College of Science and Engineering 科學及工程學院

Department of Electronic Engineering 電子工程學系



Bachelor of Engineering in Electronic and Communication Engineering (ECE) 工學士(電子及通訊工程學)



City

STUDENT HANDBOOK

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Dear Students,

Welcome to the Department of Electronic Engineering (EE)! All of us in EE, the faculty, staff, and the EE Programme Management Team are ready to walk you through a transformation journey into the future leaders of technologies.

Achieving the goal is never easy. Conscientiousness and persistence to get most from your studies are the keys to success. The Department is here to provide all the necessary support. The programmes are relevant to the local community as well as having global impacts. Co-curricular initiatives including those career-related are designed to add value to students' whole-person development, ever considered as important as mastering strong technical knowledge for an outstanding graduate.

We have many successful stories of our graduates. Our faculty and staff are especially proud of our students' enthusiasm to think big in their career dreams, their achievements in student competitions, and students' novel and innovative ideas integrated nicely with hands-on experience. We are here to serve you and to provide you with the best resources available.

I am sure your aspiration for a fruitful journey will bring you final satisfaction and unexpected rewards.

Hung

Stella Pang Chair Professor and Head Department of Electronic Engineering

MAJOR MANAGEMENT TEAM

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GENERAL INFORMATION

Major Title

Electronic and Communication Engineering 電子及通訊工程學

Degree Award

Bachelor of Engineering in Electronic and Communication Engineering 工學士(電子及通訊工程學)

Programme-Major Code

BENGU4-ECE (Normative 4-year degree Students) BENGU3-ECE (Advanced Standing I Students) BENGU2-ECE (Advanced Standing II Students)

Normal Duration and Maximum Study Period

Programme-Major Code	Normal Duration	Maximum Study Period
BENGU4-ECE	4 years	8 years
BENGU3-ECE	3 years	6 years
BENGU2-ECE	2.5 years	5 years

Minimum and Maximum Credit Load per Semester

In each Semester, except for the Summer Term, full-time students must register for courses of *at least 12 credit units*, and not more than 18 credit units. Students with a CGPA of 3.0 or above before course registration may register for courses of more than 18 credit units (subject to department's approval).

Professional Recognition

The major has been accredited by the Hong Kong Institution of Engineers, one of the educational requirements for obtaining Charter status. Based on the Washington Accord, graduates receive reciprocal recognition from equivalent bodies in Australia, Canada, China, Chinese Taipei, Hong Kong-China, India, Ireland, Japan, Korea, Malaysia, New Zealand, Pakistan, Russia, Singapore, South Africa, Sri Lanka, Turkey, the United Kingdom and the United States.

MAJOR INTENDED LEARNING OUTCOMES

A. Aims of the Major

We aim to provide students with a solid education in electronics and communications. Students will be exposed to the latest developments in wireless communications & digital mobile; optical communications & optoelectronics; energy saving, control & power systems; electronic devices & circuit design.

Our education will transform students into well-trained professional engineers with the skills and vision to enable students to progress further in their career path in this rapidly changing knowledge-based economy. The major will also equip students to pursue postgraduate studies.

B. Major Intended Learning Outcome: Demonstrable Outcomes

On completion of the major, students should have the following demonstrable learning outcomes:

- 1. An ability to apply knowledge of mathematics, science and engineering.
- 2. An ability to design and conduct experiments as well as to analyze and interpret data.
- 3. An ability to design a system, component, or process that conforms to a given specification within realistic constraints.
- 4. An ability to function on multi-disciplinary teams.
- 5. An ability to identify, evaluate, formulate and solve engineering problems.
- 6. Awareness of professional and ethical responsibilities.
- 7. An ability to communicate effectively.
- 8. Knowledge in contemporary issues and an awareness of the impact of engineering solutions in a broad, global and societal context.
- 9. Recognition of the need for life-long learning.
- 10. An ability to use necessary engineering tools.

MAJOR STRUCTURE AND CURRICULUM

A. General

- Students entering this major in 2018-19 will include normative 4-year degree students already completed their first year in the Department of Electronic Engineering, newly-admitted Advanced Standing I (ASI) and Advanced Standing II (ASII) students. The structure of the major is illustrated in the <u>Major Flowchart on</u> page 12.
- 2. Under the credit unit system, the relationship among the courses is defined by pre-requisite, co-requisite and pre-cursor requirements. A pre-requisite is a requirement that must be fulfilled before a student can register in a particular course. A co-requisite is a course that must be taken before or together with a particular course (a pass is not required). A pre-cursor is not a requirement, but students are advised to complete the pre-cursor before registering in that course. Students should check the <u>Course Assessment Table on pages 13 17</u> for such requirements carefully to ensure they are eligible for registering certain courses. The Course Assessment Table also provides useful information on the credit unit load, teaching pattern, assessment methods and passing requirement of individual courses in the major.
- 3. Normative 4-year degree students are advised to follow the <u>Recommended Study</u> <u>Plan on page 18</u> to ensure that they can progress smoothly through the major and graduate within the normal study period. Advanced Standing students may adjust your study plan according to your backgrounds and closely monitor your study progress through DegreeWorks.
- 4. As courses and curriculum details are subject to review from time to time, students should check emails sent from the EE Department regularly and refer to sections <u>"Course Information" and "Programme/ Major Information"</u> of EE Student Intranet for details. You may access the Student Intranet by clicking "Student" at EE Homepage ("*eestudent*" is both the username and password), or go straight to <u>http://www.ee.cityu.edu.hk/main/student/index.html</u>.

B. Pathway to Achievement of Aims

The pathway to achieve the aims of the major and its content follows three parallel routes that encompass practical work, technical studies and complimentary studies.

- 1. The technical contents in our Year 2 curriculum are broad based covering topics in analogue, digital, engineering analysis, programming and mathematics. In the following year, the contents emphasize more on electronics and communications which will lead to the more specialized electives in the final year.
- 2. The practical laboratory work in earlier-year curriculum is relatively more structured, which will be gradually replaced by more open-ended practical work in later years, culminating in a final year project that allows the exercise of creativity and innovation.
- 3. Complimentary studies encompass (i) Gateway Education of specified areas, (ii) College-specified courses, (iii) English Language and (iv) Chinese Civilization, which allow students to explore across disciplines, acquire skills in English and knowledge in Chinese Civilization. Together with other parts of the curriculum, these help students become socially and professionally aware, communicate better and operate more effectively in a team.

C. Degree Requirements

To attain the degree award, students must have successfully completed the following curriculum requirements, AND achieved a cumulative Grade Point Average (CGPA) of 1.70 or above.

Degree Require	ement	Normative 4-year degree	Advanced Standing I	Advanced Standing II
Major Requirements ^h	Core Courses ^a	69	60	48-57
	Technical Elective Courses ^b	15		
Gateway Education Requirements	English ^c (GE1401 and GE2410)	6	6	3 (GE2410)
	Chinese Civilization (GE1501)	inese Civilization 3 3		Not required
	Gateway Education (Area Requirements) ^e	12	6	3
	College-specified Courses ^f	9	6^	6^
College Requirements	College Requirements ^g	6	0	0
	Minimum number of credits required for the award ^d	120	96	75

Notes:

- a. i/ Including non-credit-bearing courses EE4091 Engineering Training I for Electronic and Communication Engineering, and EE4092 Engineering Training II for Electronic and Communication Engineering.
 - ii/ EE1001, EE1002 and GE1354 are not required for Advanced Standing I & II students.
 - iii/ CS2311 is not required for Advanced Standing II students.
 - iv/ Requirements on EE2000, EE2004 and EE2301 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) from the Elective List. For details of the course pre-requisite requirement, please refer to <u>http://www.ee.cityu.edu.hk/main/student/</u> for major and course information.
- c. Normative 4-year degree and ASI students entering without Level 4 in HKDSE English Language 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 (<u>http://www.cityu.edu.hk/elc/courses_exemption.html</u>).

ASII students are not required to take GE1401 nor EL0200A & EL0200B.

- d. Normative 4-year degree and ASI students entering without Level 4 in HKDSE Chinese Language 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.

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

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

- ^ 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 requirement. 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 technical elective (3 CUs) and are not required to take EE3012 Engineers in Society (3 CUs).

