

BENG(HONS) IN ELECTRONIC AND INFORMATION ENGINEERING (FULL-TIME/SANDWICH/ COOPERATIVE EDUCATION SCHEME/DOUBLE DEGREE/DOUBLE DEGREE SANDWICH)

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This Programme Booklet is subject to review and changes which the Department can decide to make from time to time. Students will be informed of the changes as and when appropriate.

1. GENERAL INFORMATION

1.1 Cohort of Intakes and readership

This programme booklet is the definitive programme document for the 2012/13 cohort, and particularly for those students who enter this programme by following the HKALE system. It is also the definitive programme document for those non-local students from Chinese Mainland or countries which have an education system different from the current Hong Kong system who entered this programme in 2011/12. These non-local students are required to study a one-year Foundation Curriculum on top of the normal requirements for a 3-year undergraduate degree programme as specified in this programme booklet. They are required to complete a total of 132 credits, within 4 years nominal, to attain the degree award. In addition to this programme booklet, these students should refer to the Foundation-Year Curriculum which is specially designed and approved by the University Senate. Just in case any updated information is necessary after the publication of this booklet, students are requested to refer to the URL "<http://www.eie.polyu.edu.hk/prog/beng.html>" for the most updated information. Should any discrepancy between the contents of this booklet and University regulations arise, University regulations always prevail.

1.2 Programme Information

Title of Programme	Bachelor of Engineering (Honours) Degree in Electronic and Information Engineering
Host Department	Department of Electronic and Information Engineering (EIE)
Programme Structure	Credit-based
Final Award	
Full-time, Sandwich, and CES modes:	BEng(Hons) in Electronic and Information Engineering 電子及資訊工程學(榮譽)工學士
Double Degree mode:	BEng(Hons) in Electronic and Information Engineering 電子及資訊工程學(榮譽)工學士 and 及 Bachelor of Science (Honours) in Engineering Physics 工程物理學(榮譽)理學士學位
Professional Recognition	This programme satisfies the academic requirements for Corporate Membership of the Hong Kong Institution of Engineers (HKIE).

Modes of attendance and total credits for graduation

For students who enter this programme by following a local Advanced-level education system:

Mode of Attendance and Duration	Full-time mode:	3 years nominal, 6 years maximum
	Sandwich mode:	4 years nominal, 7 years maximum
	CES (Cooperative Education Scheme) mode:	3½ years nominal, 7 years maximum
	Double Degree mode:	4 years nominal, 8 years maximum
	Double Degree with Sandwich mode:	5 years nominal, 8 years maximum
Total Credits for Graduation	Academic credits:	<u>100</u> (for Full-time, Sandwich and CES modes) <u>138</u> (for Double Degree mode)
	Training credits:	<u>13</u> (for all modes) (plus 1 Work-Integrated Education training credit for all modes)

