

BEng in Computer and Data Engineering
Recommended Study Plan for Students Entering Major in 2017/18

Minimum Graduation Requirements

	<u>Normative 4-year Degree</u> Credit Units (CUs)	<u>Advanced Standing I (ASI)</u> Credit Units (CUs)	<u>Advanced Standing II (ASII)</u> Credit Units (CUs)
<u>Major Requirements</u>			
Core Courses	69 ^a	60 ^a	45-57 ^a
Technical Elective courses	15 ^b	15 ^b	15 ^b
<u>GE Requirements</u>			
English (GE1401 and GE2410)	6 ^c	6 ^c	3 (GE2410)
Chinese Civilization	3	3	Not required
Gateway Education (Area Requirements) ^e	12	6	3
College-specified GE Courses	9 ^f	6 [^]	6 [^]
<u>College Requirements</u>	6 ^g	0	0
Minimum Number of Credits Required for the Award:	120^{dh}	96^{dh}	72^h

Note:

- a. i/ Including non-credit-bearing courses EE4290 Engineering Training I for Computer and Data Engineering, EE4291 Engineering Training II for Computer and Data Engineering.
- ii/ EE1001, EE1002 and EE1003 are not required for Advanced Standing I & II students.
- iii/ CS2311 is not required for Advanced Standing II students.
- iv/ Requirements on EE2000, EE2004, EE2301 and EE2331 will be considered case by case based on ASII students' backgrounds in the subjects.
- b. Students are required to take at least FIVE electives (15 CUs) with at least TWO electives from each group. For details of the course pre-requisite requirement, please refer to <http://www.ee.cityu.edu.hk/main/student/> for major and course information.
- c. Normative 4-year degree and ASI students entering without Level 4 in HKDSE English Language or Grade D in HKALE AS Use of English are required to take EL0200A English for Academic Purposes 1 and EL0200B English for Academic Purposes 2 (EAP) of 6 credit units before progressing to GE1401 University English and GE2410 English for Engineering. Early exit arrangement is available that students achieving a grade B or above in their overall course results for EL0200A will be permitted to exit at this point and progress to the GE English courses.

The credits earned from the EAP course(s) will not be counted towards the minimum credit units required for graduation nor be calculated in students' CGPA. Students who are not admitted through JUPAS are invited upon enrolment to take the English Placement Test or to provide proof of alternative qualifications to be exempted from ELC course (http://www.cityu.edu.hk/elc/courses_exemption.html).

- d. Normative 4-year degree and ASI students entering without Level 4 in HKDSE Chinese Language or Grade D in HKALE AS-level Chinese Language and Culture are required to take a 3-credit-unit course CHIN1001 University Chinese I. The credits earned will not be counted towards the minimum credit units required for graduation nor be calculated in students' CGPA.
- e. Normative 4-year degree students are required to take a minimum of 3 CUs from each of the following specified areas – 1/ Arts and Humanities, 2/ Study of Societies, Social and Business Organizations, and 3/ Science and Technology.

Advanced Standing I students are required to take their 6CUs from two different areas above.

- f. College-specified GE courses for fulfilling the Gateway Education requirements:

MA1200/ MA1300	Calculus and Basic Linear Algebra I/ Enhanced Calculus and Linear Algebra I	3 credit units
MA1201/ MA1301	Calculus and Basic Linear Algebra II/ Enhanced Calculus and Linear Algebra II	3 credit units
CS1102/ CS1302	Introduction to Computer Studies/ Introduction to Computer Programming	3 credit units

^ ASI and ASII students are required to take 6 credit units of MA courses from the above pairs. Students exempted from either one or both of the above MA courses should take any course(s) not within the Major Requirement (including core courses and electives) to make up for the minimum curriculum requirement.

- g. Normative 4-year Degree students are required to take two courses (6 CUs) out of three for their College requirements. Courses include AP1201 General Physics I, BCH1100 Chemistry and BCH1200 Discovery in Biology.
- h. Students having completed EE4081 Professional Internship Program (6 CUs) will take one less elective (3 CUs) and are not required to take EE3012 Engineers in Society (3CUs).