D. Core Courses

Students must pass all the courses in order to graduate. Students who have failed a course for the first time must retake the course or its equivalent, if any. Students' studies will be terminated if they fail a required course (or its equivalent/substitute course) in the third attempt.

E. Elective Courses

Elective courses offered are under continuous review. The electives available in any particular year are therefore subject to change. Students are advised to refer to the Student Intranet at <u>http://www.ee.cityu.edu.hk/main/student</u> [Enter <u>"eestudent"</u> as both the username and password] for the most updated major and course information. Offering of an elective course is subject to the minimum enrolment requirement stipulated by the department/university.

F. Engineering Training

Students are required to take EE4091 Engineering Training I for Electronic and Communication Engineering (2-week in-house training) and EE4092 Engineering Training II for Electronic and Communication Engineering (Part A: 9-13 weeks of Industrial Attachment Scheme; or Part B: 5 weeks of in-house training) before they can graduate.

Application for Exemption

Students may be exempted from EE4091 and/or EE4092 if they can provide adequate evidence of relevant experience at the appropriate level in electronic engineering.

G. Laboratory Work

In general, laboratory work takes a number of different forms, e.g. conventional laboratory exercises, extended laboratories, or mini projects. Students are required to maintain a laboratory log-book in which they should record the work performed during each session. Students may be required to submit typed written reports on a number of these laboratory exercises. Details can be found in the laboratory manuals at the Student Intranet.

1. Integrated Laboratory Courses

In this kind of courses, there is a high level of integration between lecture materials, tutorial topics and supporting laboratory work. It is the departmental policy that a student must (i) achieve at least 30% in coursework, (ii) 30% in the examination marks, and (iii) achieve a laboratory attendance of at least 75% in order to pass these courses.

2. Elective Courses with Laboratory Component

These courses are similar in nature to Integrated Laboratory Courses but are less constrained with regard to the way in which the contact hours are used. Similarly, a student must (i) achieve at least 30% in coursework, (ii) 30% in examination marks, and (iii) achieve a laboratory attendance of at least 75% in order to pass these courses.

H. Final Year Project

1. The Final Year Project is a major component of the major. One of the objectives of the project is to provide a vehicle whereby the student can integrate ideas, concepts and skills obtained during the study and channel them into the production of a novel idea or a product.

2. Each student will select an individual project from a wide range of options provided by academic staff. Alternatively, a student may propose his/her own project, which is subject to approval. The project is of one year duration and is treated as the most important contribution to the final award. Each student is required to introduce his/her projects in a poster session to panel members that may include industrialists, academic staff, and fellow students. In the presentation, the student is expected to explain the objectives of the project, the method used, the results obtained, and the conclusions reached from the investigation. Marks are awarded according to the proficiency of the student in achieving the project objectives. For details, please refer to the Student Intranet under the EE Website.

3. Course Codes and Pre-requisites of the Project

Students may register for EE4080 Project upon completion of at least 63 CUs (Normative 4-year degree) of the Major Requirement, College Requirement and College-specified GE Courses / 39 CUs* of the Major Requirement (Advanced Standing I) / 36 CUs* of the Major Requirement (Advanced Standing II).

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.

4. Duration of Project

The project is of one year duration normally starting from Semester A (or Semester B in minority cases) of the final year and culminating in the following Semester B (or Semester A). Cases under extenuating circumstances such as students coming back from exchange will be allowed to conduct the second part of projects in summer term subject to approval.

I. Year-long Internship Schemes

1. <u>EE4081 Professional Internship Program</u>

EE4081 Professional Internship Program (6CUs) provides students with an option to undertake a one-year internship to gain real work experience in industry during their university years, normally in their final year. While taking their courses in the University on a day-release basis, students will have the opportunity to gain a oneyear solid work experience and become more conversant with the operations and practice in a specific industry. Students successfully completed the one-year internship course EE4081 can take one less technical elective (3CUs) and are not required to take EE3012 Engineers in Society (3CUs).

2. Co-operative Education Scheme (CES) is another optional placement programme for final year students as a continuation of summer internship offered under Industrial Attachment Scheme (IAS). Students will be informed of more details on how to join the CES when they apply for IAS in March each year. More details can be found on the webpage of our College of Science and Engineering.

Students who conduct their Final Year Project at the training company under CES will also register on EE4080 Project.

J. Academic Records

Students can view their Grade Display from AIMS under CityU e-Portal. If students wish to know whether they have fulfilled the major requirements or not, they may check their DegreeWorks reports which provide an overview of their degree requirements and whether the requirements have been met or not.

K. Progression and Graduation

Please refer to the University Academic Regulations for more details on grading of courses, review of course grades, academic standing, course repeat, conferment and classification of awards, termination of studies, and review of examination board decisions.

Students should file an application for graduation during their intended graduation semester/term in accordance with the procedures announced by the University. Any late application or its omission will cause delay in graduation.

L. Minimum Assessment Requirement

To pass any courses offered by EE (including EE and GE courses), students should obtain at least 30% in course work and/or 30% in examination where such component(s) exist in the assessment. For courses with lab components, 75% laboratory attendance rate must be obtained.



Course Assessment Table BEng in Electronic and Communication Engineering 2018/19 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/ Technical Core Courses

						Contac	Contact Hours			Х	Exam	
Pre-cursor	Pre-requisite	Course Co	ourse Code & Title		Lec	Tut	Lab	Ttl	%	%	Dur	Remarks
	Note a	GE1354	Introduction to Electronic Design	3	26	0	14	40	50	50	2	
	EE1001	EE2000	Logic Circuit Design	3	39	13	15	67	40	60	2	
		EE2301	Basic Electronic Circuits	3	39	13	15	67	50	50	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	40	60	2	
MA1201 or	(MA1200 or MA1300) Note a	EE2108	Engineering Analysis	3	39	13	0	52	50	50	2	
MA1501 Note a												
i tote a	MA2001	EE3210	Signals and Systems	3	26	13	0	39	40	60	2	
	MA2001	MA3001	Differential Equations	3	39	13	0	52	30	70	2	
	EE2301 and	EE2104	Introduction to Electromagnetics	3	39	13	0	52	30	70	2	
	(MA1201 or MA1301)					10				10		
	EE2301	EE2109	Electronic Circuits	3	39	13	21	73	40	60	2	
	<u>Part 1</u> : EE2000 & EE2301 & CS2311	EE3070	Design Project	1.5	0	0	39	39	100	0	-	
	<u>Part II</u> : EE3070 – Part I & EE2004	EE3070	Design Project	1.5	0	0	39	39	100	0	-	
	MA2001 and EE3210 (Note c)	EE3008	Principles of Communications	3	26	13	0	39	30	70	2	
	EE3210	EE3114	Systems & Control	3	26	13	12	51	40	60	2	
	EE3008 (Note c)	EE3101	Communication Engineering	3	26	13	9	48	40	60	2	
EE2104	MA3001	EE3109	Applied Electromagnetics	3	26	13	6	45	30	70	2	
EE2109	EE2301	EE3110	Analogue Electronic Circuits	3	26	13	9	48	40	60	2	
	EE2109	EE3115	Applied Optoelectronic Devices	3	26	13	9	48	40	60	2	
	Note d	$EE3012^{\Phi}$	Engineers in Society	3	18	8	0	26	50	50	2	
	Note f	EE4080	Project	6	other ac	ctivities: 44	208	352	100	0	-	**

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

Technical Core Courses: Continued

					Contac	t Hours		С	Х	Exam	
Pre-cursor	Pre-requisite	Course Code & Title	CU	Lec	Tut	Lab	Ttl	%	%	Dur	Remarks
	EE2301 Note e	 EE4091 Engineering Training I for Electronic and Communication Engineering EE4092 Engineering Training II for Electronic and Communication Engineering 	0 0	0 0	0 0	70	70 *	100 100	0 0	-	

Remarks for Pre-requisite and 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 <u>AND</u> 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.

For Advanced Standing students

- Note 1: Credits of exempted courses for ASI & II 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.

Note e: EE4092 (Part A Industrial Attachment Scheme): EE2109, EE4091 and Pre-attachment training.

EE4092 (Part B In-house Training): EE2109, EE4091 and EE3070.

