Information Engineering
Applicable to students admitted in 2021-22

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: ENGG2440/ESTR2004, IERG2060/ESTR2304, MATH1510[a], and one of the following courses: AIST1110, CHEM1280, 1380, CSCI1120/ESTR1100, CSCI1130/ESTR1102, ELEG2700, ENGG1310/ESTR1003[b], ENGG2720/ESTR2014, ENGG2740/ESTR2016, ENGG2780/ESTR2020, FTEC2101/ESTR2520, LSCI1001, 1003, MAEG1020, PHYS1003[b], 1110[b], SEEM2440/ESTR2500, SEEM2460/ESTR2540	11
3.	Required Courses:	
(a)	CSCI2100/ESTR2102, IERG1810, IERG2051/ESTR2302, IERG2080/ESTR2306, IERG2310/ESTR2300, IERG2470/ESTR2308, IERG2602/3840[c]/3842, 3060, IERG3080/ESTR3308, IERG3310/ESTR3310, IERG3800, 3810, 3820	29
(b)	Research Component Courses[d]: IERG4998, 4999	6
4.	Elective Courses: Out of the 20 Elective Course units, at least 15 units should be from the following courses: CSCI3150/ESTR3102, CSCI3160/ESTR3104, ENGG1820, IERG3010/ESTR3300, IERG3050, 3070, IERG3280/ESTR3302, IERG3300/ESTR3304, IERG3320/ESTR3306, IERG3830, IERG4004/FTEC4004, IERG4030/ESTR4320, IERG4060, IERG4080/ESTR4312, IERG4090/ESTR4302, IERG4100/ESTR4304, IERG4110/ESTR4314, IERG4120/ESTR4328, IERG4130/CSCI4130/ESTR4306, IERG4150/ESTR4322, IERG4160, IERG4180/ESTR4308, IERG4190, 4210, 4220, 4230, IERG4300/ESTR4300, IERG4320/ESTR4324, IERG4330/ESTR4316, IERG4340, 4350, IERG4360/ESTR4326, IERG4831, 4841, 4851, 5020, IERG5040/ENGG5392, IERG5050, 5090, IERG5100/ENGG5303, IERG5110, 5130, 5140, IERG5154/ENGG5301, IERG5200, 5230, IERG5240/ENGG5383, IERG5250, 5254, 5280, 5290, IERG5300/ENGG5302, IERG5310, 5320, 5330, 5340, 5350, 5360, 5380, 5590, 5670 The remaining units, if any, can be fulfilled by any AIST/BMEG/CENG/CSCI/EEEN/ELEG/ENER/ENGG/ESTR/FTEC/MAEG/SEEM course(s) at 3000 and above level.	20

Streams

Students may choose not to specialize in any stream or to specialize in no more than two streams and complete a minimum of 12 units of courses prescribed by the stream.

Big Data: Systems and Applications
CSCI3320, CSCI4180/ESTR4106, CSCI4190, ELEG5491, IERG3320/ESTR3306, IERG4080/ESTR4312, IERG4120/ESTR4328, IERG4160, 4230, IERG4300/ESTR4300 (required), IERG4320/ESTR4324, IERG4330/ESTR4316, IERG5050, 5130, 5250, 5350, 5670

Communications
IERG3010/ESTR3300, IERG3280/ESTR3302, IERG3300/ESTR3304, IERG4030/ESTR4320, IERG4060, IERG4100/ESTR4304, IERG4110/ESTR4314, IERG4130/CSCI4130/ESTR4306, IERG4230, 4340, 4851, 5020, IERG5040/ENGG5392, IERG5100/ENGG5303, IERG5110, 5200, 5230, 5280, 5330

Cyber Security
CSCI3150/ESTR3102, IERG3070, IERG4004/FTEC4004, IERG4120/ESTR4328, IERG4130/CSCI4130/ESTR4306 (required), IERG4150/ESTR4322, IERG4210, 4220, 4350, IERG4360/ESTR4326, IERG4851, IERG5240/ENGG5383, IERG5310, 5320, 5360, 5590

Internet Engineering
At least 3 units from: CSCI3150/ESTR3102, IERG3070
The remaining units from: IERG3050, IERG3280/ESTR3302, IERG3300/ESTR3304, IERG4080/ESTR4312, IERG4090/ESTR4302, IERG4130/CSCI4130/ESTR4306, IERG4180/ESTR4308, IERG4190, 4210, 4831, 4841, 4851, 5090, 5250, 5280

