BEng in Information Engineering 2019/2020 Entering Major

For offering schedule of the following courses, please refer to the Master Class Schedule which is published on a yearly basis to enable students to plan their studies ahead for the entire academic year. The class schedules are subject to change prior to the start of the respective semester/term. Students can view the Master Class Schedule by logging onto CityU Portal and selecting "Master Class Schedule" from "Academic Services" under "Student".

A/ Core Courses

Pre-	Pre-					Conta	ct Hours		C	X	Exam	
cursor	requisite	Course C	ode & Title	CU	Lec	Tut	Lab	Ttl	<mark>%</mark>	<mark>%</mark>	Dur	Remarks
	EE1001 (Note a)	EE2000	Logic Circuit Design	3	39	13	15	67	<mark>70</mark>	30	2	
EE1001& MA1201		EE2302	Foundations of Information and Data Engineering	3	26	13	0	39	<mark>55</mark>	<mark>45</mark>	2	
	CS1102 or CS1302 (Note a)	CS2311 [∆]	Computer Programming	3	26	0	26	52	40	60	2	
	(MA1200 or MA1300) & (MA1201 or MA1301) or (Note b)	MA2001	Multi-variable Calculus and Linear Algebra	3	39	13	0	52	30	70	2	
	EE2000 & CS2311	EE2004	Microcomputer Systems	3	39	8/26	15/0	62/65	50	50	2	
		EE2301	Basic Electronic Circuits	3	39	13	15	67	50	50	2	
	CS2311	EE2331	Data Structures and Algorithms	3	39	26	0	65	50	<mark>50</mark>	2.5	
	MA2001	MA3160	Probability and Stochastic Processes	3	39	7	0	46	30	70	2	
	EE2331	EE3206	Java Programming and Applications	3	26	26	0	52	50	50	2.5	
	EE1001 (note a)	EE3009	Data Communications and Networking	3	<mark>26</mark>	13	12	51	50	<mark>50</mark>	<mark>2</mark>	
	MA1201 or MA1301	EE3210	Signals and Systems	3	26	13	O	<mark>39</mark>	60	<mark>40</mark>	2	
EE2004 & CS2311		CS3103	Operating Systems	3	26	13	0	39	40	60	2	
	MA2001 & EE3210 (Note c)	EE3008	Principles of Communications	3	26	13	0	39	50	50	2	
EE2302 & EE3009	MA2001	EE3301	Optimization Methods for Engineering	3	26	13	0	39	<mark>70</mark>	30	2	
EE3009 EE2000 & EE2301	Part I: CS2311	EE3315 EE3070	Internet Technology Design Project	1.5	<mark>26</mark> 0	9 0	<mark>12</mark> 39	47 39	50 100	50 0	<mark>2</mark> -	
	Part II : EE3070 Part I & EE2004	EE3070	Design Project	1.5	0	0	39	39	100	0	-	
	CS2311	CS3402	Database Systems	3	26	13	0	39	40	60	2	

Key: CU = Credit Unit Lec = Lecture Tut = Tutorial Lab = Laboratory C = Coursework X = Examination

Exam Dur = Exam Duration

Pre-	Pre-					Contac	t Hours		С	X	Exam	
cursor	requisite	Course Co	de & Title	CU	Lec	Tut	Lab	Ttl	%	%	Dur	Remarks
	EE4096	ЕЕ3012 ^Ф	Engineers in Society	3	18	8	0	26	50	50	2	
	(Note d)	EE4080	Project	6	Other ac	tivities: 144	208	352	100	0	-	
	EE2000 or EE2301 or CS2311	EE4096	Engineering Training I (Suject to approval)	0	0	0	70	70	100	0	-	
	EE4096	EE4097	Engineering Training II (Subject to approval)	0	0	0	**	l	100	0	-	

<u>Key</u>: CU = Credit Unit Lec = Lecture Tut = Tutorial Lab = Laboratory C = Coursework X = Examination

Exam Dur = Exam Duration

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 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.

For Advanced Standing students

Note 1: Credits of exempted courses are counted regardless of the completion time of replacement courses.

Note 2: Corresponding reduction in credit requirement applies to ASII students granted with waiver arrangement on courses upon admission.

Note 3: Students completed full requirement in College-specified GE courses (MA1200/MA1201/MA1300/MA1301) can have one course counted towards the credit unit requirement specified above.

Other remarks:

- * Students undertaking Co-operative Education Scheme (CES) Placement Project should register on EE4080 Project to fulfil the Final Year Project requirement.
- ** Part A (Industrial Attachment Scheme): 9-13 weeks; Part B (In-house Training): 5 weeks (175 contact hours);
- Δ Waived for Advanced Standing II students
- Φ Students having completed EE4081 Professional Internship Program (6CU) are not required to take EE3012 and one other elective (3CU). For those who have completed 12-month internship in EE4081 are not required to take EE4097 Engineering Training II.