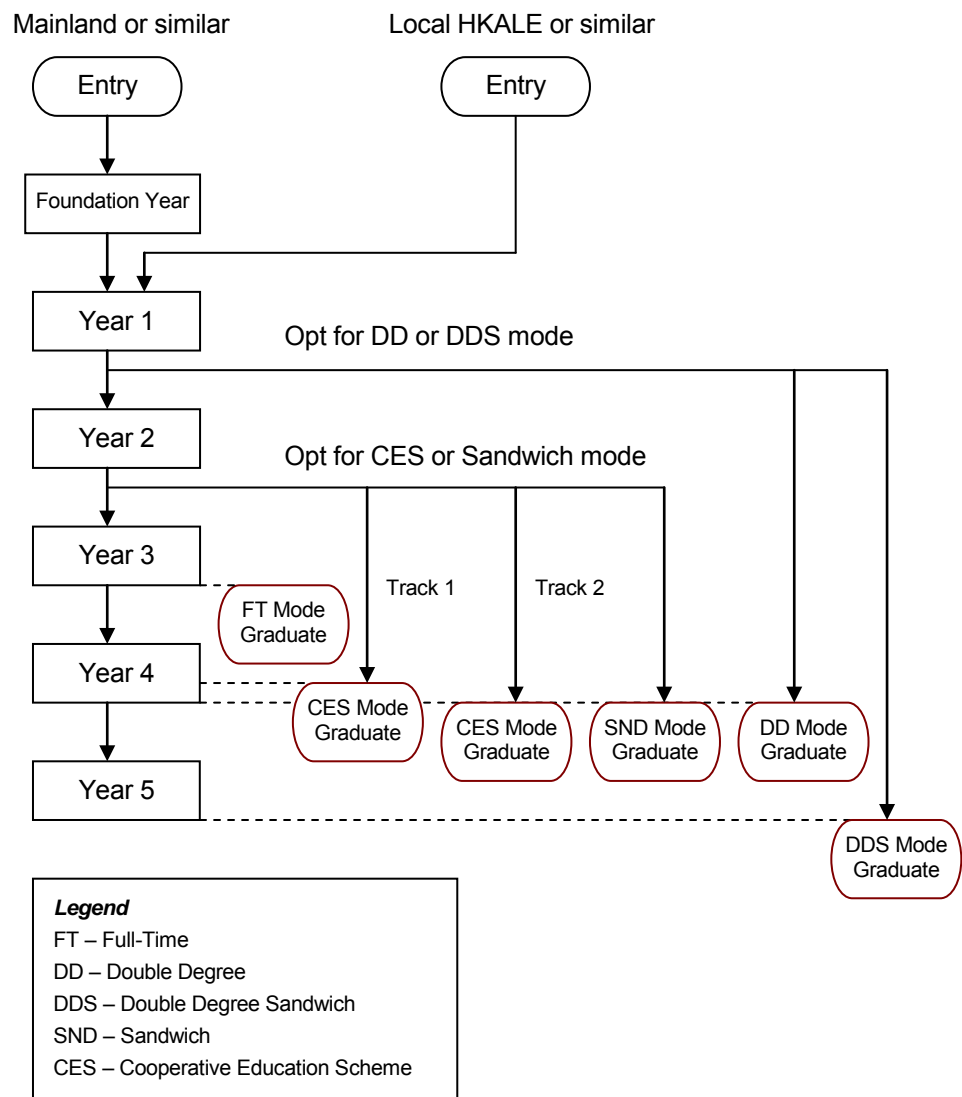
For students who are required to study the Foundation-Year Curriculum:

Mode of Attendance and Duration	Full-time mode:	4 years nominal, 8 years maximum
	Sandwich mode:	5 years nominal, 8 years maximum
	CES (Cooperative Education Scheme) mode:	4½ years nominal, 8 years maximum
	Double Degree mode:	5 years nominal, 8 years maximum
	Double Degree with Sandwich mode:	6 years nominal, 8 years maximum
Total Credits for Graduation	Academic credits:	<u>132</u> (for Full-time, Sandwich and CES modes) <u>170</u> (for Double Degree mode)
	Training credits:	<u>13</u> (for all modes) (plus 1 Work-Integrated Education training credit for all modes)

1.3 Modes of Attendance

The following information about the various modes of study apply to students who enter the programme either after having finished the Foundation Year, or through the local HKALE system or similar. The different years of the various modes of study are referred to as *Foundation Year*, *Year 1*, *Year 2*, *Year 3*, *Year 4* and *Year 5*.

All students will study a common curriculum in Year 1. After Year 1, they may choose a particular mode of study according to their interest and planning, which is subject to the places available. A mode of study is characterized by the credits and subjects required and the progression pattern in Year 1 to Year 5. There are five possible modes of study, namely Full-time (FT) mode, Sandwich (SND) mode, Cooperative Education Scheme (CES) mode, Double Degree (DD) mode, and Double Degree Sandwich (DDS) mode, as follows:



Full-time mode

Under the Full-time mode, the students will normally pursue their study by going through Year 1, Year 2, and Year 3 in full time and then graduate at the end of Year 3 after having satisfied all programme requirements.

Sandwich mode

Under the Sandwich mode, the students will pursue Year 1 and Year 2 study in full time, and then engage in industrial training in Year 3. During the industrial training year, the students may choose to study one subject each semester. After the industrial training year, the students will pursue study in Year 4 in full time again. Normally the students will graduate at the end of Year 4 after having satisfied all programme requirements.

Cooperative Education Scheme mode

Under the CES mode, the students will pursue Year 1 and Year 2 of study in full time. From Semester 3 of Year 2 up to Semester 1 of Year 4, the students will engage in industrial training while concurrently pursuing study in the University in day-release mode (one day leave per week) given by the employer. In the “Track 1” route of the CES mode, the students will also undertake a job-related Honours project during the industrial training period. Normally the students will graduate at the end of the first semester of Year 4 after having satisfied all programme requirements. Should the students prefer to take the Honours project after Year 3, he/she will study in the “Track 2” route and will normally graduate at the end of Year 4.