Information Science
CSCI3160/ESTR3104, IERG3010/ESTR3300, IERG3050, IERG3280/ESTR3302, IERG3300/ESTR3304, IERG4100/ESTR4304, IERG4190, IERG4300/ESTR4300, IERG4320/ESTR4324, IERG5154/ENGG5301, IERG5200, 5254, 5290, IERG5300/ENGG5302, IERG5380, 5400

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. AIST/BMEG/CENG/CSCI/EEEN/ELEG/ENER/ENGG/ESTR/FTEC/IERG/MAEG/SEEM required and major elective courses at 2000 and above level as well as IERG2060/ESTR2304 will be included in the calculation of Major GPA for honours classification excluding courses in Faculty Package and Foundation courses (except IERG2060/ESTR2304).

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. For details, please refer to the Department for information.

[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] The Physics course shall be taken in accordance with students' HKDSE results or placement test results as follows:

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 ENGG1310/ESTR1003 or PHYS1110.

ii) Students with HKDSE results but did not attain the academic levels as stated in (i) shall take PHYS1003.

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 ENGG1310/ESTR1003 or PHYS1110. Students who fail or are absent from the placement test shall take PHYS1003.

[c] CSCI2720 is not for students who have taken IERG3840, while the former is a required course for Minor in Computer Science. Students pursuing Minor in Computer Science should take IERG3842 to fulfill the Major Programme Requirement of Information Engineering.

[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 IERG4998 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/erg/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 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.

[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: ENGG1110/ESTR1002 Major Required: MATH1510 Major Elective(s):	 3 3
	2nd term Faculty Package: ENGG1120/ESTR1005, ENGG1130/ ESTR1006 Major Required: 1 Foundation Course Major Elective(s):	 6 2-3
Second Year of Attendance	1st term Major Required: ENGG2440/ESTR2004, IERG1810, IERG2051/ESTR2302, IERG2060/ESTR2304, IERG2080/ESTR2306 Major Elective(s):	13
	2nd term Major Required: CSCI2100/ESTR2102, IERG2310/ ESTR2300, IERG2470/ESTR2308, IERG2602/3840/3842, 3820 Major Elective(s):	11
Third Year of Attendance	1st term Major Required: IERG3080/ESTR3308, IERG3310/ ESTR3310, IERG3800 Major Elective(s): 1 course	7 2-3
	2nd term Major Required: IERG3060, 3810 Major Elective(s): 3 courses	4 9
Fourth Year of Attendance	1st term Major Required: IERG4998 Major Elective(s): 2 courses	3 6
	2nd term Major Required: IERG4999 Major Elective(s): 1 course	3 3
	Total (including Faculty Package):	**75-77**

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

Students are required to complete a minimum of 52 units of courses as follows:

		Units
1.	Faculty Package: ENGG1120/ESTR1005	3
2.	Foundation Courses: ENGG2440/ESTR2004	3
3.	Required Courses:	
(a)	CSCI2100/ESTR2102, IERG2051/ESTR2302, IERG2310/ESTR2300, IERG2470/ESTR2308, IERG2602/3840[a]/3842, 3060, IERG3080/ESTR3308, IERG3310/ESTR3310, IERG3800, 3810, 3820	25
(b)	Research Component Courses[b]: IERG4998, 4999	6
4.	Elective Courses:	15

Out of the 15 Elective Course units, at least 9 units should be from the following courses:
CSCI3150/ESTR3102, CSCI3160/ESTR3104, ENGG1820, IERG1810, IERG2060/ESTR2304, IERG2080/ESTR2306, IERG3010/ESTR3300, IERG3050, 3070, IERG3280/ESTR3302, IERG3300/ESTR3304, IERG3320/ESTR3306, IERG3830, IERG4004/FTEC4004, IERG4030/ESTR4320, IERG4060, IERG4080/ESTR4312, IERG4090/ESTR4302, IERG4100/ESTR4304, IERG4110/ESTR4314, IERG4120/ESTR4328, IERG4130/CSCI4130/ESTR4306, IERG4150/ESTR4322, IERG4160, IERG4180/ESTR4308, IERG4190, 4210, 4220, 4230, IERG4300/ESTR4300, IERG4320/ESTR4324, IERG4330/ESTR4316, IERG4340, 4350, IERG4360/ESTR4326, IERG4831, 4841, 4851, 5020, IERG5040/ENGG5392, IERG5050, 5090, IERG5100/ENGG5303, IERG5110, 5130, 5140, IERG5154/ENGG5301, IERG5200, 5230, IERG5240/ENGG5383, IERG5250, 5254, 5280, 5290, IERG5300/ENGG5302, IERG5310, 5320, 5330, 5340, 5350, 5360, 5680, 5400, 5590, 5670