Note f: 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 for ASI & II 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:

- * Part A (Industrial Attachment Scheme): 9-13 weeks; Part B (In-house Training): 5 weeks (150 contact hours).
- ** Students undertaking Co-operative Education Scheme (CES) Placement Project should register on EE4080 Project to fulfil the Final Year Project requirement.
- Δ Waived for Advanced Standing II students.
- 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).

Course Assessment Table

B/ Technical Electives

Choose FIVE electives from Group A and Group B. TWO should be taken from Group A while THREE should be from Group B. Group A (6 credit units)

	D			C	ontact Hou	rs	С	Х	Exam	
Pre-cursor	Pre-requisite	Course Code & Title	CU	Lec	Tut/Lab	Ttl	%	%	Dur	Remarks
	EE2000 or EE2301	EE3009 Data Communications and Networking	3	26	13/12	51	40	60	2	
	EE3008 & MA3001	EE4035 Optical Communications	3	26	13/6	45	40	60	2	
	EE3008	EE4036 Wireless Communications	3	39	0	39	30	70	2	
	EE3009	EE4316 Mobile Data Networks	3	26	13/0	39	30	70	2	

Group B (9 credit units)

_	Pre-requisite	Course Code & Title			Contact Hours			С	X	Exam	
Pre-cursor				CU	Lec	Tut/Lab	Ttl	%	%	Dur	Remarks
	CS2311	EE2331	Data Structures & Algorithms	3	39	26/0	65	40	60	2	
	EE2331	EE3206	Java Programming and Applications	3	26	26/0	52	50	50	2.5	
	EE3210	EE4015	Digital Signal Processing	3	39	0	39	40	60	2	
	EE3110	EE4101	Industrial Electronics	3	39	0	39	50	50	2	
EE3109	EE2104	EE4105	Laser Applications	3	26	11/6	43	30	70	2	
	EE3109	EE4142	Guided Wave Optoelectronics	3	26	13/0	39	30	70	2	
	EE3210	EE4209	Digital Audio Technology	3	26	13/0	39	30	70	2	
	EE3109	EE4108	Fundamentals of Antenna Design	3	26	13*/0	39	40	60	2	
	EE3110	EE4115	Audio-Visual Engineering	3	26	13/0	39	40	60	2	
	MA3001	EE4146	Data Informatics and Learning Systems	3	25	5/9	39	40	60	2	
	MA2001	EE4215	Security Technology	3	31	5/3	39	40	60	2	
	EE2004 & EE2331	EE4217	Digital Storage Technology	3	31	5/0	36	30	70	2	
	EE2004	EE4221	Cloud Computing Systems	3	26	0/13	39	40	60	2	
	EE3114 or EE3210	EE4045	Computer Controlled Systems	3	26	13/0	39	40	60	2	
	EE3109	EE4107	Foundations for Microwave Circuits	3	26	13*/0	39	40	60	3	

C/ Optional One-year Internship

								Contact Hour	С	X	Exam		
Pre-cursor	e-cursor Pre-requisite Course Code & Title		e Code & Title	tle CU			CU Lec Tut/Lab			%	%	Dur	Remarks
		EE408	EE4081 Professional Internship Program					8-12 month	IS	100	0	-	Φ
<u>Key</u> : $CU = Credit Unit$ Lec = Lecture Tut = Tutorial Lab = Laboratory $C = Cc$						oursev	vork	X = Exami	ination	E	xam D	ur = Exam D	Duration

* 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).

Course Assessment Table

D/ Gateway Education (GE)

Pre-					T	Contact Hours		С	Х	Exam	
cursor	Pre-requisite	Course Code & Title	Normative	ASI	ASII	Lec/Tut/Lab	Ttl	%	%	Dur (hrs)	Remarks
		GE English	+ year degree							~ /	*
	For GE1401 / GE2410 Level 4 in HKDSE English Language OR Grade D in HKALE AS Use of English OR EL0200B OR Grade B or above in EL0200A	 GE1401 University English GE2410 English for Engineering (<i>Discipline-Specific English</i>) 	3 3	33	** 3	39 39	39 39	100 100	0 0	-	
		<u>Chinese Civilization</u> - GE1501 Chinese Civilisation – History and Philosophy <u>Gateway Education (Area Requirements)</u> - Area 1: Arts and Humanities	3 12 ^Ω	3 6 ^Ω	** 3	26/26 Please refer to	52 the condet	100 ourse in ails.	0 forma	- tion for	
		Area 2: Study of Societies, Social and Business OrganisationsArea 3: Science and Technology									
		 <u>College-specified Courses</u> 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 (3CUs) 	9	6^	6^						

English Language Requirement

* Normative 4-year degree and Advanced Standing I 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 1 & 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 (<u>http://www.cityu.edu.hk/elc/courses exemption.html</u>).

** Not necessary for Advanced Standing II students

Ω Normative 4-year degree students are required to take a minimum of 3 CUs from each of the three areas. ASI students are required to 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.

Course Assessment Table

E/ Language Requirements

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

<u>Key</u>: CU = Credit Unit

Lec = Lecture Tut = Tutorial

Lab = Laboratory C = Coursework

 $\mathbf{X} = \mathbf{Examination}$

Exam Dur = Exam Duration

English Language Requirement

* Normative 4-year degree and Advanced Standing I 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 1 & 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

BEng in Electronic and Communication Engineering Recommended Study Plan for Students Entering Major in 2018/19

Year 2						
Semester A			Semester B			
Code	Title	CU	Code	Title	CU	
EE2000 ^β	Logic Circuit Design	3	$GE1354^{\Delta}$	Introduction to Electronic Design	3	
EE2301 ^β	Basic Electronic Circuit	3	EE2004 ^β	Microcomputer Systems	3	
CS2311 [#]	Computer Programming	3	EE2108	Engineering Analysis	3	
MA2001	Multi-variable Calculus and Linear Algebra	3	EE3210	Signals and Systems	3	
			MA3001	Differential Equations	3	
	Technical Course Total (CUs):	12		Technical Course Total (CUs):	15	
	Maximum Total (CUs):	18*		Maximum Total (CUs):	18*	

Juilliei			
Code	Title		CU
EE4091	Engineering Training I for Electronic and Communication Engineering		0
		Technical Course Total (CUs):	0
		Maximum Total (CUs):	7*

Year 3

Summor

Semester A			Semester B			
Code	Title	CU	Code	Title	CU	
EE2104	Introduction to Electromagnetics	3	EE3070	Design Project (Part II)	1.5	
EE2109	Electronic Circuits	3	EE3101	Communication Engineering	3	
EE3070	Design Project (Part I)	1.5	EE3109	Applied Electromagnetics	3	
EE3008	Principles of Communications	3	EE3110	Analogue Electronic Circuits	3	
EE3114	Systems & Control	3	EE3115	Applied Optoelectronic Devices	3	
	Technical Course Total (CUs):	13.5		Technical Course Total (CUs):	13.5	
	Maximum Total (CUs):	18*		Maximum Total (CUs):	18*	

Summer

Code	Title	CU
EE4092	Engineering Training II for Electronic and Communication Engineering	0
	Technical Course Total (CUs):	0
	Maximum Total (CUs):	7*

Year 4

Semester A			Semester B			
Code	Title	CU	Code	Title	CU	
EE3012 [@] Engineers in Society 3		3	3 Elective Courses 9		9	
2 Elective Courses		6	EE4080	Project	3	
EE4080	Project	3				
	Technical Course Total (CUs):	12		Technical Course Total (CUs):	12	
	Maximum Total (CUs):	18*		Maximum Total (CUs):	18*	

* 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.

- 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)
- Δ $\;$ Not applicable to Advanced Standing I & II students $\;$
- # Not applicable to Advanced Standing II students
- β Requirements on EE2000, EE2004 and EE2301 will be considered case by case based on ASII students' backgrounds in the subjects.
- @ Students having completed EE4081 Professional Internship Program (6CUs) will take one less technical elective (3CUs) and are not required to take EE3012 Engineers in Society (3CUs).

COMMUNICATION CHANNELS

Students are welcome to share your concerns and opinions with staff of the Department through the following channels. You may simply drop in the staff's office or send an email to arrange a meeting with him/her.

Course Lecturers

Your course lecturers are here to guide you through your studies. If you encounter any difficulties in a particular course, speak directly and timely to the lecturer responsible for the course.