Double Degree mode

After Year 1, students may choose to embark on the Double Degree mode of study. Due to limited quota, students will be selected into the Double Degree mode according to their suitability. The normal duration of the Double Degree mode is four years. The first three years will be UGC-funded while the fourth year will be self-financed. On successful completion of the Double Degree mode of study, the students will obtain two awards, namely Bachelor of Engineering (Honours) in Electronic and Information Engineering and Bachelor of Science (Honours) in Engineering Physics.

In case the students choose to terminate their study after Year 3, they will normally obtain the Major in Electronic and Information Engineering and Minor in Engineering Physics awards, the details of which are specified in Sections 28 and 29.

Double Degree Sandwich mode

The normal duration of the Double Degree Sandwich mode is five years. Students enter the Double Degree mode of study in Year 2. After Year 2, students engage in industrial training for one year and then return to the Programme to study for the remaining two years to obtain the double degrees. During the industrial training year, students may choose to study one subject each semester.

In case the students choose to terminate their study in Year 4 (i.e. the year after training), they will normally obtain the Major in Electronic and Information Engineering and Minor in Engineering Physics awards, the details of which are specified in Sections 28 and 29.

2. RATIONALE, AIMS AND INTENDED LEARNING OUTCOMES OF THE PROGRAMME

2.1. Rationale and Aims

The followings are the rationale and aims of the Programme:

- (i) This programme aims at producing graduates with the professional knowledge and skills that are relevant for a professional engineer to contribute to the electronic and information engineering profession.
- (ii) The curriculum enables the students to develop a deep understanding of sound scientific principles, and to gather experience in practical applications.
- (iii) The learning and teaching environment is flexible and relevant to support both professional and all-rounded developments of the students.
- (iv) The graduates will be able to develop abilities in effective communication, problem-solving, inquisitiveness, critical and creative thinking, and life-long learning.
- (v) The graduates are expected to be equipped with professional competence, all-rounded attributes and transferable skills, and be able to meet challenges from the rapidly changing engineering profession.

2.2. Institutional Learning Outcomes

It is PolyU's educational mission to nurture competent professionals who are also critical thinkers, effective communicators, innovative problem solvers, lifelong learners, and ethical leaders. The institutional learning outcomes for these attributes are provided as follows:

1. **Competent professional:** Graduates should be able to integrate and apply in practice the fundamental knowledge and skills required for functioning effectively as an entry-level professional.
2. **Critical thinker:** Graduates should be able to examine and critique the validity of information, arguments, and different viewpoints, and reach a sound judgment on the basis of credible evidence and logical reasoning.
3. **Effective communicator:** Graduates should be able to comprehend and communicate effectively in English and Chinese, orally and in writing, in professional and daily contexts.
4. **Innovative problem solver:** Graduates should be able to identify and define problems in professional and daily contexts, and produce creative and workable solutions to the problems.
5. **Lifelong learner:** Graduates should recognise the need for continual learning and self-development, and be able to plan, manage and improve their own learning in pursuit of self-determined development goals.
6. **Ethical leader:** Graduates should have an understanding of leadership and be prepared to lead a team, and should acknowledge their responsibilities as professionals and citizens to the society and their own nation, and be able to demonstrate ethical reasoning in professional and daily contexts.

2.3. Intended Learning Outcomes of the Programme

On successful completion of the BEng(Hons) in Electronic and Information Engineering Programme, students will be able to:

Category A Professional/academic knowledge and skills

1. Apply knowledge of mathematics, science, and engineering appropriate to electronic and information engineering.
2. Design and conduct experiments, as well as to analyse and interpret data.
3. Design a system, component or process to meet desired needs within realistic constraints, such as economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability.
4. Function on multi-disciplinary teams.
5. Identify, formulate and solve engineering problems.

6. Understand professional and ethical responsibility.
7. Communicate effectively.
8. Understand the impact of engineering solutions in a global and societal context, especially the importance of health, safety and environmental considerations to both workers and the general public.
9. Stay abreast of contemporary issues.
10. Recognize the need for, and to engage in life-long learning.
11. Use the techniques, skills, and modern engineering tools necessary for engineering practice appropriate to electronic and information engineering.
12. Use the computer/IT tools relevant to electronic and information engineering along with an understanding of their processes and limitations.

Category B Attributes for all-roundedness

13. Understand the creative process.
14. Exercise leadership when working in a team.

2.4. Relationship of Intended Learning Outcomes of the Programme to Institutional Learning Outcomes

The following table illustrates the relationship between Intended Learning Outcomes of the Programme and Institutional Learning Outcomes:

Programme Outcomes	Institutional Learning Outcomes					
	1	2	3	4	5	6
1	X					
2	X	X				
3	X	X				
4						X
5	X			X		
6	X					X
7			X			
8	X					X
9		X				
10					X	
11	X					
12	X					
13				X		
14						X

3. ENTRANCE REQUIREMENTS

For non-local students who enter this programme by following a different education system from that in Hong Kong, they must possess the non-local qualifications for meeting the general entrance requirements for Bachelor Degree Programmes as published by the University.