Year 2 (Semester A)

Code	Title	CU	Pre-requisite	Precursor	Course plan for students of different qualifications		
					Normative 4-year/ ASI/ ASII MA1200/MA1300 & MA1201/MA1301 Requirement (Math I and Math II in short)		
					Normative Completed both Math I & II ASI/II Math I & II Exempted	Normative Still require Math II ASI/II Math I Exempted	Normative Still require both Math I & II ASI/II No exemption granted on Math I & II
EE1003*	Introduction to Electronic Design and Workshop	3	Nil	Nil	0 or 3	0 or 3	0 or 3
EE2000	Logic Circuit Design	3	Nil	Nil	3	3	3
EE2301	Basic Electronic Circuits	3	Nil	Nil	3	3	3
CS2311#	Computer Programming	3	(CS1102 or CS1302)*	Nil	0 or 3	0 or 3	0 or 3
MA2001	Multi-variable Calculus and Linear Algebra	3	(MA1200/MA1300 & MA1201/MA1301)	Nil	3	N.A.	N.A.
MA1200	Calculus & Basic Linear Algebra I	3 (Note f)	Nil	Nil	N.A.	N.A.	3
MA1201	Calculus & Basic Linear Algebra II	3 (Note f)	MA1200	Nil	N.A.	3	N.A.
Technical Course Total (CUs):					15 (Normative) 9 or 12 (ASII/ASI)	15 (Normative) 9 or 12 (ASII/ASI)	15 (Normative) 9 or 12 (ASII/ASI)
<p>Students are advised to complete the following degree and language requirements as early as possible alongside those technical courses as advised above, subject to credit limit and their offering schedule. Please refer to p. 6-8 for corresponding requirements for Normative 4-year degree, ASI and ASII students.</p> <ul style="list-style-type: none"> • EL0200A & EL0200B English for Academic Purposes 1 & 2 (6 credit units) # • GE1401 University English (3 credit units) # • GE2410 English for Engineering (3 credit units) • GE1501 Chinese Civilization – History and Philosophy (3 credit units) # • CHIN1001 University Chinese I (3 credit units) # • Gateway Education (Area Requirements) 							
Maximum Total (CUs):					18		

* Applicable to Normative 4-year degree students only

Not applicable to Advanced Standing II students

Year 2 (Semester B)

Code	Title	CU	Pre-requisite	Precursor	Course plan for students of different qualifications		
					Normative 4-year/ ASI/ ASII MA1200/MA1300 & MA1201/MA1301 Requirement (Math I and Math II in short)		
					Normative Completed both Math I & II ASI/II Math I & II Exempted	Normative Still require Math II ASI/II Math I Exempted	Normative Still require both Math I & II ASI/II No exemption granted on Math I & II
EE2004	Microcomputer Systems	3	Nil	EE2000 & CS2311	3	3	3
EE2203	Modelling Techniques	3	MA1200Δ		3	3	3
EE2331	Data Structures and Algorithms	3	CS2311	Nil	3	3	3
EE3001	Foundations of Data Engineering	3	MA1201 or MA1301	Nil	3	3	N.A.
MA2001	Multi-variable Calculus and Linear Algebra	3	(MA1200/MA1300 & MA1201/MA1301)	Nil	N.A.	3	N.A.
MA1201	Calculus & Basic Linear Algebra II	3 (Note f)	MA1200	Nil	N.A.	N.A.	3
Technical Course Total (CUs):					12	15	12
<p>Students are advised to complete the following degree and language requirements as early as possible alongside those technical courses as advised above, subject to credit limit and their offering schedule. Please refer to p. 6-8 for corresponding requirements for Normative 4-year degree, ASI and ASII students.</p> <ul style="list-style-type: none"> • EL0200A & EL0200B English for Academic Purposes 1 & 2 (6 credit units) # • GE1401 University English (3 credit units) # • GE2410 English for Engineering (3 credit units) • GE1501 Chinese Civilization – History and Philosophy (3 credit units) # • CHIN1001 University Chinese I (3 credit units) # • Gateway Education (Area Requirements) 							
Maximum Total (CUs):					18		

Δ Co-requisite: to be taken before or together with the course (A pass is not required.)

Not applicable to Advanced Standing II students

Year 2 (Summer)

Code	Title	CU	Pre-requisite	Precursor	Course plan for students of different qualifications		
					Normative 4-year/ ASI/ ASII MA1200/MA1300 & MA1201/MA1301 Requirement (Math I and Math II in short)		
					<u>Normative</u> Completed both Math I & II <u>ASI/II</u> Math I & II Exempted	<u>Normative</u> Still require Math II <u>ASI/II</u> Math I Exempted	<u>Normative</u> Still require both Math I & II <u>ASI/II</u> No exemption granted on Math I & II
EE4290	Engineering Training I for Computer and Data Engineering	0	EE2000	Nil	0	0	0
Technical Course Total (CUs):					0	0	0
<p>Students are advised to complete the following degree and language requirements as early as possible alongside those technical courses as advised above, subject to credit limit and their offering schedule. Please refer to p. 6-8 for corresponding requirements for Normative 4-year degree, ASI and ASII students.</p> <ul style="list-style-type: none"> • ELO200A & ELO200B English for Academic Purposes 1 & 2 (6 credit units) # • GE1401 University English (3 credit units) # • GE2410 English for Engineering (3 credit units) • GE1501 Chinese Civilization – History and Philosophy (3 credit units) # • CHIN1001 University Chinese I (3 credit units) # • Gateway Education (Area Requirements) 							
Maximum Total (CUs):					7		