Major Programme Assistant

Programme Assistant is ready to provide first line response to your general enquiries on programme-related matters and student learning support. They will direct you to right communication channels for more proper advice and assistance where appropriate.

Student Advisor

Student Advisor is always ready to provide general academic advising to students and walk you through any early-identified learning problems. He/ she will help you consider and clarify your intellectual, professional and personal goals; provide advice on course selection; and refers students to seek help or support from other right bodies where appropriate.

Other Major Programme Management Team Members

- Assistant Major Programme Leader (Academic Advisor)
- Associate Major Programme Leader (Academic Advisor)
- Major Programme Leader
- Assistant Head (Undergraduate Programmes)
- Associate Head (Programmes)

EE Student Intranet

The most updated information about the major can be found at the Student Intranet under EE homepage at http://www.ee.cityu.edu.hk. Both the username and password are "eestudent". Do always check for updates!

- Programme / Major Information
- Course Information
 - Course Offering Schedule o 2018/2019
 - Course Changes
 - Syllabuses
- Elective Selection Survey
- Credit Transfer / Course Exemption
- Creating a Sexual Harassment-Free Campus
 - University's Sexual Harassment Policy and Procedures
 - Booklet about Creating a Sexual Harassment-Free Campus
- ✤ Examination
- Final Year Project
- Job Vacancies
- Laboratory Manuals, Experiments, Safety Guidelines
- List of Results of BDEE Major Assignment (Informal Round)
- Opening Hours of Laboratories and Facilities
- ✤ Scholarships
- Student Induction 2018
 - Welcoming by Programme Management Team
 - Student Learning Support and Career Outlook of EE Graduates
 - Undergraduate Programmes: BDEE, CDE, ECE, INFE
 - Taught Postgraduate Programmes: MSEIE, MSMIT
- Student Learning Support and Co-curricular Activities

Joint Staff / Student Consultative Committee (JSSCC)

The JSSCC is a formal part of the consultative process between students on the major and staff of the Department. The objective of the JSSCC is to provide a forum where the students can give their views on the content, organisation and implementation of the major and raise any complaint or make any suggestion of a general nature in the context of a structured but open meeting.

Constitution

Chairman	Major Programme Leader (Chairman)
Members	Associate Major Programme Leader and
	Assistant Major Programme Leader
	Student representatives from each intake year

Notes:

- 1. The JSSCC meets at least two times a year but may meet more often at the Chairman's discretion. Reasonable notice of meetings will be given to allow prior consultations.
- 2. There will be no formal agenda or minutes. However, if major issues to be raised are known it may be helpful if these are circulated in advance. The Major Programme Leader will be responsible for ensuring that notes are taken for the main issues raised.
- 3. The meetings will be consultative in nature only and will not be empowered to make binding decisions.
- 4. No discussion will be allowed relating to the performance of individual staff or students but will be confined to general academic and major organisational matters.

Major Programme Committee

This is a formal consultative channel between staff and students. It typically meets once per semester.

Constitution

Chairman	Major Programme Leader				
Ex-officio Members	Associate Head, Assistant Head (Undergraduate Programmes),				
	Associate Major Programme Leader, Assistant Major Programme				
	Leader, Student Advisor				
Nominated Members	One staff representative of each servicing department and one to				
	two alumni representatives graduated from the full-time major/				
	programme				
Elected Members	Two students from each catalogue-term year of the major, elected				
	by students studying in the same catalogue-term year of the major				

The term of office of all nominated and elected members shall be one year.

Terms of Reference

Within the policies and procedures of the Senate and the College Board to be responsible to the College Board for –

- 1. The maintenance of the quality of the major to ensure the attainment of its aims and objectives, including:
 - Systematic monitoring and evaluation of the major;
 - The review of examination results of the major;
 - Consideration of departmental academic advisors' reports on the major and monitoring of any consequential action;
 - The development of the major and modifications to it;
 - The consideration of student feedback on the major.
- 2. The development of policy to meet the needs of the major in relation to:
 - The recruitment and selection of students;
 - Assessment;
 - Teaching and learning methods.
- 3. Recommending to the College Board the appointment of proposed departmental academic advisors.
- 4. The preparation of such reports as may be required by the College Board or Senate including submission to the Head of Department each year of an annual report on the major.

FREQUENTLY ASKED QUESTIONS

Q1 What is a major?

A major field of study is the core competence area, comprising a structured group of courses which aims to create a broad and deep intellectual experience in an academic discipline. Each major shall be overseen by a Major Programme Leader. EE offers three government-funded undergraduate majors. Please see Major Structure and Curriculum on pages 5 - 18.

Q2 What is a pre-requisite, co-requisite and pre-cursor?

A pre-requisite is a requirement that must be fulfilled before a student can register in a particular course. A co-requisite is a course that must be taken before or together with a particular course (a pass is not required). A pre-cursor is not a requirement but students are advised to complete the precursor course before registering in a particular course.

Q3 What is a credit unit?

Each course is assigned a number of credit units. A credit unit is equivalent to approximately forty-to-fifty hours of student work.

Q4 How can I earn a credit unit?

You must register for the course, fulfil all coursework requirements and get a final grade of at least D. To pass any <u>EE courses or GE courses offered by EE</u>, students should obtain at least 30% in the examination, 30% of coursework and an overall mark of 30% in the course. For courses with laboratory sessions, a laboratory attendance of at least 75% must be recorded. The above are the <u>MINIMUM</u> general guidelines for assessment. A higher set of requirements imposed on courses is possible if deemed appropriate. Please refer to University Catalogue 2018/19 <u>http://www.cityu.edu.hk/ug/current/catalogue/catalogue_UC.htm?page=B/B_course_</u> EE.htm for more information.

Q5 How can I arrange my course registration?

Check the announcements from the Academic Regulations and Records Office (ARRO) or visit the website <u>http://www6.cityu.edu.hk/arro/content.asp?cid=152</u> for details. Students will be pre-registered in some of the required courses. To access your personal class schedule, please:

- a. Go to CityU home page (<u>www.cityu.edu.hk</u>) from any terminal on campus or off campus.
- b. Log in to the CityU Portal
- c. Under the tab "Student", you can find a quick link "Student Schedule" to view your timetable for current semester. Timetable for Semester A 2018/19 is available from 31 July 2018 onwards.

Q6 What is the deadline for adding or dropping courses?

The deadline for add/drop of Semester A, 2018/19 courses is <u>10 September 2018</u>, <u>11:30p.m.</u>. Students should pay attention to announcements from ARRO and the Department for schedule in each semester. Under normal circumstances, no late add/ drop application will be accepted by the Department.

Q7 When and how can I register and select Final Year Project (EE4080)?

When you have met the pre-requisite requirements, you can register for the Final Year Project. Students will be notified of the project selection details before Semester B examination every year. For details, please visit the Final Year Project web-site under the <u>'Student Intranet' of EE website</u>. Missing the regular round will definitely lead to delay in embarking on your Final Year Project.

Q8 What is DegreeWorks?

DegreeWorks is a web-based tool that CityU has introduced for undergraduate students for academic advising and degree audit purposes. DegreeWorks matches a student's academic record against the degree requirements. It helps students learn easily what courses and requirement they still need to complete and help them plan their studies. DegreeWorks also facilitates communication between students and major leaders / academic advisors, and helps staff members monitor the students' referred progress more easily. More details can be to http://www6.cityu.edu.hk/arro/content.asp?cid=482.

Q9 What is meant by "catalog term"? I can see the term appearing in the header of all the blocks of requirement in my advising worksheet.

As the requirements for any major, minor, college requirements, etc. may change over time, "catalog term" is used to differentiate the set of requirements that you are following. Normally, for your degree and gateway education requirements, the catalog term will be the same as your admission term to the Bachelor's degree programme. If you find that what you have studied do not follow exactly the requirements of the catalog term that you are following, please discuss with your advisor immediately.

Q10 What is a Grade Point, Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA)?