For students who enter this programme by following a local Advanced-level education system, they must satisfy both the University general minimum entrance requirements AND the programme-specific requirements as set out below.

3.1 University General Minimum Entrance Requirements

For those applying on the basis of HKALE:

- E in HKALE Chinese Literature, or E in HKALE(AS-Level) Chinese Language & Culture, or (for applicants who have not taken Chinese since Secondary Five) D in a HKCEE language other than Chinese and English; AND
- E in HKALE(AS-Level) Use of English; AND
- E in two other HKALE subjects, or E in one other HKALE subject and two other HKALE(AS-Level) subjects; AND
- E in five HKCEE subjects (For attempts of English Language and Chinese Language in 2007 and after, at least Level 2 is required).

For those applying on the basis of other local qualifications:

- An appropriate Diploma (as specified in section 3.2 below) from The Hong Kong Polytechnic University or the Hong Kong Institute of Vocational Education (IVE) – or the former Technical Institutes (TI) or Hong Kong Polytechnic /Technical College, either with Credit or Pass at Merit Level in at least three Level III subjects; OR
- An appropriate Higher Certificate (as specified in section 3.2 below); OR
- An appropriate Associate Degree/Higher Diploma* from a recognised institution (suitable candidates will be considered for advanced standing entry to the senior year curriculum).

** These applicants should follow the regular application arrangements to submit their applications. The Department will consider the applicants for admission to the senior year and inform them at the time of offer.*

3.2 Programme-specific Minimum Entrance Requirements

For those applying on the basis of HKALE:

- E in two of the following HKALE subjects: Physics (or Engineering Science), Applied Mathematics, Pure Mathematics, Chemistry, Biology or Computer Studies;
OR
- E in one of the following HKALE subjects: Physics, Engineering Science, Applied Mathematics, Pure Mathematics, Chemistry, Biology or Computer Studies;
AND
E in one of the following HKALE(AS-Level) subjects: Applied Mathematics, Chemistry, Computer Applications, Design & Technology, Electronics, Mathematics & Statistics or Physics (similar subjects at HKALE and HKALE(AS-Level) are mutually exclusive);
PLUS
- D in HKCEE Physics or Engineering Science (only required for applicants without E in HKALE Physics or Engineering Science, or HKALE(AS-Level) Physics);
AND
C in HKCEE Mathematics or Additional Mathematics (only required for applicants without E in HKALE Applied Mathematics or Pure Mathematics, or HKALE(AS-Level) Applied Mathematics or Mathematics & Statistics).

For those applying on the basis of other qualifications:

- An Associate Degree, Higher Diploma, Higher Certificate or Diploma (with Credit) in Engineering, Electronic Engineering, Information Engineering, Communication Engineering, Electrical Engineering, Computer Engineering or other similar disciplines.

For those applying on the basis of “advanced standing” status:

- Holders of Associate Degree/Higher Diploma in Electronic (and Information) Engineering, Electrical Engineering or other similar disciplines may be given credit transfer.

3.3 Admission of Advanced Standing Students Based On Advanced Academic Qualifications

- (i) With approval by the Faculty, students may be admitted to the Programme beyond the initial stage provided they have demonstrably reached the general level of educational development which would have been reached had they taken the earlier stage(s) of the Programme, and provided that there is a high probability that they will complete the Programme successfully. These students will still be labelled as first year students even though they are following the curriculum of a later stage.
- (ii) Students admitted to the Programme via the above-stated admission route will be advised that based on advanced academic qualifications, they are required to take fewer subjects (normally at least 1/3 less credits) than students admitted through the normal entry route.
- (iii) Information on the number of credits required for both normal entry and for the individual students based on their admission qualifications will both be reflected on the transcripts of study.
- (iv) If students who are admitted to the programme via the above-mentioned admission routes wish to gain higher grades by studying the subject(s) again, they may approach the Department for declining the provision of taking fewer credits no later than the end of the subject add/drop period.
- (v) Students who, upon admission, wish to transfer any credits from their previous studies and take fewer credits than those confirmed at the time of admission, will have to follow the arrangements for "application for credit transfer" and to pay the related fees. The credits to be transferred are subject to the rule on validity period for subject credits.