Not applicable to Advanced Standing II students

Year 3 (Semester A)

Code	Title	CU	Pre-requisite	Precursor	Course plan for students of different qualifications		
					Normative 4-year/ ASI/ ASII MA1200/MA1300 & MA1201/MA1301 Requirement (Math I and Math II in short)		
					Normative Completed both Math I & II ASI/II Math I & II Exempted	Normative Still require Math II ASI/II Math I Exempted	Normative Still require both Math I & II ASI/II No exemption granted on Math I & II
EE3009	Data Communications and Networking	3	EE2000 or EE2301	EE3001	3	3	3
EE3206	Java Programming and Applications	3	EE2331	Nil	3	3	3
EE3220	Embedded System Design	3	EE2004	Nil	3	3	3
EE3274	Design Project	3	EE2004 & CS2311	EE2301	1.5	1.5	1.5
CS3402	Database Systems	3	CS2311	Nil	3	3	3
MA2001	Multi-variable Calculus and Linear Algebra	3	(MA1200/MA1300 & MA1201/MA1301)	Nil	N.A.	N.A.	3
Technical Course Total (CUs):					13.5	13.5	16.5
<p>Students are advised to complete the following degree and language requirements as early as possible alongside those technical courses as advised above, subject to credit limit and their offering schedule. Please refer to p. 6-8 for corresponding requirements for Normative 4-year degree, ASI and ASII students.</p> <ul style="list-style-type: none"> • EL0200A & EL0200B English for Academic Purposes 1 & 2 (6 credit units)# • GE1401 University English (3 credit units) # • GE2410 English for Engineering (3 credit units) • GE1501 Chinese Civilization – History and Philosophy (3 credit units) # • CHIN1001 University Chinese I (3 credit units) # • Gateway Education (Area Requirements) 							
Maximum Total (CUs):					18		

Not applicable to Advanced Standing II students

Year 3 (Semester B)

Code	Title	CU	Pre-requisite	Precursor	Course plan for students of different qualifications		
					Normative 4-year/ ASI/ ASII MA1200/MA1300 & MA1201/MA1301 Requirement (Math I and Math II in short)		
					Normative Completed both Math I & II ASI/II Math I & II Exempted	Normative Still require Math II ASI/II Math I Exempted	Normative Still require both Math I & II ASI/II No exemption granted on Math I & II
EE3209	Data Management Techniques	3	CS2311	Nil	3	3	3
EE3210	Signals and Systems	3	MA2001	Nil	3	3	3
EE3274	Design Project	3	EE2004 & CS2311	EE2301	1.5	1.5	1.5
EE3315	Internet Technology	3	EE3009	Nil	3	3	3
CS3103	Operating Systems	3	Nil	EE2004 & CS2311	3	3	3
EE3001	Foundations of Data Engineering	3	MA1201 or MA1301	Nil	N.A.	N.A.	3
Technical Course Total (CUs):					13.5	13.5	16.5
<p>Students are advised to complete the following degree and language requirements as early as possible alongside those technical courses as advised above, subject to credit limit and their offering schedule. Please refer to p. 6-8 for corresponding requirements for Normative 4-year degree, ASI and ASII students.</p> <ul style="list-style-type: none"> • ELO200A & ELO200B English for Academic Purposes 1 & 2 (6 credit units) # • GE1401 University English (3 credit units) # • GE2410 English for Engineering (3 credit units) • GE1501 Chinese Civilization – History and Philosophy (3 credit units) # • CHIN1001 University Chinese I (3 credit units) # • Gateway Education (Area Requirements) 							
Maximum Total (CUs):					18		

Not applicable to Advanced Standing II students

Year 3 (Summer)