A Grade Point is the <u>numerical grade</u> assigned to the <u>letter grade</u> for assessment purpose, except for the grades of P, IP, I, TR, Z, X and WD which carry no Grade Point. (Please refer to Paragraph 14.2 of the Academic Regulation for the Grade Point of each grade). It is also used to calculate a student's SGPA and CGPA. The calculation of SGPA and CGPA is illustrated in the example given below:

Example: Student A (suppose the programme only consists of 4 courses)

Course	Grade	Grade Point	Credit unit
Semester A			
EE2345	А	4.0	3
EE2567	B-	2.7	3
Semester B			
CS3233	D	1.0	3
EE4076	В	3.0	6

SGPA for Semester A = $\frac{4.0 \times 3 + 2.7 \times 3.0}{3+3}$ = 3.35

CGPA for Semester A and B =
$$(4.0 \text{ x } 3) + (2.7 \text{ x } 3) + (1.0 \text{ x } 3) + (3.0 \text{ x } 6) = 2.74$$

 $3 + 3 + 3 + 6$

Q11 How is CGPA calculated if I take more than the required number of credit units in electives or Gateway Education (Area requirements)?

All extra electives and GE courses taken will be counted towards the calculation of CGPA.

Q12 How can an undergraduate student graduate?

An undergraduate student can graduate if he/she has fulfilled all degree requirements AND achieved a CGPA of 1.7 or above. Also, students are required to notify the University your intention to graduate by submitting your application through AIMS during the specified period in the semester/ term assuming you will have all requirements completed. Omission in submitting the application before the required deadline will definitely cause delay in your graduation date.

Q13 What is the consequence of failing a course?

You will get an F grade, which means you cannot earn any credit unit from the course. If that is a core course, you will need to retake it and pass it in order to graduate. Failing the same required course (or its equivalent/substitute course) after three attempts will lead to termination. If that is an elective course, you may take another elective to fulfil the major requirements. However, you might need longer time to graduate.

Q14 Is Grade D a pass grade?

It is a marginal pass, and the grade point you can get is only '1.0'. If you get D for some courses, you may not be able to graduate since your CGPA may be below 1.7.

Q15 How can I apply for scholarship?

Always check the 'Scholarships' section under the 'Student Intranet' of EE homepage.

- Q16 Where can I get the lab manuals, experiment schedules and safety guidelines?Go to the 'Student Intranet'. Again, the username and password are "eestudent".
- Q17 Can I work in the laboratory after the laboratory class?

You are encouraged to do so! Please check the laboratory opening hours from the 'Student Intranet'.

Q18 How can I manage to complete my final year project if I go on exchange in my final year of study? Is delay in graduation a must?

Students successfully got a place in the exchange programme can seek approval from the department on completing your second semester of final year project in summer term where applicable. Please refer to EE student exchange programme webpage <u>http://www.ee.cityu.edu.hk/home/studentlife_exchange_outbound_faq.html</u> for more details.

Appendix I

STAFF LIST AND SPECIALISM

As at September 2018

Head of Department		Specialism
Chair Professor of Electronic Engineering		
Professor Stella W PANG B.Sc. Brown, M.Sc., Ph.D. Princeton, FIEEE, FAVS, FECS	彭慧芝教授	Biomedical Sensors and Microsystems, Nanofabrication Technology, Nanoimprint
Associate Head Chair Professor of Electronic Engineering		
Professor Kwok Wa LEUNG B.Sc., Ph.D. <i>CUHK</i> , FIEEE	梁國華教授	Antenna Theory and Design, Computational Electromagnetics
University Distinguished Professor, Affiliate		
Professor Way KUO B.S. <i>National Tsing Hua</i> , M.S. Ph.D. <i>Kansas State</i> , Foreign Member CAE, Member NAE, Member Academia Sinica, FIEEE	郭位教授	Modeling, Evaluating and Estimating Reliability of Electronics/Nuclear Systems
Chair Professor of Computer Engineering		
Dean of College of Science and Engineering		
Professor Hong YAN B.E. <i>Nanjing UPT</i> , M.S.E. <i>Michigan</i> , Ph.D. <i>Yale</i> , FIAPR, FIEEE	嚴洪教授	Bioinformatics, Image Processing, Pattern Recognition
Chair Professor of Electronic Engineering		
Professor Chi Hou CHAN B.Sc., M.Sc. <i>Ohio State</i> , Ph.D. <i>Illinois</i> , CEng, FCIE, FIET, FIEEE	陳志豪教授	Computational Electromagnetics, Microwave and Millimeter-Wave Circuits, Antennas, Terahertz Science & Technology
Professor Yan Cheong CHAN B.Sc., M.Sc., Ph.D. <i>London</i> , FIEEE	陳忍昌教授	Electronic Product Reliability, Advanced Electronics Packaging and Assemblies, Green Electronics
Professor Guanrong CHEN M.Sc. Sun Yat-sen, Ph.D., Texas A&M, FIEEE, FTWAS, MAE	陳關榮教授	Nonlinear Systems: Networks, Dynamics and Controls
Professor Jie CHEN B.S., Northwestern Polytechnic U, M.S.E., M.A., Ph.D. UMich, FIEEE, FAAAS, FIFAC	陳杰教授	Systems and Control, Networked Control and Information Theory, Multi-Agent Systems, Time-Delay Systems, Linear Multivariable Systems, System Identification, Robust Control

Professor Kin Seng CHIANG B.Eng., Ph.D. UNSW, FOSA, MSPIE, MAOS, MIEEE	鄭建成教授	Fibre and Integrated Optics, Nonlinear Guided-wave Optics, Optical Devices and Sensors
Professor Kwai Man LUK B.Sc.(Eng), Ph.D. <i>HKU</i> , CEng, FREng, FIET, FCIE, FIEEE, FHKIE, FEA, Croucher Senior Research Fellow	陸貴文教授	Antenna Design, Microwave and Antenna Measurements, Applied Electromagnetics
Professor Edwin Yue Bun PUN B.Sc.(Eng) London, Ph.D. Glasgow, SMIEEE	潘裕斌教授	Integrated Optics, Photonics Technology, Micro- and Nano- fabrication, Plasmonics, Nano Photonics, Metasurfaces and Metamaterials
Chair Professor of Information Engineering		
Professor Ping LI B.Sc. <i>NUPT</i> , M.Sc. <i>SJTU</i> , Ph.D. <i>Glasgow</i> , FIEEE	李坪教授	Mobile Communications, Wireless Systems, Coding and Modulation, Information Theory, Numerical Methods
Professor Moshe ZUKERMAN B.Sc., M.Sc. <i>Technion</i> , Ph.D. <i>UCLA</i> , FIEEE		Telecommunications Networking, Queueing Theory, Network Resilience, Performance Evaluation
Emeritus Professor		
Professor Po Sheun CHUNG B.Sc., M.Sc. <i>Illinois</i> , Ph.D. <i>Camb.</i> , FREng	鍾寶璇教授	Optical Communications, Optoelectronics
Professor Kai Ning Edward YUNG B.Sc., M.Sc., Ph.D. <i>Mississippi</i> , FCIE, FHKIE, FHKAAST, FIEEE, MEA	容啓寧教授	Antennas and Microwave Devices, RFID
Honorary Professor		
Professor Stephen P BOYD, A.B. <i>Harvard</i> , Ph.D. <i>U.C. Berkeley</i> , FIEEE, FSIAM, FINFORMS, Member of the US National Academy of Engineering, a Foreign Member of the Chinese Academy of Engineering		Convex Optimization Applications in Control, Signal Processing, Machine Learning, Finance
Professor Yiu Chung CHENG B.Sc. <i>HKU</i> , Ph.D. <i>UBC</i> , P.G.Dip., M.Sc. <i>Waterloo</i> , CEng, FHKIE, FIET, FIEEE, CBE, JP, Member of Academy of Sciences, China	鄭耀宗教授	Microelectronics
Professor Toshio FUKUDA B.S. <i>Waseda</i> , M.S. <i>Tokyo</i> , M.S. <i>Yale</i> , Ph.D. <i>Tokyo</i> , FIEEE, FSICE, FJSME, FRSJ, FVRSJ	福田敏男教授	Intelligent Robotic and Mechatronic System, Cellular Robotic System, Micro- and Nano-robotic System
Professor Evelyn L HU B.A. <i>Barnard College</i> , M.S., Ph.D. <i>Columbia</i> , FAAAS, FAPS, FIEEE		Nanophotonics, Quantum Devices, Nanoelectronics, Nanofabrication