4. PROGRAMME, SUBJECTS, AND CREDITS

4.1 Programme Specified Subjects

For those non-local students from Chinese Mainland or countries which have an education system different from the current Hong Kong system, they have to study the Foundation Year prior to studying the Year 1, Year 2 and Year 3 curricula. For the

details of Foundation Year subjects and credits requirements, they shall refer to the *2011/12 Foundation-Year Curriculum* (a separate booklet).

For students who enter the programme via the local HKALE system or similar, they will study the subjects in Year 1, Year 2 and Year 3 as described in the following.

For subjects to be studied at Year 1, Year 2 and Year 3, most are of standard credit value, each carrying 3 credits which are equivalent to 42 contact hours. The Honours Project carries 6 credits. The subjects on English and the two General Education subjects carry two credits each. Table 4.1 lists the subjects, their credit values, and the category they belong to (Compulsory or Elective) under a particular mode of study. All subjects shown as compulsory are non-deferrable and must be taken in accordance to the progression pattern. The five modes of study are outlined in Section 1.3.

For the Full-time mode, Sandwich mode, and CES mode of study, students are required to complete 100 academic credits to satisfy the degree requirements. The subjects contributing to the 100 academic credits are listed in Table 4.1 under the respective mode of study. However, they may choose to take additional subjects beyond the basic requirements. Please refer to Section 26 for detailed information on the requirements for graduation.

As for the Double Degree and Double Degree Sandwich modes, the students are required to complete 138 academic credits to satisfy the double degree requirements. According to the University regulation on Double Degree, a student will be eligible for an award as soon as the credit requirements of that award are met. The subjects contributing to the BEng(Hons) in EIE award are listed in Table 4.1 under the “Double Degree, Double Degree Sandwich” column.

Table 4.1 Subjects Category and Credits

Foundation-Year Curriculum

For Foundation-Year Curriculum, please refer to Section 5.

Year 1, Year 2 and Year 3 Curricula

Subject	Subject Title	CR	Category under mode			
			FT, SAND, CES	DD, DDS	Major in EIE	DD Minor in EP
AF2617	Economics for Engineers	3	COM	COM*	ELE	N.A.
AMA201	Mathematics I	3	COM	COM*#	COM	N.A.
AMA202	Mathematics II	3	COM	COM*#	COM	N.A.
CBS2080	Fundamentals of Chinese Communication	3	CBS	CBS*#	CBS	N.A.
EIE211	Logic Design	3	COM	COM*	COM	N.A.
ELC2501	University English I	2	ELC	ELC*#	ELC	N.A.
ELC2502	University English II	2	ELC	ELC*#	ELC	N.A.
ENG224	Information Technology	3	COM	COM*	COM	N.A.
ENG232	Engineering Science	3	COM	COM*	COM	N.A.
ENG236	Computer Programming	3	COM	COM*#	COM	N.A.
ENG237	Basic Electricity and Electronics I	3	COM	COM*#	COM	N.A.
ENG238	Basic Electricity and Electronics II	3	COM	COM*#	COM	N.A.
GEC2801	China Studies	2	GEC	GEC*#	GEC	N.A.
GECXXX	"Broadening" GEC subject	2	GEC	GEC*#	GEC	N.A.
IC2105	Engineering Communication and Fundamentals	4	TRN	TRN*#	TRN	N.A.
IC2111	Industrial Centre Training I	5	TRN	TRN*#	TRN	N.A.
AMA305	Probability and Engineering Statistics	3	COM	COM*	ELE	N.A.
EIE304	Electronic Circuits	3	COM	COM*#	ELE	N.A.
EIE305	Integrated Analogue and Digital Circuits	3	COM (Select any 2 subjects out of these 3 subjects)	COM*	ELE	N.A.
EIE322	Interface and Embedded Systems	3		COM*	ELE	N.A.
EIE333	Data and Computer Communications	3		ELE*	ELE	N.A.
EIE306	IC Technology and Processes	3	COM (Select any 1 subject out of these 2 subjects)	COM*#	ELE	N.A.
EIE320	Object-Oriented Design and Programming	3		N.A.	ELE	N.A.
EIE311	Computer System Fundamentals	3	COM	COM*	COM	N.A.
EIE312	Linear Systems	3	COM	COM*#	COM	N.A.
EIE329	Integrated Project	3	COM	COM*	COM	N.A.
EIE331	Communication Fundamentals	3	COM	COM*#	ELE	N.A.
EIE338	Applied Electromagnetics	3	COM	COM*#	ELE	(1)
EIE387	Cooperative Education (for CES mode only)	P	WIE	WIE	N.A.	N.A.
EIE388	Industrial Training (for Sandwich mode only)	P	WIE	WIE	N.A.	N.A.
EIE389	Industrial Attachment	4	TRN	TRN*	N.A.	N.A.
ELC3508	English for Effective Workplace Communication	2	ELC	ELC*#	ELC	N.A.
ENG306	Engineering Management	3	COM (Select any 1 subject out of these 2 subjects)	COM*# (Select any 1 subject out of these 2 subjects)	ELE (mutually exclusive)	N.A.
MM2021	Management and Organisation	3				
ENG307	Society and The Engineer	3	COM	COM*	ELE	N.A.