The remaining units, if any, can be fulfilled by any AIST/ BMEG/CENG/ CSCI/EEEN/ELEG/ENER/ENGG/ESTR/FTEC/MAEG/SEEM course(s) at 3000 and above level.

Streams

Students may choose not to specialize in any stream or to specialize in no more than two streams and complete a minimum of 12 units of courses prescribed by the stream.

Big Data: Systems and Applications

CSCI3320, CSCI4180/ESTR4106, CSCI4190, ELEG5491, IERG3320/ESTR3306, IERG4080/ESTR4312, IERG4120/ESTR4328, IERG4160, 4230, IERG4300/ESTR4300 (required), IERG4320/ESTR4324, IERG4330/ESTR4316, IERG5050, 5130, 5250, 5350, 5670

Communications

IERG3010/ESTR3300, IERG3280/ESTR3302, IERG3300/ESTR3304, IERG4030/ESTR4320, IERG4060, IERG4100/ESTR4304, IERG4110/ESTR4314, IERG4130/CSCI4130/ESTR4306, IERG4230, 4340, 4851, 5020, IERG5040/ENGG5392, IERG5100/ENGG5303, IERG5110, 5200, 5230, 5280, 5330

Cyber Security

CSCI3150/ESTR3102, IERG3070, IERG4004/FTEC4004, IERG4120/ESTR4328, IERG4130/CSCI4130/ESTR4306 (required), IERG4150/ESTR4322, IERG4210, 4220, 4350, IERG4360/ESTR4326, IERG4851, IERG5240/ENGG5383, IERG5310, 5320, 5360, 5590

Internet Engineering

At least 3 units from: CSCI3150/ESTR3102, IERG3070
The remaining units from: IERG3050, IERG3280/ESTR3302, IERG3300/ESTR3304, IERG4080/ESTR4312, IERG4090/ESTR4302, IERG4130/CSCI4130/ESTR4306, IERG4180/ESTR4308, IERG4190, 4210, 4831, 4841, 4851, 5090, 5250, 5280

Information Science

CSCI3160/ESTR3104, IERG3010/ESTR3300, IERG3050, IERG3280/ESTR3302, IERG3300/ESTR3304, IERG4100/ESTR4304, IERG4190, IERG4300/ESTR4300, IERG4320/ESTR4324, IERG5154/ENGG5301, IERG5200, 5254, 5290, IERG5300/ENGG5302,

IERG5380, 5400

Total: 52

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[c]
Elective Courses:
15 units of courses[d]:

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

Explanatory Notes:

1. AIST/BMEG/CENG/CSCI/EEEN/ELEG/ENER/ENGG/ESTR/FTEC/IERG/MAEG/SEEM required and major elective courses at 2000 and above level 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. For details, please refer to the Department for information.

[a] CSCI2720 is not for students who have taken IERG3840, while the former is a required course for Minor in Computer Science. Students pursuing Minor in Computer Science should take IERG3842 to fulfill the Major Programme Requirement of Information Engineering.

[b] Students who have declared to specialize in the ELITE Stream will be required to complete 6 units of ESTR4998 and 4999 to substitute for IERG4998 and 4999.

[c] 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/erg/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.

[d] 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.

[e] 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).