Professor Charles KAO CBE, B.Sc., Ph.D. Lond., D.Sc. CUHK, D.Sc. Sus, D.Eng. Glas, D.Sc. Durh, Duniv. Griff, FRS, FEng, FIET, FIEEE, FHKIE, Member Academy of Engineering, USA	高錕教授	Optical Fiber Communications
Professor Kai Fong LEE B.Sc., M.Sc., <i>Queen's</i> , Ph.D. <i>Cornell</i> , FIEEE, FIET, FEA	李啟方教授	Antenna Theory and Design, Applied Electromagnetics, Plasma Theory
Professor Leung TSANG B.Sc., M.Sc., Ph.D. <i>MIT</i> , FIEEE, FOSA, FEA	曾亮教授	Electromagnetics, Remote Sensing, Wireless Propagation, Optics, Interconnects, Signal Integrity
Professor Ke WU B. Sc.(Eng), Ph.D. <i>Grenoble</i> , FIEEE, FCAE, FRSC, Member of The Sigma Xi Honorary Society, URSI, Electromagnetics Academy, EuMA, MTT-S AdCom	吳柯教授	RF and Microwave Electronics, Millimeter-Wave and Terahertz Circuits and Systems, Microwave Photonics, CAD, Applied Electromagnetics, Wireless Sensor Networks, Wireless Power Transmission
Professor		
Professor Tommy Wai Shing CHOW B.Sc., Ph.D. <i>Sunderland</i> , SMIEEE	周偉誠教授	Intelligence Systems, Machine Learning
Professor Henry Shu Hung CHUNG HD, B.Eng., Ph.D. <i>PolyU (HK)</i> , FIEEE	鍾樹鴻教授	Power Electronics, Lighting Technology, Smart Grid Technologies
Professor Andrew Chi Sing LEUNG B.Sc., M.Phil., Ph.D. <i>CUHK</i> , MIEEE	梁志成教授	Multimedia, Machine Learning, Computer Graphics, Signal Processing
Professor Hing Cheung SO B.Eng. <i>CityU</i> , Ph.D. <i>CUHK</i> , FIEEE	蘇慶祥教授	Signal Processing
Professor Hei WONG B.Sc. <i>CUHK</i> , Ph.D. <i>HKU</i> , SMIEEE	王曦教授	Microelectronics and Photonics, Integration, Microelectronics Devices and Circuits
Associate Professor		
Dr. Stanley Cheung Fat CHAN B.Sc., M.Sc., Ph.D. <i>Essex</i> , MIEEE	陳祥發博士	Speech and Audio Processing, Speech and Audio Coding, Digital Signal Processing
Dr. Sammy Chi Hung CHAN B.Eng., M.Eng.Sc. <i>Melbourne</i> , Ph.D. <i>RMIT</i> , MIEEE	陳志雄博士	High-Speed Networks, Wireless Networks, Network Performance Evaluation
Dr. Andy Hau Ping CHAN M.Sc. <i>Essex</i> , Ph.D. <i>CUHK</i> , MIEEE, MOSA, MSPIE	陳孝平博士	Integrated and Fiber Optics, Photonic Technology and Packaging, Terahertz Device

Dr. Rosa Ho Man CHAN B.Eng. <i>CUHK</i> , M.Sc., Ph.D. <i>USC</i> , SMIEEE	陳皓敏博士	Computational Neuroscience, Neural Prosthesis, Brain-Computer Interface, Bio-Signal Processing
Dr. Leanne L H CHAN B.Eng. (EEE) <i>HKU</i> , M. Sc. (EE), Ph.D. (BME) <i>USC</i> , SMIEEE	陳儷行博士	Neural Engineering, Visual Prosthetics, Visual Electrophysiology (<i>in vivo</i>), Stimulating Electrode Array, Computer Vision
Dr. Nelson Sze Chun CHAN B.Eng.(EEE) <i>HKU</i> , M.S.(EE), Ph.D. <i>UCLA</i>	陳仕俊博士	Optical Chaos, Microwave Photonics, Semiconductor Laser Dynamics
Dr. Wing Shing CHAN B.Sc.(Eng) <i>London</i> , Ph.D. <i>CityU (HK)</i> , CEng, MIET, MIEEE, MHKIE	陳永勝博士	High-Power RF and Microwave, Amplifiers, RF and Microwave Engineering
Dr. Lee Ming CHENG B.Sc., Ph.D. <i>London</i> , CEng, CITP, FIET, SMIEEE, FBCS, FHKIE	鄭利明博士	Information Security, Smart Card/RFID, Smart Home Care Systems, Video / Digital Watermark Systems
Dr. Ray Chak Chung CHEUNG B.Eng, M.Phil. <i>CUHK</i> , Ph.D. <i>London</i> , DIC, MIEEE, MACM	張澤松博士	Reconfigurable Trusted Computing, Cryptographic VLSI, Bio-medical VLSI, System-on-Chip Architecture
Dr. Bernard Chi Yuen CHIU B.Sc. Calgary, M.A.Sc. Waterloo, Ph.D. Western Ontario	趙智遠博士	Medical Image Processing and Analysis, Segmentation and Registration
Dr. Yuk Tak CHOW B.Sc. <i>H-W.</i> , M.Sc. <i>St. And.</i> , Ph.D. <i>H-W</i> .	周育德博士	Optoelectronics, Digital Holography
Dr. Lin DAI B.Sc. <i>HUST</i> , Ph.D. <i>Tsinghua</i> , SMIEEE	代琳博士	Mobile Communications, Communication Theory, Communication Networks
Dr. King Tim KO B.Eng., Ph.D. <i>Adel.</i> , SMIEEE	高敬添博士	Performance Evaluation of Communication Networks, Computer Networking
Dr. Ricky Wing Hong LAU B.Sc., Ph.D. <i>Portsmouth</i> , SMIEEE	劉永康博士	Digital Signal Processing, Digital Audio Engineering, Visual Speech Processing, Embedded System
Dr. Joshua En Yuan LEE B.A., M.Eng., M.A., Ph.D., <i>Cantab</i> , SMIEEE	李恩源博士	Microelectromechanical Systems (MEMS) Analysis and Design, MEMS Sensors, MEMS Resonators, Piezoelectric Devices, Piezoelectric Micromachined Ultrasonic Transducers

Dr. Peter Sai Wing LEUNG B.Sc., Ph.D. <i>CityU (London)</i> , CEng, MIET, SMIEEE	梁世榮博士	Electromagnetic Compatibility (EMC), Bio-medical Impacts Electromagnetic Field to Human Cells, EMC Management in Fixed Installations and Railway Systems, Electromagnetic Dosimetry and Human Safety in E-vehicles
Dr. Shu Hung LEUNG B.Sc. <i>CUHK</i> , M.Sc., Ph.D. <i>UC Irvine</i> , MIEEE	梁樹雄博士	Adaptive Signal Processing, Digital and Mobile Communications
Dr. Derek Chi Wai PAO B.Sc.(Eng) <i>HKU</i> , M.Comp.Sc., Ph.D. <i>Concordia</i> , MIEEE	鮑志維博士	Hardware Architectures for Network Processing, Computer Network, Pattern Matching for Intrusion Detection and Virus Scanning
Dr. Lai Man PO B.Sc.(EE), Ph.D. <i>CityU (HK)</i> , SMIEEE	布禮文博士	Image and Video Processing, Mobile Apps Development, Machine Learning
Dr. Albert Chi Wan SUNG B.Eng, M.Phil., Ph.D. <i>CUHK</i> , MIEEE	宋之尹博士	Wireless Communications and Networks, Network Coding, Distributed Storage Systems
Dr. Wallace Kit Sang TANG B.Eng. <i>HKU</i> , M.Sc. Ph.D. <i>CityU (HK)</i> , SMIEEE	鄧榤生博士	Evolutionary Algorithms, Nonlinear Circuits and Systems, Control Theory, Complex Networks
Dr. Kim Fung TSANG Assoc., <i>HKP</i> , M.Eng., Ph.D. <i>Wales</i> , CEng, FHKIE, SMIEEE, MIET	曾劍鋒博士	Mobile Health, Smart Metering and Building Automation, Wireless Communications, RF ASIC, Microwave/Millimeter Wave Engineering
Dr. Peter Wai Ming TSANG B.Sc., M.Phil., Ph.D., <i>HKU</i> , MOSA,, MSPIE, MIEEE	曾偉明博士	Digital Holography, Three Dimensional Video Systems, Image Compression
Dr. Steve Hang WONG B.Eng., M.Phil., Ph.D. <i>CityU (HK)</i> , SMIEEE	黃衡博士	Antennas, Millimeter Wave Technologies, Applied Electromagnetics
Dr. Eric Wing Ming WONG B.Sc., M.Phil., <i>CUHK</i> , Ph.D. <i>UMASS at Amherst</i> , SMIEEE	黄永明博士	Analysis and Design of Telecommunications Networks, Energy-Efficient Data Center Design, Green Cellular Networks, Optical Switching
Dr. Alan Kai Hau YEUNG B.Sc. <i>CUHK</i> , P. G. Dip., M.Sc. <i>CityU (HK)</i> , Ph.D. <i>CUHK</i> , MIEEE, MBCS, CITP, CCNP, CCAI, CEH, ECSA, CPLT	楊啟厚博士	Networking Security and Hacking, Internet Systems, Computer Networks, Data Communication Systems
Dr. Kelvin Shiu Yin YUEN AP, M.Phil. <i>HKP</i> , D. Phil. <i>Sus.</i> , SMIEEE	袁紹賢博士	Evolutionary Computation, Machine Learning, Computer Vision