Table 4.1 Subjects Category and Credits (cont'd)

Year 1, Year 2 and Year 3 Curricula

Subject	Subject Title	CR	Category under mode			
			FT, SAND, CES	DD, DDS	Major in EIE	DD Min or in EP
IC367	Industrial Centre Training II	4	TRN	TRN*	TRN	N.A.
EIE401	VLSI and Computer-Aided Circuit Design	3	ELE	ELE*	ELE	N.A.
EIE402	Power Electronics	3	ELE	ELE*	ELE	N.A.
EIE403	High Frequency Circuit Design	3	ELE	ELE*	ELE	N.A.
EIE408	Principles of Virtual Reality	3	ELE	ELE*	ELE	N.A.
EIE413	Digital Signal Processing	3	COM	COM*	ELE	N.A.
EIE414	Computer Architecture and Systems	3	ELE	ELE*	ELE	N.A.
EIE415	Multimedia Technology	3	ELE	ELE*	ELE	N.A.
EIE424	Distributed Systems and Network Programming	3	ELE	ELE*	ELE	N.A.
EIE433	Honours Project	6	COM	COM*#	ELE	N.A.
EIE435	Image and Audio Processing	3	ELE	ELE*	ELE	N.A.
EIE443	Telecommunication Networks	3	ELE	ELE*	ELE	N.A.
EIE447	Mobile Communications	3	ELE	ELE*	ELE	N.A.
EIE448	Bioengineering Signals and Systems	3	ELE	ELE*	ELE	N.A.
EIE449	Optical Communication Systems and Networks	3	ELE	ELE*	ELE	N.A.
EIE450	Nanoscience and Technology for Electronic Engineering	3	ELE	ELE*	ELE	N.A.
EIE451	Circuits for Telecommunications	3	ELE	ELE*	ELE	N.A.
EIE507	Network Design - Theory & Practice	3	ELE	ELE*	N.A.	N.A.
EIE509	Satellite Communications - Technology and Applications	3	ELE	ELE*	N.A.	N.A.
EIE511	VLSI System Design	3	ELE	ELE*	N.A.	N.A.
EIE522	Pattern Recognition: Theory & Applications	3	ELE	ELE*	N.A.	N.A.
EIE528	Digital Data Transmission	3	ELE	ELE*	N.A.	N.A.
EIE529	Digital Image Processing	3	ELE	ELE*	N.A.	N.A.
EIE531	Mobile Radio Communications	3	ELE	ELE*	N.A.	N.A.
EIE536	High Speed Networks	3	ELE	ELE*	N.A.	N.A.
EIE541	Digital Signal Processing	3	ELE	ELE*	N.A.	N.A.
EIE545	Consumer Electronics	3	ELE	ELE*	N.A.	N.A.
EIE546	Video Technology	3	ELE	ELE*	N.A.	N.A.
EIE552	Internet Technologies for Multimedia Applications	3	ELE	ELE*	N.A.	N.A.
EIE553	Security in Data Communication	3	ELE	ELE*	N.A.	N.A.
EIE555	Personal Networking Technology	3	ELE	ELE*	N.A.	N.A.
EIE556	Advanced DSP for Multimedia Communications	3	ELE	ELE*	N.A.	N.A.
EIE557	Computational Intelligence and its Applications	3	ELE	ELE*	N.A.	N.A.
EIE558	Speech Processing and Recognition	3	ELE	ELE*	N.A.	N.A.
EIE559	CDMA Spread Spectrum Communications and Its Applications	3	ELE	ELE*	N.A.	N.A.
EIE563	Digital Audio Processing	3	ELE	ELE*	N.A.	N.A.
EIE565	Advanced Multimedia Technology	3	ELE	ELE*	N.A.	N.A.
EIE576	Information Technology in Biomedicine	3	ELE	ELE*	N.A.	N.A.
EIE577	Optoelectronic Devices	3	ELE	ELE*	N.A.	N.A.
EIE578	CMOS Analog Integrated Circuits Design & Analysis	3	ELE	ELE*	N.A.	N.A.
EIE579	Advanced Telecommunication Systems	3	ELE	ELE*	N.A.	N.A.