[f] 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 or Higher Diploma holders admitted to senior-year places)	Units
First Year of Attendance	1st term Faculty Package: Major Required: CSCI2100/ESTR2102, ENGG2440/ ESTR2004, IERG2051/ESTR2302 Major Elective(s):	9

	2nd term Faculty Package: ENGG1120/ESTR1005 Major Required: IERG2310/ESTR2300, IERG2470/ ESTR2308, IERG2602/3840/3842, IERG3310/ESTR3310, IERG3800, 3820 Major Elective(s):	 3 12
Second Year of Attendance	1st term Major Required: IERG3080/ESTR3308, IERG4998 Major Elective(s): 3 courses	 6 9
	2nd term Major Required: IERG3060, 3810, 4999 Major Elective(s): 2 courses	 7 6
	Total (including Faculty Package):	**52**

Bachelor of Engineering (Information Engineering) and Bachelor of Business Administration (Integrated BBA Programme) Double Degree Option

1st Degree: Bachelor of Engineering (Information Engineering)

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: ENGG2440/ESTR2004, IERG2060/ESTR2304, MATH1510[a], and one of the following courses: AIST1110, CHEM1280, 1380, CSCI1120/ESTR1100, CSCI1130/ESTR1102, ELEG2700, ENGG1310/ESTR1003[b], ENGG2720/ESTR2014, ENGG2740/ESTR2016, ENGG2780/ESTR2020, FTEC2101/ESTR2520, LSCI1001, 1003, MAEG1020, PHYS1003[b], 1110[b], SEEM2440/ESTR2500, SEEM2460/ESTR2540	11
3.	Required Courses:	
(a)	CSCI2100/ESTR2102, IERG1810, IERG2051/ESTR2302, IERG2080/ESTR2306, IERG2310/ESTR2300, IERG2470/ESTR2308, IERG2602/3840[c]/3842, 3060, IERG3080/ESTR3308, IERG3310/ESTR3310, IERG3800, 3810, 3820	29
(b)	Research Component Courses[d]: IERG4998, 4999	6
4.	Elective Courses: Out of the 20 Elective Course units, at least 15 units should be from the following courses: CSCI3150/ESTR3102, CSCI3160/ESTR3104, ENGG1820, IERG3010/ESTR3300, IERG3050, 3070, IERG3280/ESTR3302, IERG3300/ESTR3304, IERG3320/ESTR3306, IERG3830, IERG4004/FTEC4004, IERG4030/ESTR4320, IERG4060, IERG4080/ESTR4312, IERG4090/ESTR4302, IERG4100/ESTR4304, IERG4110/ESTR4314, IERG4120/ESTR4328, IERG4130/CSCI4130/ESTR4306, IERG4150/ESTR4322, IERG4160, IERG4180/ESTR4308, IERG4190, 4210, 4220, 4230, IERG4300/ESTR4300,	20

IERG4320/ESTR4324, IERG4330/ESTR4316, IERG4340, 4350, IERG4360/ESTR4326, IERG4831, 4841, 4851, 5020, IERG5040/ENGG5392, IERG5050, 5090, IERG5100/ENGG5303, IERG5110, 5130, 5140, IERG5154/ENGG5301, IERG5200, 5230, IERG5240/ENGG5383, IERG5250, 5254, 5280, 5290, IERG5300/ENGG5302, IERG5310, 5320, 5330, 5340, 5350, 5360, 5380, 5400, 5590, 5670

The remaining units, if any, can be fulfilled by any AIST/BMEG/CENG/CSCI/EEEN/ELEG/ENER/ENGG/ESTR/FTEC/MAEG/SEEM course(s) at 3000 and above level.

Streams

Students may choose not to specialize in any stream or to specialize in no more than two streams and complete a minimum of 12 units of courses prescribed by the stream.

Big Data: Systems and Applications

CSCI3320, CSCI4180/ESTR4106, CSCI4190, ELEG5491, IERG3320/ESTR3306, IERG4080/ESTR4312, IERG4120/ESTR4328, IERG4160, 4230, IERG4300/ESTR4300 (required), IERG4320/ESTR4324, IERG4330/ESTR4316, IERG5050, 5130, 5250, 5350, 5670

Communications

IERG3010/ESTR3300, IERG3280/ESTR3302, IERG3300/ESTR3304, IERG4030/ESTR4320, IERG4060, IERG4100/ESTR4304, IERG4110/ESTR4314, IERG4130/CSCI4130/ESTR4306, IERG4230, 4340, 4851, 5020, IERG5040/ENGG5392, IERG5100/ENGG5303, IERG5110, 5200, 5230, 5280, 5330

Cyber Security

CSCI3150/ESTR3102, IERG3070, IERG4004/FTEC4004, IERG4120/ESTR4328, IERG4130/CSCI4130/ESTR4306 (required), IERG4150/ESTR4322, IERG4210, 4220, 4350, IERG4360/ESTR4326, IERG4851, IERG5240/ENGG5383, IERG5310, 5320, 5360, 5590