Assistant Professor

Dr. Katie Kei Hang CHAN B.Eng. (InfoE) <i>HKU</i> , M.PH <i>USC</i> , Ph.D. <i>UCLA</i>	陳紀行博士	Bioinformatics, Computational Biology, Big Data Analysis
Dr. Kwok Leung CHAN M.Sc., Ph.D. Wales, CEng, MIET	陳國良博士	Image Processing, Computer Vision
Dr. Xin GAI B.Eng. (OptE) ZJU, Ph.D. (Phys) ANU	蓋鑫博士	Mid-infrared Photonics, Chalcogenide Glasses, Bio-photonics and Medical Imaging, On-chip Optical Integration
Mr. Kai Tat NG B.Eng. W. Aust., M.Eng.Sc. Sydney, MIEEE	吳啟達先生	Communication Engineering, Computer System Engineering
Dr. Cheng WANG B.S. <i>Tsinghua</i> , S.M., Ph.D. <i>Harvard</i> , MOSA	王騁博士	Nanofabrication Technology, Photonic Circuits, Optical Communications, Nonlinear Optics
Dr. Alex Man Hon WONG B.A.Sc., M.A.Sc., Ph.D. <i>Toronto</i> , MIEEE	王文瀚博士	Metamaterials and Metasurfaces, Super-resolution, Superoscillations, Antennas, Applied Electromagnetics
Dr. Angus Kwok Ming WU B.S. E.E., M.Sc. <i>Ohio State</i> , Ph.D. <i>Wash. State</i> , CEng, MIET	胡國明博士	Intelligent Systems, Machine Learning, IC Design for AI
Dr. Yixuan YUAN B.Eng. <i>NPU</i> , Ph.D. <i>CUHK</i>	袁奕萱博士	Deep Learning, Medical Image Analysis and Diagnosis, Object Detection and Segmentation, Object Tracking
Instructor		
Mr. Van Chi Wang TING B.Eng., M.Phil. <i>CityU (HK)</i>	丁志宏先生	Image and Video Processing, Mobile Application and Game Design, Cloud Computing, Software Engineering

Academic Calendar 2018/19

Appendix II

Week	S	М	Т	W	Т	F	S	Events	Public Holidays
	September, 2018								
WK.1 WK.2 WK.3 WK.4 WK.5	2 9 16 23 30	3 10 17 24	4 11 18 25	5 12 19 26	6 13 20 27	7 14 21 28	1 8 15 22 29	Semester A 2018/19 3 Sep – 1 Dec Teaching Period	25 Day following Mid-Autumn Festival
WK.6 WK.7 WK.8 WK.9	Octo 7 14 21 28	ber 8 15 22 29	2 9 16 23 30	3 10 17 24 31	4 11 18 25	5 12 19 26	6 13 20 27	2 Graduation Date	 National Day Chung Yeung Festival
	Nov	ember							
WK.10 WK.11 WK.12 WK.13	4 11 18 25	5 12 19 26	6 13 20 27	7 14 21 28	1 8 15 22 29	2 9 16 23 30	3 10 17 24		
	Dece	ember							
	2 9 16 23	3 10 17 24	4 11 18 25	5 12 19 26	6 13 20 27	7 14 21 28	1 8 15 22 29	 Last Day of Teaching Student Revision Period 22 Examination Period 24 Dec – 12 Jan Semester Break 	25 Christmas Day
	30	31							26 Day following Christmas Day
WK.1 WK.2 WK.3	Janu 6 13 20 27	7 7 14 21 28	019 8 15 22 29	2 9 16 23 30	3 10 17 24 31	4 11 18 25	5 12 19 26	<u>Semester B 2018/19</u> 14 Jan – 27 Apr Teaching Period	1 First day of January
	Febr	uary							
WK.4 WK.5 WK.6	3 10 17 24	4 11 18 25	5 12 19 26	6 13 20 27	7 14 21 28	1 8 15 22	2 9 16 23	4 – 9 Lunar New Year Break 15 Graduation Date	5 – 7 Lunar New Year Holidays
	Marc	ch							
WK.7 WK.8 WK.9 WK.10 WK.11	3 10 17 24 31	4 11 18 25	5 12 19 26	6 13 20 27	7 14 21 28	1 8 15 22 29	2 9 16 23 30		
WK.12 WK.13	Apri 7 14 21 28	1 8 15 22 29	2 9 16 23 30	3 10 17 24	4 11 18 25	5 12 19 26	6 13 20 27	19 – 25 Easter Break 27 Last Day of Teaching 29 Apr – 4 May Student Revision Period	 5 Ching Ming Festival 19 Good Friday 20 Day following Good Friday 22 Easter Monday
	May 5 12 19 26	6 13 20 27	7 14 21 28	1 8 15 22 29	2 9 16 23 30	3 10 17 24 31	4 11 18 25	6 – 20 Examination Period 21 May – 8 Jun Semester Break	 Labour Day Day following Buddha's Birthday

Week	S	М	Т	W	Т	F	S	Events	Public Holidays
	June	, 2019					1		
WK.1 WK.2 WK.3	2 9 16 23	3 10 17 24	4 11 18 25	5 12 19 26	6 13 20 27	7 14 21 28	8 15 22 29	Summer Term 2019 10 Jun – 27 Jul Teaching Period	7 Tuen Ng Festival
WK.4	30		20	20	_,	20	20		
WK.5 WK.6 WK.7	July 7 14 21 28	1 8 15 22 29	2 9 16 23 30	3 10 17 24 31	4 11 18 25	5 12 19 26	6 13 20 27	 Graduation Date Last Day of Teaching Jul – 3 Aug Student Revision Period 	1 HK SAR Establishment Day
	Augu 4 11 18 25	5 12 19 26	6 13 20 27	7 14 21 28	1 8 15 22 29	2 9 16 23 30	3 10 17 24 31	5 – 10 Examination Period 12 – 31 Term Break	

Note : represents public holidays including all Sundays

Provisional Academic Calendar 2019/20

Somester A	<u>Start</u>	Date	End [Date
Teaching Period Student Revision Period Examination Period Semester Break	2 2 9 23	September 2019 December 2019 December 2019 December 2019	30 7 21 11	November 2019 December 2019 December 2019 January 2020
Semester B Teaching Period	13 (Lun:	January 2020	25	April 2020
Student Revision Period Examination Period Semester Break	27 4 18	April 2020 May 2020 May 2020 May 2020	2 16 6	May 2020 May 2020 June 2020
Summer Term Teaching Period Student Revision Period Examination Period Term Break	8 27 3 10	June 2020 July 2020 August 2020 August 2020	25 1 8 29	July 2020 August 2020 August 2020 August 2020
Provisional Academic Calendar 2020/21				