Table 4.1 Subjects Category and Credits (cont'd)

Year 1, Year 2 and Year 3 Curricula (cont'd)

Subject	Subject Title	CR	Category under mode			
			FT, SAND, CES	DD, DDS	Major in EIE	DD Minor in EP
AP200	Mechanics	3	N.A.	COM#	N.A.	(1)
AP201	Wave and Optics	3	N.A.	COM#	N.A.	(2)
AP210	Materials Science	3	N.A.	COM#	N.A.	(2)
AP2211	Physics Laboratory	3	N.A.	COM#	N.A.	(2)
AP260	Metals and Ceramics	3	N.A.	COM#	N.A.	(2)
AP301	Modern Physics I	3	N.A.	COM#	N.A.	(1)
AP3211	Measurement and Experimental Techniques	3	N.A.	COM#	N.A.	(2)
AP351	Modern Physics II	3	N.A.	COM#	N.A.	(2)
AP352	Thermal and Statistical Physics	3	N.A.	COM#	N.A.	(1)
AP3612	Materials Science Laboratory I	1	N.A.	COM#	N.A.	(2)
AP3613	Materials Science Laboratory II	1	N.A.	COM#	N.A.	(2)
AP401	Modern Optics	3	N.A.	COM#	N.A.	(2)
AP4111	Electronic Materials	3	N.A.	COM#	N.A.	(2)
AP451	Condensed Matter Physics	3	N.A.	COM#	N.A.	(2)
AP4611	Reliability and Failure Analysis	3	N.A.	COM#	N.A.	(2)
AP310	Polymers and Composites	3	N.A.	ELE#	N.A.	(2)
AP3311	Computational Physics	3	N.A.	ELE#	N.A.	(2)
AP3551	Applied Acoustics	3	N.A.	ELE#	N.A.	(2)
AP3531	Electromagnetic Fields	3	N.A.	COM#	N.A.	(1)
AP4711	Advanced Physics Laboratory	3	N.A.	ELE#	N.A.	(2)
AP4811	Simulation Methods in Nonlinear Science	3	N.A.	ELE#	N.A.	(2)

Note:

- * Subjects counted towards BEng(Hons) in EIE award under the Double Degree mode.
- # Subjects counted towards BSc(Hons) in EP award under the Double Degree mode.
- (1),(2) Choose at least 6 credits from group (1) and 12 credits from group (2) to minor in EP under the Double Degree mode.
- CBS Department of Chinese and Bilingual Studies
- CES Cooperative Education Scheme
- COM Compulsory
- DD Double Degree
- DDS Double Degree Sandwich
- ELC English Language Centre
- ELE Elective
- FT Full-time
- GEC General Education Centre
- SAND Sandwich
- TRN Training
- WIE Work-Integrated Education

Subject to the approval by the Programme Leader, students may take at most one Level 5 subject per semester as a final-year technical elective during their final year of study.

4.2 University Language Requirements

4.2.1 Students are expected to possess the general standard of language proficiency through the secondary school education prior to their admission to the University as follows:

(i) English and Written Chinese

Students with overall grade “A” or “B” in HKALE(AS-level) Use of English and Chinese Language & Culture shall be considered as possessing the respective general standards of language proficiency, and thus shall be exempted from taking the respective Language Enhancement Programmes (LEP).

Students with overall grade “C” in HKALE(AS-level) Use of English and Chinese Language & Culture shall generally be considered as possessing the respective general standards of language proficiency. But if they possess component grade(s) lower than “C”, they shall be required to complete the respective LEP modules prescribed for them.

(ii) Putonghua

Students shall be assessed through the entrance test on Putonghua provided by CBS upon commencement of their programme of study at the University to determine if they shall be required to take the Putonghua LEP.

Students with grade “A” or “B” in HKCEE Putonghua shall be considered as possessing the general standard of Putonghua proficiency, and thus shall be exempted from taking the required Putonghua LEP.

Students with grade “C” in HKCEE Putonghua shall generally be considered as possessing the general standard of Putonghua proficiency. But they will be assessed again through the entrance test on Putonghua provided by CBS upon commencement of their programme of study to determine if they shall be required to take the Putonghua LEP.