Internet Engineering

At least 3 units from: CSCI3150/ESTR3102, IERG3070

The remaining units from: IERG3050, IERG3280/ESTR3302, IERG3300/ESTR3304, IERG4080/ESTR4312, IERG4090/ESTR4302, IERG4130/CSCI4130/ESTR4306, IERG4180/ESTR4308, IERG4190, 4210, 4831, 4841, 4851, 5090, 5250, 5280

Information Science

CSCI3160/ESTR3104, IERG3010/ESTR3300, IERG3050, IERG3280/ESTR3302, IERG3300/ESTR3304, IERG4100/ESTR4304, IERG4190, IERG4300/ESTR4300, IERG4320/ESTR4324, IERG5154/ENGG5301, IERG5200, 5254, 5290, IERG5300/ENGG5302, IERG5380, 5400

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. AIST/BMEG/CENG/CSCI/EEEN/ELEG/ENER/ENGG/ESTR/FTEC/IERG/MAEG/ SEEM required and major elective courses at 2000 and above level as well as IERG2060/ESTR2304 will be included in the calculation of Major GPA for honours classification excluding courses in Faculty Package and Foundation courses (except IERG2060/ESTR2304).
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. For details, please refer to the Department for information.
4. Students are advised to take some courses of the University Core Requirements or Major courses in summer sessions to reduce their course load in regular terms.

[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] The Physics course shall be taken in accordance with students' HKDSE results or placement test results as follows:

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 ENGG1310/ESTR1003 or PHYS1110.

ii) Students with HKDSE results but did not attain the academic levels as stated in (i) shall take PHYS1003.

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 ENGG1310/ESTR1003 or PHYS1110. Students who fail or are absent from the placement test shall take PHYS1003.

[c] CSCI2720 is not for students who have taken IERG3840, while the former is a required course for Minor in Computer Science. Students pursuing Minor in Computer Science should take IERG3842 to fulfill the Major Programme Requirement of Information Engineering.

[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 IERG4998 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/erg/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 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.

[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.

2nd Degree: Bachelor of Business Administration (Integrated BBA Programme)

Major Programme Requirement

Students are required to complete a minimum of 56 units of courses as follows:

		Units
1.	Faculty Package: DOTE[DSME]1030, 1040, MGNT1020	9
2.	Required Courses: ACCT2111, 2121, 2151 or 3151[a], DOTE[DSME]2011, 2030, 2051, FINA2010, IBBA3040, MGNT2511, 2512, 2611, 4010, MKTG2010	32-33
3.	Elective Courses (Concentration): Students must choose at least one concentration and take five or six courses among the courses prescribed under respective concentration area as follows:	15-18

(a) Business Economics
- (i) DOTE[DSME]2021, 4110;
- (ii) two courses selected from: DOTE[DSME]3000, 3011, 3030, 3050, 3080, 3090, 4040, 4080; and
- (iii) one DOTE[DSME] course at 3000 or above level, excluding the courses taken for fulfillment of requirement (i) or (ii)

(b) Business Analytics
- (i) DOTE[DSME]2021, 2040, 4020;
- (ii) one course selected from: DOTE[DSME]4070, 4240, 4260; and
- (iii) one course selected from: DOTE[DSME]3030, 4030, 4110, 4220, 4280, MKTG4120

(c) Finance
- (i) DOTE[DSME]2021 or FINA2020; and
- (ii) 15 units of FINA courses at 3000 or above level, with no more than three 1-unit FINA courses

(d) Entrepreneurship
- (i) MGNT1070, 2070, 3070, 4170; and
- (ii) two courses selected from: MGNT3080, 4070, 4090, 4130, 4160, 4270, 4570, 4711, 4712, 4713

(e) Management of International Business
- (i) MGNT3080, 3580, 4150; and
- (ii) three courses selected from: MGNT3010, 3100, 4080, 4090, 4130, 4140, 4510, 4530, 4540, 4550, 4570, 4600, 4620

(f) Human Resource Management
- (i) MGNT2040, 3010, 3090; and
- (ii) three courses selected from: MGNT3040, 3060, 3100, 4050, 4060, 4080, 4110, 4130, 4140, 4620