Compositor A	<u>Star</u>	t Date	<u>End</u>	Date
Teaching Period Student Revision Period Examination Period Semester Break	31 30 7 21	August 2020 November 2020 December 2020 December 2020	28 5 19 9	November 2020 December 2020 December 2020 January 2021
Semester B Teaching Period	11 (Lur	January 2021	24 12 - 1	April 2021
Student Revision Period Examination Period Semester Break	26 3 17	April 2021 May 2021 May 2021 May 2021	1 15 5	May 2021 May 2021 May 2021 June 2021
Summer Term Teaching Period Student Revision Period Examination Period Term Break	7 26 2 9	June 2021 July 2021 August 2021 August 2021	24 31 7 28	July 2021 July 2021 August 2021 August 2021

Department of Electronic Engineering Locations of Laboratories

Teaching Laboratory					
Room no.	Laboratory Name	實驗室			
AC3 15-231	Applied Electromagnetics Laboratory	應用電磁學實驗室			
P1622	Competition Teams Laboratory	比賽團隊實驗室			
P1806	Computer Networking Laboratory	電腦網絡實驗室			
P1406, P1412, P1442	Computer Terminal Laboratory	電腦終端實驗室			
P1404	Control Systems Laboratory	控制系統實驗室			
P1808	Data Communications Laboratory	數據通訊實驗室			
AC2 6508	Digital and Mobile Communications Laboratory	數字通訊實驗室			
P1800	Digital Systems Laboratory	數碼系統實驗室			
P1809	Electronic Circuit and Projects Laboratory	電子電路及習作實驗室			
P1410	Machining Laboratory	機器實驗室			
P1402	Multidisciplinary Projects Laboratory	多學科習作實驗室			
P1602	PCB Fabrication Laboratory	印刷電路板制作實驗室			
P1615	Team Projects Laboratory	團隊習作實驗室			
	Research Laboratory				
Room no.	Laboratory Name	實驗室			
AC3 15-231	Applied Electromagnetics Laboratory	應用電磁學實驗室			
P1816	Biosystems, Neuroscience, and Nanotechnology Laboratory	生物系統,神經科學,和納米技術實驗室			
P1806	Computer Networking Laboratory	電腦網絡實驗室			
P1404	Control Systems Laboratory	控制系統實驗室			
P1808	Data Communications Laboratory	數據通訊實驗室			
P1610	Optoelectronics, Electronics, Nanotechnology and Biosystems Laboratory	光電子、電子、納米技術及生物系統實驗室			
P1628	Power Electronics & Intelligent Systems Laboratory	電力電子及智能系统實驗室			
P1618	Signal Processing and Biocomputing Laboratory	訊號處理及生物信息實驗室			
AC3 15-200	State Key Laboratory of Millimeter-Waves	毫米波國家重點實驗室			

EE Laboratory Location Maps

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電子工程系實驗室位置圖

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Li Dak Sum Yip Yio Chin Academic Building 6508

Lau Ming Wai Academic Building 15-200 & 15-231

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Yeung Kin Man Academic Building Purple Zone G/F Lift 1



Yeung Kin Man Academic Building

GLOSSARY

Academic Transcript	The official academic record of a student's undergraduate studies at the University, including grades assigned for courses.
Academic Year/Semester/Term	The academic year is a period of twelve months starting normally in September of each year. The academic year is divided into two Semesters and a Summer Term.
Advanced Standing	Students with a recognized qualification may be admitted to the University with advanced standing. Students will be grouped as "Advanced Standing I" or "Advanced Standing II" depending on their entry qualifications.
Assessment	The tests, coursework, examinations and other activities used to assess students' progress through courses and to assign final grades.
Assessment Panel	University bodies responsible for assigning grades to students for their courses.
Course	The basic units of instruction into which students are registered and for which grades may be assigned. Each course is identified by a unique course code which is composed of a letter code and a numeric code. The first digit of the numeric code indicates the course's level of academic difficulty. University courses are approved for inclusion in the course catalogue.
Course Catalogue	The official record of University courses maintained by the University.
Course Exemption	Students may be granted an exemption from specific courses based on prior study. Credit units are not earned for an exempted course.
Course Leader	A Course Leader is appointed by the Head or Dean of an academic unit for each course offered by the academic unit with responsibility for delivery and assessment of the course.
Credit Transfer	The assignment of credit units toward the credit unit requirements of a degree on the basis of prior studies completed at an appropriate level as recognised by the University. Credit units for transfer are normally assigned based on specific courses that are equivalent in content and standard.
Credit Unit	Each course is assigned a number of credit units. A credit unit is earned by approximately forty to fifty hours of student work.
Dean	Dean refers to the head of a college/school.
Degree	The University's undergraduate curricula are organised into degrees. The bachelor's degree is normally granted upon completion of a programme of study, which typically includes a major, Gateway Education requirement, college/school requirements, University Language Requirements, free electives and/or minor.

Double Degree	The completion of two degrees in accordance with the specified double degree combinations approved by the University.
Double Major	The completion of two majors offered by colleges/schools. The degree awarded for students taking a double major will be determined by the home major.
Enrolment	The completion of specified procedures to attain student status of the University.
Equivalent Course	Equivalent courses are those courses of the same level where there is sufficient overlap in content that students may register in the course to meet degree requirements, to recover a failure or to improve a course grade.
Examination Board	University bodies responsible for making decisions on students' academic standing, classifying students' awards, recommending to Senate conferment of awards, and terminating the studies of students on academic grounds on behalf of Senate.
Exclusive Course	Exclusive courses are those where there is sufficient overlap in their content to make it inappropriate for students to earn credits for more than one of the courses. Students will be restricted from registration in a course when they have earned credit units for an exclusive course.
Gateway Education	The Gateway Education (GE) programme augments the specialized knowledge students receive in their majors by enabling them to achieve a breadth of knowledge through exposure to multiple disciplines. GE courses lay a solid foundation for personal growth and intellectual development.
Grade Point Average (GPA)	The GPA is obtained by adding all the quality points (i.e., grade points multiplied by the number of credit units) for all courses taken during the student's undergraduate studies at the University, and then dividing the result by the total number of credit units taken. All course grades, unless excluded as approved by Senate, are included in the calculation. The GPA calculation shall not be rounded. Any digits after the second digit to the right of a decimal point shall be truncated.
	When calculating the GPA for all courses taken at the time of calculation, it is known as the Cumulative GPA (CGPA). When calculating the GPA for a given semester/term, it is known as the Semester GPA (SGPA).
Graduation Date	Each academic year has three graduation dates as set by Senate for the graduation of students who have completed requirements for awards as determined by the College/School Examination Board.
Home Academic Unit	An academic unit refers to an academic department, college or school. A student's home academic unit is the department/ college/school offering the degree or home major in which he/she is enrolled.

Major	A major field of study is the core competence area, comprising a structured group of courses which aims to create a broad and deep intellectual experience in an academic discipline. Each major shall be overseen by a Major Leader.
Minor	A minor consists of a structured group of courses that focuses on a particular academic discipline, allowing students to develop some depth of understanding in a subject area or topic of professional interest. Each minor shall be overseen by a Minor Leader.
Mode of Study	Students are enrolled in a full-time or part-time mode of study. Students' modes of study govern their maximum and minimum study loads.
Operational Grade	A course grade assigned for administrative purposes to assist in the management of student records. Operational grades of IP, I, TR, Z, AU, X and WD do not count in the calculation of students' GPAs.
Prerequisite	A requirement that must be fulfilled before a student can register in a particular course. A Co-requisite is a course that must be taken before or together with a particular course (a pass is not required). Precursors are set for some courses. Precursors are not compulsory requirements, but students are advised to complete precursors before registering in these courses.
Registration	The inclusion of a student in the class list of a course.
Required Course	A course that must be passed to complete degree requirements.
Senate	The University Senate of City University of Hong Kong
Stream	Streams are sub-divisions under a major that designate the specialties of the subject discipline.
Substitute Course	Under exceptional circumstances where a required course cannot be completed, a "substitute" course may be approved by the Dean of the major/minor-offering academic unit for a student replacing the required course with another.
University	City University of Hong Kong
University Award	An award of the University approved by Senate on completion of specified degree requirements.
University Language Requirements	University Language Requirements refer to the English language requirement and Chinese language requirement stipulated by the Senate.
Working Days	Mondays to Fridays, excluding Saturdays, Sundays and public holidays and excluding a day throughout or for part of which a black rainstorm warning or Typhoon Signal Number 8 or above is issued by the Hong Kong Observatory.