Code	Title	CU	Pre-requisite	Precursor	Course plan for students of different qualifications		
					Normative 4-year/ ASI/ ASII MA1200/MA1300 & MA1201/MA1301 Requirement (Math I and Math II in short)		
					Normative Completed both Math I & II ASI/II Math I & II Exempted	Normative Still require Math II ASI/II Math I Exempted	Normative Still require both Math I & II ASI/II No exemption granted on Math I & II
EE4291	Engineering Training II for Computer and Data Engineering	0	Note 1	Nil	0	0	0
Technical Course Total (CUs):					0	0	0
<p>Students are advised to complete the following degree and language requirements as early as possible alongside those technical courses as advised above, subject to credit limit and their offering schedule. Please refer to p. 6-8 for corresponding requirements for Normative 4-year degree, ASI and ASII students.</p> <ul style="list-style-type: none"> • EL0200A & EL0200B English for Academic Purposes 1 & 2 (6 credit units) # • GE1401 University English (3 credit units) # • GE2410 English for Engineering (3 credit units) • GE1501 Chinese Civilization – History and Philosophy (3 credit units) # • CHIN1001 University Chinese I (3 credit units) # • Gateway Education (Area Requirements) 							
Maximum Total (CUs):					7		

Note 1:

EE4291 (Part A Industrial Attachment Scheme): EE4290, EE2004 and Pre-attachment Scheme.

EE4291 (Part B In-House Training and Part C Summer Placement Scheme): EE4290 and EE2004.

Not applicable to Advanced Standing II students

Year 4 (Semester A)

Code	Title	CU	Pre-requisite	Precursor	Course plan for students of different qualifications		
					Normative 4-year/ ASI/ ASII MA1200/MA1300 & MA1201/MA1301 Requirement (Math I and Math II in short)		
					<u>Normative</u> Completed both Math I & II <u>ASI/II</u> Math I & II Exempted	<u>Normative</u> Still require Math II <u>ASI/II</u> Math I Exempted	<u>Normative</u> Still require both Math I & II <u>ASI/II</u> No exemption granted on Math I & II
EE3012#	Engineers in Society	3	At least 69 CUs (Normative 4-year degree) of the Major Requirement, College Requirement and College-specified GE courses have been completed/43 ^Δ CUs (ASI) /40 ^Δ CUs (ASII) of the Major Requirement have been completed	Nil	3	3	3
EE4281	Project or Co-operative Education Scheme (CES) Placement Project	6	At least 63 CUs (Normative 4-year degree) of the Major Requirement, College Requirement and College-specified GE courses have been completed /39 ^Δ CUs (ASI) /36 ^Δ CUs (ASII) of the Major Requirement have been completed	Nil	3	3	3
3 Electives		9		Note b	9	9	9
Technical Course Total (CUs):					15	15	15

^Δ Credits of exempted courses are counted regardless of the completion time of replacement courses. Students completed full requirement in College-specified courses (MA1200/MA1201/MA1300/MA1301) can have one course counted towards the credit unit requirement specified above.

Not required to students having completed EE4081 Professional Internship Program (6 CUs)

Year 4 (Semester B)

Code	Title	CU	Pre-requisite	Precursor	Course plan for students of different qualifications		
					Normative 4-year/ ASI/ ASII MA1200/MA1300 & MA1201/MA1301 Requirement (Math I and Math II in short)		
					Normative Completed both Math I & II ASI/II Math I & II Exempted	Normative Still require Math II ASI/II Math I Exempted	Normative Still require both Math I & II ASI/II No exemption granted on Math I & II
EE4281	Project or Co-operative Education Scheme (CES) Placement Project	6	At least 63 CUs (Normative 4-year degree) of the Major Requirement, College Requirement and College-specified GE courses /39Δ CUs (ASI) /36Δ CUs (ASII) of the Major Requirement have been completed	Nil	3	3	3
2 Electives		6-9		Note b	6	6	6
Technical Course Total (CUs):					9	9	9
<p>Students are advised to complete the following degree and language requirements as early as possible alongside those technical courses as advised above, subject to credit limit and their offering schedule. Please refer to p. 6-8 for corresponding requirements for Normative 4-year degree, ASI and ASII students.</p> <ul style="list-style-type: none"> • ELO200A & ELO200B English for Academic Purposes 1 & 2 (6 credit units) # • GE1401 University English (3 credit units) # • GE2410 English for Engineering (3 credit units) • GE1501 Chinese Civilization – History and Philosophy (3 credit units) # • CHIN1001 University Chinese I (3 credit units) # • Gateway Education (Area Requirements) 							
Maximum Total (CUs):					18		

^Δ Credits of exempted courses are counted regardless of the completion time of replacement courses. Students completed full requirement in College-specified courses (MA1200/MA1201/MA1300/MA1301) can have one course counted towards the credit unit requirement specified above.

Not applicable to Advanced Standing II students