(g) Marketing

(i) MKTG3010, 3020, 3030, 4040; and
(ii) two courses selected from: MKTG3040, 3050, 4010, 4020, 4030, 4050, 4070, 4080, 4090, 4110, 4160, 4200

(h) Big Data and Quantitative Marketing
(i) MKTG3010, 3060, 4080, 4090; and
(ii) two courses selected from: MKTG3020, 4030, 4050, 4120, 4150, 4160, 4170, 4180, 4190, 4200

(i) General Business
(i) 3 units of DOTE[DSME]/FINA/MGNT/MKTG courses at 2000 or above level; and
(ii) 12 units of DOTE[DSME]/FINA/MGNT/MKTG courses at 3000 or above level, excluding the courses taken for fulfillment of requirement (i), with no more than three 1-unit FINA courses

Total: 56-60

Explanatory Notes:

1. ACCT/DOTE[DSME]/FINA/IBBA/MGNT/MKTG courses at 2000 and above level (excluding ACCT2111, 2121, IBBA3040, MGNT2511 and 2512) will be included in the calculation of Major GPA for honours classification.
2. Double concentrations in Marketing and Big Data and Quantitative Marketing are not allowed.
3. DOTE[DSME]2021 and the associated units can be used to satisfy concentration requirements of double concentrations within (a) to (c).
   MGNT3010 and the associated units can be used to satisfy concentration requirements of double concentrations within (e) and (f).
4. Courses taken for the concentration requirements of General Business Concentration cannot be counted towards the requirements of concentrations (a) to (h).
5. Students claiming Entrepreneurship Concentration are not allowed to declare Minor in Entrepreneurship and Innovation.

[a] ACCT2151 and ACCT3151 are mutually exclusive. Students who would like to pursue a career in accounting profession are advised to take ACCT3151 instead of ACCT2151.

[ ] Subject area code "DSME" changed to "DOTE" with effect from 2024-25.

Explanatory Note on Mutual Recognition or Exclusion:

1. DOTE[DSME]4140 and the associated units can be exempted from the requirement of the second degree by successfully completing IERG3310/ESTR3310.

Recommended Course Pattern

	1st degree: Bachelor of Engineering (Information Engineering)	Units	**2nd degree: Bachelor of Business Administration (Integrated BBA Programme)**	Units
First Year of Attendance	1st term Faculty Package: ENGG1110/ ESTR1002 Major Required: MATH1510 Major Elective(s):	 3 3	1st term Faculty Package: Major Required: Major Elective(s):	
	2nd term Faculty Package: ENGG1120/ ESTR1005, ENGG1130/ ESTR1006 Major Required: 1 Foundation	 6 2-3	2nd term Faculty Package: Major Required: Major Elective(s):	

	Course Major Elective(s):			
			Summer session Faculty Package: MGNT1020	3
Second Year of Attendance	1st term Major Required: ENGG2440/ ESTR2004, IERG1810, IERG2051/ESTR2302, IERG2060/ESTR2304, IERG2080/ESTR2306 Major Elective(s):	13	1st term Faculty Package: 1-2 courses (DOTE[DSME]1030, MGNT1020 recommended) Major Required: Major Elective(s):	3-6
	2nd term Major Required: CSCI2100/ ESTR2102, IERG2310/ ESTR2300, IERG2470/ ESTR2308, IERG2602/3840/3842, 3820 Major Elective(s):	11	2nd term Faculty Package: 1-2 courses (DOTE[DSME]1040, MGNT1020 recommended) Major Required: 0-1 course from MGNT2511 Major Elective(s):	3-6 0-1
			Summer session Major Required: 0-1 course from MGNT2511 (if not taken)	0-1
Third Year of Attendance	1st term Major Required: IERG3080/ ESTR3308, IERG3310/ ESTR3310, IERG3800 Major Elective(s):	7	1st term Major Required: ACCT2111, DOTE[DSME]2011, and 0-2 courses from IBBA3040, MKTG2010 Major Elective(s):	7-11
	2nd term Major Required: IERG3060, 3810 Major Elective(s): 2 courses	4 5-6	2nd term Major Required: ACCT2121, and 0-3 courses from FINA2010, IBBA3040, MKTG2010 (if not taken) Major Elective(s): 0-1 course	3-10 0-3
Fourth Year of Attendance	1st term Major Required: IERG4998 Major Elective(s): 3 courses	3 9	1st term Major Required: ACCT2151 (or 3151), FINA2010 (if not taken), and 0-2 courses from DOTE[DSME]2030, MGNT2611 Major Elective(s):	2-11
	2nd term Major Required: IERG4999 Major Elective(s): 2 courses	3 6	2nd term Major Required: DOTE[DSME]2051, and 0-3 courses from ACCT2151 (or 3151), DOTE[DSME]2030, MGNT2611 (if not taken) Major Elective(s): 1 course	3-11 3
Fifth Year of Attendance			1st term Major Required: 0-2 courses from MGNT2512, 4010 Major Elective(s): 1-3 courses	0-4 3-9
			2nd term Major Required: 0-2 courses	0-4

