BEng in Information Engineering 2016/17 Entering Major

The offering schedule specified below is under normal circumstances, and might be subject to change due to different timetabling and teaching assignment constraints in different years. Students may take it as reference and please pay attention to the master class schedule announced by the Academic Regulations and Records Office (ARRO) prior to each semester for course registration and add/drop arrangement. Also, courses will be arranged in day or evening sessions catering for the different timetable patterns of students.

A/ Core Courses

Pre-	Pre-	Offered					Contac	t Hours		С	X	Exam		Equivalent	
cursor	requisite	in Sem	Course Co	de & Title	CU	Lec	Tut	Lab	Ttl	%	%	Dur	W	Course	Remarks
	(Note a)	A & B	EE1003	Foundations of Information Technology	3	26	13	0	39	40	60	2	1		Note 1
	EE1001 (Note a)	A & B	EE2000	Logic Circuit Design	3	39	13	15	67	70	<mark>30</mark>	2	1		Note 2
MA1201 or	MA1200 or	A & B	EE2108	Engineering Analysis	3	39	13	0	52	50	50	2	1		Note 1
MA1301 (Note a)	MA1300 (Note a)														
	CS1102 or CS1302	A & B	CS2311 [∆]	Computer Programming	3	26	0	26	52	40	60	2	1		Note 3
	(Note a)														
	(MA1200 or	A & B	MA2001	Multi-variable Calculus and Linear Algebra	3	39	13	0	52	30	70	2	1		Note 3
	MA1300) & (MA1201 or														
	MA1301) or (Note														
	b)														
EE2000 & CS2311		A & B	EE2004	Microcomputer Systems	3	39	8/13	15	62/67	50	<mark>50</mark>	2	1		Note 7
		A & B	EE2301	Basic Electronic Circuit	3	39	13	15	67	50	50	2	1		Note 2
	CS2311	A & B	EE2311	Object-Oriented Programming and Design	3	26	26	0	52	50	50	2	1		Note 1
	MA2001	B & S	MA3001	Differential Equations	3	39	13	0	52	30	70	2	1		Note 3
	CS2311	A & B	EE2331	Data Structures and Algorithms	3	39	26	0	65	50	50	2	1		Note 1
	EE2000 or EE2301	A & B	EE3009	Data Communications and Networking	3	39	13	12	64	50	50	2	1		Note 2
	MA1201 or MA1301	A & B	EE3210	Signals and Systems	3	26	13	0	39	<mark>60</mark>	40	2	1		Note 1
MA2001	(MA1201 or MA1301) or (Note b)	A & B	EE3313	Applied Queueing Systems	3	26	13	0	39	30	70	2	1		Note 1
	MA2001 & EE3210 (Note c)	A & B	EE3008	Principles of Communications	3	26	13	0	39	50	50	2	1		Note 1
	EE3009	В	EE3315	Internet Technology	3	26	9	12	47	50	50	2	1		Note 2
	EE2004 & EE2311	В	EE3316	Information Product Design	3	0	0	39	39	100	0	-	1		Note 5
	CS2311	В	CS3402	Database Systems	3	26	13	0	39	40	60	2	1		Note 3
	EE4093	A & B	ЕЕ3012 ^Ф	Engineers in Society	3	18	8	0	<mark>26</mark>	<mark>50</mark>	<mark>50</mark>	2	1		Note 1