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-					Contact Hours			X	Exam	
cursor	requisite	Course Co	de & Title	CU	Lec	Tut/Lab	Ttl	%	%	Dur	Remarks
MA2001	(MA1201 or	EE3313	Applied Queueing Systems	3	26	13/0	39	30	70	2	
	MA1301) or @ & MA3160 ^A										
	EE3009	EE4014	Business Data Communication Networks	3	26	13#/0	39	<mark>70</mark>	<mark>30</mark>	2	
	EE3009	EE4017	Internet Finance	3	26	13#/0	39	<mark>60</mark>	40	2	
	EE3008	EE4036	Wireless Communications	3	39	0	39	65	35	2	
EE3009	MA2001 & EE3313 or MA3160	EE4212	Cryptography and Information Theory	3	26	13/0	<mark>39</mark>	50	<mark>50</mark>	2	
	EE3009	EE4316	Mobile Data Networks	3	26	13/0	39	50	50	2	

Computer Systems and Information Processing

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

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

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

^{@:} 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.

Technical Electives: continued

Software Design and Development

Pre-	Pre-	•				Contact Ho	urs	С	X	Exam	
cursor	requisite	Course Co	de & Title	CU	Lec	Tut/Lab	Ttl	%	%	Dur	Remarks
EE2331	MA2001 & CS2311	EE4208	Computer Graphics for Engineers	3	26	13#/0	39	50	<mark>50</mark>	2	
	CS2311	EE4213	Human-Computer Interaction	3	26	13#/0	39	5 0	50	2	
CS3103	EE3206 & CS3402	EE4216	Modern Web Applications	3	26	13/0	39	<mark>70</mark>	<mark>30</mark>	2	
	EE3206	EE4304	iOS Mobile App Development and Networking	3	20	0/19	39	70	30	1.5	
EE2331		CS4335	Design and Analysis of Algorithms	3	26	13/0	39	30	70	2	
	CS2311	CS3391	Advanced Programming	3	3	9	39	60	40	3	
		CS4367	Computer Games Design	3	26	13/0	39	40	60	2	

C/ Optional One-year Internship

Pre-	Pre-				Contact Ho	urs	С	X	Exam	
cursor	requisite	Course Code & Title	CU	Lec	Tut/Lab	Ttl	%	%	Dur	Remarks
		EE4081 Professional Internship Program	6	8 -12 months		100	0	-	Φ	

- # Some of the tutorials will be conducted in the laboratory
- Φ Students having completed EE4081 Professional Internship Program (6CU) will take one less technical 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 EE4097 Engineering Training II.

D/ Gateway Education (GE)

		(CU		Contact Hou	ırs	С	X	Exam	
Pre- requisite	Course Code & Title	Normative 4-year degree	ASI	ASII	Lec/Tut/Lab	Ttl	%	%	Dur (hrs)	Remarks
	GE English									*
For GE1401 / GE2410 Level 4 in HKDSE English Language OR	- GE1401 University English - GE2410 English for Engineering (Discipline-Specific English)	3 3	3	**	39 39	39 39	100 100	0 0	-	
Grade D in HKALE AS Use of English OR EL0200B OR										
Grade B or above in EL0200A										
	Chinese Civilization									
	- GE1501 Chinese Civilisation – History and Philosophy	3	3	**	26/26	52	100	0	-	
	Gateway Education (Area Requirements)	12#	6#	3	Please refer to th	i ie coui	∥ rse infoi	ı rmatioı	for details.	
	 - Area 1: Arts and Humanities - Area 2: Study of Societies, Social and Business Organisations - Area 3: Science and Technology 									
	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 their 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-		CIT	Contact		C	X	Exam	Remarks
cursor	requisite	Course Code & Title	CU	Lec/Tut/Lab	Ttl	%	%	Dur (hrs)	remarks
		English Language Requirement							
	Level 3 in HKDSE	- EL0200A English for Academic Purposes 1**	3	39	39	35	65	-	*
	English Language OR								
	Grade E in HKALE AS								
	Use of English as								
	determine by English								
	Language Centre								
	EL0200A	- EL0200B English for Academic Purposes 2 **	3	39	39	60	40	-	*
		Chinese Language Requirement							
	Level 3 in HKDSE	- CHIN1001 University Chinese I**	3	39	39	100	0	-	@
	Chinese Language OR	·							
	Grade E in HKALE AS								
	Chinese Language and								
	Culture								

Exam Dur = Exam Duration

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).

For failure details, please visit http://www.cityu.edu.hk/elc/courses_failure.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