			from MGNT2512, 4010 (if not taken) Major Elective(s): 2-3 courses	6-9
Total (including Faculty Package):		**75-77**	**Total (including Faculty Package):**	**56-60**

Minor Programme Title
Information Engineering

Minor Programme Requirement

Students are required to complete a minimum of 18 units of courses as follows:

		Units
1.	Required Courses: IERG2310/ESTR2300, IERG3310/ESTR3310	6
2.	Elective Courses: CSCI3150/ESTR3102, CSCI3160/ESTR3104, IERG3010/ESTR3300, IERG3050, 3070, IERG3280/ESTR3302, IERG3300/ESTR3304, IERG3320/ESTR3306, IERG4004/FTEC4004, IERG4030/ESTR4320, IERG4060, IERG4080/ESTR4312, IERG4090/ESTR4302, IERG4100/ESTR4304, IERG4110/ESTR4314, IERG4120/ESTR4328, IERG4130/CSCI4130/ESTR4306, IERG4150/ESTR4322, IERG4160, IERG4180/ESTR4308, IERG4190, 4210, 4220, 4230, IERG4300/ESTR4300, IERG4320/ESTR4324, IERG4330/ESTR4316, IERG4340, 4350, IERG4360/ESTR4326, IERG5020, IERG5040/ENGG5392, IERG5090, IERG5100/ENGG5303, IERG5110, 5130, 5140, IERG5154/ENGG5301, IERG5200, 5230, IERG5240/ENGG5383, IERG5254, 5280, 5290, IERG5300/ENGG5302, IERG5310, 5320, 5330, 5340, 5350, 5360, 5380, 5400, 5590	12
	Total:	**18**

Course List

Course Code	*Course Title*	*Unit(s)*
ENGG1310	Engineering Physics: Electromagnetics, Optics and Modern Physics	3
ENGG1820	Engineering Internship	1
ENGG2420	Complex Analysis and Differential Equations for Engineers	3
ENGG2440	Discrete Mathematics for Engineers	3
ENGG2720	Complex Variables for Engineers	2
ENGG2740	Differential Equations for Engineers	2
ENGG2780	Statistics for Engineers	2
ENGG5301	Information Theory	3
ENGG5302	Random Processes	3
ENGG5303	Advanced Wireless Communications	3
ENGG5383	Applied Cryptography	3
ENGG5392	Lightwave System Technologies	3
ESTR1003	Engineering Physics: Electromagnetics, Optics and Modern Physics	3
ESTR2004	Discrete Mathematics for Engineers	3
ESTR2014	Complex Variables for Engineers	2
ESTR2016	Differential Equations for Engineers	2