Pre-	Offered					Contac	t Hours		C	X	Exam		Equivalent	
requisite	in Sem	Course Coo	le & Title	CU	Lec	Tut	Lab	Ttl	%	%	Dur	W	Course	Remarks
	A & B	CS3103	Operating Systems	3	26	13	0	39	40	60	2	1		Note 3
(Note e)	A & B	EE4381	Project	6	Other activ	ities: 144	208	352	100	0	-	1		Note 8*
CS2311	S	EE4093	Engineering Training I for Information	0	0	0	70	70	100	0	-	1		Note 6
			Engineering											
(Note f)	S	EE4095	Engineering Training II for Information Engineering	0	0	0	**		100	0	-	1		Note 6
	requisite (Note e) CS2311	requisite in Sem A & B (Note e) A & B CS2311 A & B	requisite in Sem Course Coc A & B CS3103 (Note e) A & B EE4381 CS2311 S EE4093	requisite in Sem Course Code & Title A & B CS3103 Operating Systems (Note e) A & B EE4381 Project CS2311 S EE4093 Engineering Training I for Information Engineering (Note f) S EE4095 Engineering Training II for Information	requisite in Sem Course Code & Title CU A & B CS3103 Operating Systems 3 (Note e) A & B EE4381 Project 6 CS2311 S EE4093 Engineering Training I for Information Engineering (Note f) S EE4095 Engineering Training II for Information 0	requisite in Sem Course Code & Title CU Lec A & B CS3103 Operating Systems 3 26 (Note e) A & B EE4381 Project 6 Other active CS2311 S EE4093 Engineering Training I for Information Engineering (Note f) S EE4095 Engineering Training II for Information 0 0	requisite in Sem Course Code & Title CU Lec Tut A & B CS3103 Operating Systems 3 26 13 (Note e) A & B EE4381 Project 6 Other activities: 144 CS2311 S EE4093 Engineering Training I for Information Engineering (Note f) S EE4095 Engineering Training II for Information 0 0 0	requisite in Sem Course Code & Title CU Lec Tut Lab A & B CS3103 Operating Systems 3 26 13 0 (Note e) A & B EE4381 Project 6 Other activities: 144 208 CS2311 S EE4093 Engineering Training I for Information 0 0 0 70 (Note f) S EE4095 Engineering Training II for Information 0 0 0 **	In Sem Course Code & Title CU Lec Tut Lab Ttl	requisite in Sem Course Code & Title CU Lec Tut Lab Ttl % A & B CS3103 Operating Systems 3 26 13 0 39 40 (Note e) A & B EE4381 Project 6 Other activities: 144 208 352 100 CS2311 S EE4093 Engineering Training I for Information Engineering (Note f) S EE4095 Engineering Training II for Information 0 0 0 ** 100	Pre- Offered Contact Hours C X	Pre- Offered Contact Hours Contact Hou	Pre- Offered Contact Hours Contact Hou	requisite in Sem Course Code & Title CU Lec Tut Lab Ttl % % Dur W Course A & B CS3103 Operating Systems 3 26 13 0 39 40 60 2 1 (Note e)

D/E = Day Session / Evening Session

Remarks for Pre-requisite, Co-requisite:

Note a: Applicable to Normative 4-year degree students only

Note b: Advanced Standing I and II (ASI and II) students without relevant mathematical background are required to take 6 credit units of College-specified courses namely MA1200 Calculus & Basic Linear Algebra I/ MA1300 Enhanced Calculus & Linear Algebra I AND MA1201 Calculus & Basic Linear Algebra II/ MA1301 Enhanced Calculus & Linear Algebra II, unless they pass the placement test offered by Mathematics Department. Students granted exemption on either one or both of the course(s) should take any course(s) not within the Major Requirement (including core courses and electives) to make up for the minimum curriculum requirement.

Note c: Co-requisite: to be taken before or together with the course.

Note d: At least 69 credit units (Normative 4-year degree) of the Major Requirement, College Requirement and College-specified GE Courses have been completed / 43 credit units (ASI) / 40 credit units (ASII) of the Major Requirement have been completed. Credits of exempted courses for ASI & II are counted regardless of the completion time of replacement courses. Students completed full requirement in College-specified courses (MA1200/MA1301/MA1300/MA1301) can have one course counted towards the credit unit requirement specified above.

Note e: At least 63 credit units (Normative 4–year degree) of the Major Requirement, College Requirement and College-specified GE Courses have been completed / 39 credit units (ASI) / 36 credit units (ASII) of the Major Requirement have been completed. (Major requirement excludes Gateway Education and Language requirements). Credits of exempted courses for ASI & II 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.

Note f: EE4095 (Part A Industrial Attachment Scheme): EE4093; EE2311 and Pre-attachment Training EE4095 (Part B In-house Training): EE4093 and EE2311 EE4095 (Part C Summer Placement Scheme): EE4093 and EE2311

Remarks for course assessment:

- Note 1: To pass the course, students are required to achieve at least 35% 30% in coursework and 35% 30% in the examination.
- Note 2: To pass the course, students are required to achieve at least 35% 30% in coursework and 35% 30% in the examination. Also, 75% laboratory attendance rate must be obtained.
- Note 3: For a student to pass the course, at least 30% of the maximum mark for the examination must be obtained.
- Note 4: To pass the course, students are required to achieve at least 50% in quizzes, 50% in presentation and 50% in reports and other assignments.
- Note 5: To pass the course, students are required to achieve at least 40% of the coursework mark and a laboratory attendance of at least 75% recorded.
- Note 6: Pass/Fail Basis. To pass the course, students are required to have a laboratory attendance of 100% recorded.
- Note 7: To pass the course, students are required to achieve at least 35% 30% in coursework and 35% 30% in the examination. When the laboratory experiments are involved in Teaching and Learning Activities (TLA), 75% laboratory attendance rate must be obtained. When the mini-project is involved in TLA, 75% tutorial attendance rate must be obtained.
- Note 8: To pass the course, students are required to (i) conduct an oral presentation, (ii) achieve an overall pass (D) grade or above, and (iii) both supervisor and assessor have not assigned a final Fail Grade.

