ESTR4400, EEEN4030/ESTR4404, EESC2020, 2515, 3200#, 3220#, 3230#, 3320#, 3600#, 3800#, 4335#, 4340#, 4540#, ELEG3601#, ENGG1820, ENGG2760/ESTR2018, ENGG2780/ESTR2020, GRMD2404, 3202#, 3203#, 3403#, 4202#, 4204#, 4401#, MAEG1020, 3920, 5120, 5140, 5150, PHYS4420#	

Streams

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

Sustainable Energy Technology

CHEM4280, EEEN4010/ESTR4400, EEEN4020/ESTR4402,
EEEN4030/ESTR4404, EEEN4050/ESTR4422, EEEN4060/ESTR4424,
ELEG3601, MAEG5120, 5150

Green Building Technology

EEEN3010/ESTR3410, EEEN3020/ESTR3400, EEEN4070,
MAEG3050/ESTR3406, MAEG3920, 5150

Environmental Engineering

EEEN4070, EESC2020, 3230, 4240, 4340, GRMD3203, 4202, 4204,
MAEG4080/ESTR4420, MAEG5140

Total: 51

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

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Elective Courses:

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Explanatory Notes:

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- [b] Based on the admission qualifications of the Higher Diploma holders, students will be recommended by the Department to take either ELEG2202 or 3207.
- [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 EEEN4998 and 4999.
- [d] Students are allowed to take a maximum of 3 units from the following elective list: CSCI1020, 2040, CSCI2100/ESTR2102.
- [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 3 above to fulfill the elective requirements of the ELITE Stream. Item 2(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.

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	Recommended Course Pattern (for Higher Diploma holders admitted to senior-year places)	Units
First Year of Attendance	1 st term Faculty Package: Major Required: EEEN2020, ELEG2202/3207, EESC2800 Major Elective(s):	9
	2 nd term Faculty Package: ENGG1120/1130/ESTR1005/1006 Major Required: EEEN2040/ESTR2404, MAEG2030/ESTR2402, MAEG2601, 3030 Major Elective(s):	3 11
	Summer session Major Required: EEEN2602	1
Second Year of Attendance	1 st term Major Required: EEEN4998, MAEG4030/ESTR4412 Major Elective(s): 2 courses	6 6
	2 nd term Major Required: EEEN2030, EEEN3030/ESTR3402, EEEN4999 Major Elective(s): 2 courses	9 6
Total (including Faculty Packages):		51