ESTR2020	Statistics for Engineers	2
ESTR2300	Principles of Communication Systems	3
ESTR2302	Signals and Systems	3
ESTR2304	Basic Analog and Digital Circuits	3
ESTR2306	Introduction to Systems Programming	3
ESTR2308	Probability Models and Applications	3
ESTR3300	Digital Communications	3
ESTR3302	Networks: Technology, Economics, and Social Interactions	3
ESTR3304	Introduction to Stochastic Processes	3
ESTR3306	Social Media and Human Information Interaction	3
ESTR3308	Information and Software Engineering Practice	3
ESTR3310	Computer Networks	3
ESTR4300	Web-scale Information Analytics	3
ESTR4302	Networking Protocols and Systems	3
ESTR4304	Wireless Communication Systems	3
ESTR4306	Introduction to Cyber Security	3
ESTR4308	Network Software Design and Programming	3
ESTR4312	Building Scalable Internet-based Services	3
ESTR4314	Hands-on Wireless Communication	3
ESTR4316	Programming Big Data Systems	3
ESTR4320	Optical Communications	3
ESTR4322	Introduction to Cryptography	3
ESTR4324	Data Science in Practice	3
ESTR4326	Blockchain and Applications	3
ESTR4328	Functional Programming	3
IERG1080	Introduction to Python for Engineering Applications	3
IERG1810	Electronic Circuit Design Laboratory	1
IERG2051	Signals and Systems	3
IERG2060	Basic Analog and Digital Circuits	3
IERG2080	Introduction to Systems Programming	3
IERG2310	Principles of Communication Systems	3
IERG2470	Probability Models and Applications	3
IERG2602	Engineering Practicum	1
IERG3010	Digital Communications	3
IERG3050	Simulation and Statistical Analysis	3
IERG3060	Microcontrollers and Embedded Systems	3
IERG3070	Operating Systems in Practice: A Linux Perspective	3
IERG3080	Information and Software Engineering Practice	3
IERG3280	Networks: Technology, Economics, and Social Interactions	3
IERG3300	Introduction to Stochastic Processes	3
IERG3310	Computer Networks	3
IERG3320	Social Media and Human Information Interaction	3
IERG3800	Information Infrastructure Design Lab	1
IERG3810	Microcontrollers and Embedded System Laboratory	1
IERG3820	Communications Laboratory	1
IERG3830	Product Design and Development	3
IERG3840	Web Application Development Project	1
IERG3842	Mobile Network Application Development Project	1
IERG4004	E-payment Systems and Cryptocurrency Technologies	3
IERG4030	Optical Communications	3
IERG4060	Real-time Embedded Systems	3
IERG4080	Building Scalable Internet-based Services	3

IERG4090	Networking Protocols and Systems	3
IERG4100	Wireless Communication Systems	3
IERG4110	Hands-on Wireless Communication	3
IERG4120	Functional Programming	3
IERG4130	Introduction to Cyber Security	3
IERG4150	Introduction to Cryptography	3
IERG4160	Image and Video Processing	3
IERG4180	Network Software Design and Programming	3
IERG4190	Multimedia Coding and Processing	3
IERG4210	Web Programming and Security	3
IERG4220	Secure Software Engineering	3
IERG4230	Introduction to Internet of Things	3
IERG4300	Web-scale Information Analytics	3
IERG4320	Data Science in Practice	3
IERG4330	Programming Big Data Systems	3
IERG4340	Emerging Technologies in Information Engineering	3
IERG4350	Cloud Computing Security	3
IERG4360	Blockchain and Applications	3
IERG4831	Networking Laboratory I	2
IERG4841	Networking Laboratory II	2
IERG4851	Cyber Security Laboratory	1
IERG4998	Final Year Project I	3
IERG4999	Final Year Project II	3
IERG5020	Telecommunication Switching and Network Systems	3
IERG5040	Lightwave System Technologies	3
IERG5050	AI Foundation Models, Systems and Applications	3
IERG5090	Advanced Networking Protocols and Systems	3
IERG5100	Advanced Wireless Communications	3
IERG5110	Signal Processing in Wireless Communications and Sensing	3
IERG5130	Probabilistic Models and Inference Algorithms for Machine Learning	3
IERG5140	Lightwave Networks	3
IERG5154	Information Theory	3
IERG5200	Channel Coding and Modulation	3
IERG5230	Algorithms and Realization of Internet of Things Systems	3
IERG5240	Applied Cryptography	3
IERG5250	Edge AI and Applications	3
IERG5254	Network Information Theory	3
IERG5280	Mobile Networking	3
IERG5290	Network Coding Theory	3
IERG5300	Random Processes	3
IERG5310	Security and Privacy in Cyber Systems	3
IERG5320	Digital Forensics	3
IERG5330	Network Economics	3
IERG5340	IT Innovation and Entrepreneurship	3
IERG5350	Reinforcement Learning	3
IERG5360	Program Representation, Modeling and Understanding for Software Security	3
IERG5380	Quantum Information Processing	3
IERG5400	Theory of Probability	3
IERG5590	Advanced Topics in Blockchain	3
IERG5670	Computational Imaging Systems and Algorithms	3