Other remarks:

- * Students undertaking Co-operative Education Scheme (CES) Placement Project should register on EE4381 Project to fulfil the Final Year Project requirement.
- ** Part A (Industrial Attachment Scheme): 9-13 weeks; Part B (In-house Training): 5 weeks (150 contact hours); Part C (Summer Placement Scheme): 9-13 weeks
- **Δ** Waived for Advanced Standing II students
- Φ Students having completed EE4081 Professional Internship Program (6CU) are not required to take EE3012 Engineers in Society (3CU) and one other elective (3CU). For those who have completed 12-month internship in EE4081 are not required to take EE4095 Engineering Training II for Information Engineering.

B/ Technical Electives

Students are required to take at least FIVE technical electives of which no more than ONE Level-3 elective should be taken.

Communications and Networking

Pre-	Pre-	Offered				(Contact Hour	:s	С	X	Exam		Equivalent	
cursor	requisite	in Sem	Course Co	ode & Title	CU	Lec	Tut/Lab	Ttl	%	%	Dur	W	Course	Remarks
	EE3008 EE3009	A A	EE4036 EE4017	Wireless Communications Internet Finance	3 3	39 26	0 13 [#] /0	39 39	65 60	35 40	2 2	1 1		Note 1 Note 1
	EE3009	A	EE4316	Mobile Data Networks	3	<mark>26</mark>	13/0	39	50	50	2	1		Note 1
	EE3009	В	EE4014	Business Data Communication Networks	3	26	13#/0	39	<mark>70</mark>	30	2	1		Note 2
EE3009	MA2001 & EE3313 or MA3160	В	EE4212	Cryptography and Information Theory	3	26	13/0	39	50	50	2	I		Note 1

Computer Systems and Information Processing

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Pre-	Pre-	Offered				C	Contact Hour	S	C	X	Exam		Equivalent	
cursor	requisite	in Sem	Course Co	de & Title	CU	Lec	Tut/Lab	Ttl	%	%	Dur	W	Course	Remarks
	CS2311	A	EE3209	Data Management Techniques	3	26	26/0	52	50	<mark>50</mark>	2	1		Note 1
	MA2001	A	EE4215	Cybersecurity Technology	3	31	5/3	<mark>39</mark>	5 0	5 0	2	1		Note 2
	EE3206 &	A	EE4221	Cloud Computing Systems	3	<mark>26</mark>	0/13	<mark>39</mark>	<mark>70</mark>	<mark>30</mark>	2	1		Note 2
	EE3009 EE3210	В	EE4015	Digital Signal Processing	3	l	39	39	50	50	2	1		Note 1
	MA2001	B	EE4016	Engineering Applications of Artificial	3	<mark>26</mark>	13/0	<mark>39</mark>	<mark>50</mark>	50	2	1		Note 1
	MA3160	B	EE4146	Intelligence Data Engineering and Learning Systems	<mark>3</mark>	<mark>26</mark>	13/0	<mark>39</mark>	50	<mark>50</mark>	2	1		Note 1
	MA2001 & EE3210	B	EE4211	Computer Vision	3	<mark>26</mark>	13/0	<mark>39</mark>	65	35	2	1		Note 1
EE3009	CS2311 & EE2004	A or B	EE4222	Digital Forensics	3	26	13/15	54	60	<mark>40</mark>	2	1		Note 2
	CS3402	A or B	CS4482	Advanced Database Systems	3	26	13/0	39	30	70	2	1		Note 3

Note 1: To pass the course, students are required to achieve at least 30% in coursework and 30% in the examination.

Note 2: To pass the course, students are required to achieve at least 30% in coursework and 30% in the examination. Also, 75% laboratory attendance rate must be obtained.

Note 3: For a student to pass the course, at least 30% of the maximum mark for the examination must be obtained.

^{#:} Some of the tutorials will be conducted in the laboratory

 $[\]Delta$: Co-requisite – to be taken before or together with the course

Technical Electives: continued

Software Design and Development

Pre-	Pre-	Offered				(Contact Hour	`S	С	X	Exam		Equivalent	
cursor	requisite	in Sem	Course Co	de & Title	CU	Lec	Tut/Lab	Ttl	%	%	Dur	W	Course	Remarks
EE2331	MA2001 & CS2311	A	EE4208	Computer Graphics for Engineers	3	26	13#/0	39	<mark>50</mark>	50	2	1		Note 1
	EE3206	A	EE4304	iOS Mobile App Development and Networking	3	20	0/19	<mark>39</mark>	<mark>70</mark>	30	1.5	1		Note 2
EE2331		A	CS4335	Design and Analysis of Algorithms	3	26	13/0	39	30	70	2	1		Note 3
	CS2311	В	EE4213	Human-Computer Interaction	3	26	13#/0	39	5 0	5 0	2	1		Note 1
CS3103	EE3206 & CS3402	В	EE4216	Modern Web Applications	3	<mark>26</mark>	13/0	<mark>39</mark>	<mark>70</mark>	<mark>30</mark>	2	1		Note 1
	CS2311	В	CS3391	Advanced Programming	3		39	60	40	3	1		Note 3	Note 1
		S	CS4367	Computer Games Design	3	26	13/0	39	40	60	2	1		Note 3

C/ Optional One-year Internship

Pre-	Pre-	Offered				Contact Hours		Contact Hours		X	Exam		Equivalent	
cursor	requisite	in Sem	Course Code & Title		CU	Lec	Tut/Lab	Ttl	%	%	Dur	W	Course	Remarks
		A/B/S	EE4081 Professional	Internship Program	6	8 -12 months		100	0	-	1		Φ	

 $\underline{\text{Key}}$: CU = Credit Unit Lec = Lecture Tut = Tutorial Lab = Laboratory C = Coursework X = Examination Exam Dur = Exam Duration W = GGPA Weighting (per CU) S/A/B = Summer Semester/Semester A/Semester B

Note 1: To pass the course, students are required to achieve at least 30% in coursework and 30% in the examination.

Note 2: To pass the course, students are required to achieve at least 30% in coursework and 30% in the examination Also, 75% laboratory attendance rate must be obtained.

Note 3: For a student to pass the course, at least 30% of the maximum mark for the examination must be obtained.

: Some of the tutorials will be conducted in the laboratory

Φ: Students having completed EE4081 Professional Internship Program (6CU) will take one less elective (3CU) and are not required to take EE3012 Engineers in Society (3CU). For those who have completed 12-month internship in EE4081 are not required to take EE4095 Engineering Training II for Information Engineering.

D/ Gateway Education (GE)

_	0.00			CU	•	Contact Hou		С	X	Exam		
Pre- requisite	in Sem	Course Code & Title	Normative 4-year degree	ASI	ASII	Lec/Tut/Lab	Ttl	%	%	Dur (hrs)	W	Remarks
		GE English										*
For GE1401 / GE2410	В	- GE1401 University English	3	3	**	39	39	100	0	-	1	
Level 4 in HKDSE English Language OR	A	- GE2410 English for Engineering (Discipline-Specific English)	3	3	3	39	39	100	0	-	1	
Grade D in HKALE AS Use of English OR												
EL0200B OR												
Grade B or above in EL0200A												
		Chinese Civilization										
	A/B/S	- GE1501 Chinese Civilisation – History and Philosophy	3	3	**	26/26	52	100	0	-	1	
	A/B/S	Gateway Education (Area Requirements)	12#	6#	3	Please refer to the	ne cour	nrse info	rmation	for details.	1	
		- Area 1: Arts and Humanities										
		- Area 2: Study of Societies, Social and Business Organisations										
		- Area 3: Science and Technology	_	- 4								
	A/B/S	College-specified Courses	9	6^	6							^
		- MA1200 Calculus and Basic Linear Algebra I/										
		MA1300 Enhanced Calculus and Linear Algebra I (3CUs)										
		- MA1201 Calculus and Basic Linear Algebra II/										
		MA1301 Enhanced Calculus and Linear Algebra II (3CUs)										
		- CS1102 Introduction to Computer Studies/										
		CS1302 Introduction to Computer Programming (3 CUs)										

English Language Requirement

* 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 & 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).

- ** Not necessary for Advanced Standing II students
- # Normative 4-year degree students are required to take a minimum of 3 CUs from each of the three areas. ASI students are required take the 6 CUs from two different areas.
- 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.

E/ Language Requirements

Pre-	Pre-	Offered			Contact Ho		C	X	Exam		Remarks
cursor	requisite	in Sem	Course Code & Title	CU	Lec/Tut/Lab	Ttl	%	%	Dur (hrs)	W	Remarks
			English Language Requirement								
	Level 3 in HKDSE English Language OR	A/B	- EL0200A English for Academic Purposes 1**	3	39	39	35	65	-	0	*
	Grade E in HKALE AS Use of English or other acceptable entrance qualification in English										
	EL0200A	B/S	- EL0200B English for Academic Purposes 2 **	3	39	39	60	40	-	0	*
			Chinese Language Requirement								
	Level 3 in HKDSE Chinese Language OR Grade E in HKALE AS Chinese Language and Culture	A/B/S	- CHIN1001 University Chinese I**	3	39	39	100	0	-	0	@

English Language Requirement

* 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 & 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).

Chinese Language Requirement

@ Normative 4-year degree and Advanced Standing I 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.

^{**} Not necessary for Advanced Standing II students