4.2.2 Benchmarking mechanisms will be established for assessing students’ general standard of language proficiency upon admission, in order that appropriate enhancement can be provided, where necessary, to help them achieve the desired standard upon graduation.

(i) English and Written Chinese

HKALE(AS-level) Use of English and Chinese Language & Culture subjects shall be adopted as the benchmarking mechanisms.

Native speakers of English shall by default be given exemption. Exemption requests on other grounds shall be considered on a case-by-case basis.

(ii) Putonghua

CBS's entrance test on Putonghua and HKCEE Putonghua subject shall be adopted as the benchmarking mechanisms for assessing students' general levels of Putonghua proficiency upon admission.

Native speakers of Putonghua shall by default be given exemption. Exemption requests on other grounds shall be considered on a case-by-case basis.

4.2.3 To enable students to be equipped with the necessary generic language skills to pursue their studies as well as to attain the level of proficiency up to University's desired standard, appropriate non-credit bearing enhancement programmes will be provided to students in accordance with their proficiency level as identified in the entry assessment as specified in Section 4.2.1 above.

(i) Non-credit Bearing Language Enhancement Programmes

Non-credit bearing Chinese/English Language Enhancement Programmes (LEPs) shall be prescribed and provided by CBS/ELC for individual students in respect of their proficiency levels.

Students are expected to complete the LEPs prescribed by CBS and/or ELC before their graduation. Nevertheless, non-completion of the respective LEP(s) will not affect students' eligibility for graduation.

4.2.4 Final year students are strongly recommended to take external tests such as IELTS which can help to strengthen their credentials when seeking employment.

5. SPECIFIED PROGRESSION PATTERN

For non-local students from Chinese Mainland or countries which have an education system different from the current Hong Kong system entering this programme in 2011/12, they should have studied the Foundation Year prior to pursuing study in Year 1, Year 2 and Year 3. The progression pattern of the Foundation Year is reproduced in the following from the 2011/12 *Foundation-Year Curriculum* for completeness of this document. For details, please refer to the original booklet#.

Foundation Year (32 Credits)	
Semester 1	Semester 2
AMA103 Foundation Mathematics I for Science and Engineering	AMA104 Foundation Mathematics II for Science and Engineering
AP101 College Physics	AMA105 Logic : Qualitative and Quantitative
APSS184 Understanding the Hong Kong Community	AP102 College Physics II
CBS2050 Elementary Cantonese*	ENG1002 Foundation Year Seminar II
ENG1001 Foundation Year Seminar I	ELC1005 English for University Studies II
ELC1004 English for University Studies I	XXX Foundation Year Elective

Foundation Year Electives

ABCT102 Foundation Biology
 ABCT103 Fundamental Chemistry*
 AF1603 Foundations of Economics*
 APSS185 Discovering Psychology*
 COMP100 Introduction to Information Technology*
 COMP102 Enterprise Information Technology
 COMP111 Information Technology Systems
 ELC1003 Extended Writing Skills
 GEC225 Exploration of the Cosmos*
 GEC270 History of Hong Kong*
 ITC1001 Design and Applied Technology*

Details of the Foundation-Year Curriculum can be found here:

https://www2.polyu.edu.hk/as/Polyu/SUBREG/Foundation/Foundation_Year_Curriculum.pdf

* Elective subjects for students who come from Guangdong Province and have been exempted from taking 'CBS2050 Elementary Cantonese' by the Programme Leader.

5.1 Full-time mode

Year 1 (33 Credits)	
Semester 1 (15.5 credits)	Semester 2 (17.5 credits)
AMA201 Mathematics I	AMA202 Mathematics II
ENG237 Basic Electricity and Electronics I	ENG238 Basic Electricity and Electronics II
ENG232 Engineering Science	EIE211 Logic Design
ENG224 Information Technology	EIE312 Linear Systems
ENG236 Computer Programming	ENG236 Computer Programming (continued)
ELC2501 University English I	ELC2502 University English II
-	GEC2801 China Studies
IC2105 Engineering Communication and Fundamentals (4 training credits)	IC2105 Engineering Communication and Fundamentals (continued)
Semester 3 IC2111 IC Training I (5 training credits)	
Year 2 (32 Credits)	
Semester 1 (17 credits)	Semester 2 (15 credits)
AMA305 Probability and Engineering Statistics	EIE305 Integrated Analogue and Digital Circuits
EIE304 Electronic Circuits	EIE322 Interface and Embedded Systems
EIE331 Communication Fundamentals	EIE333 Data and Computer Communications
EIE311 Computer System Fundamentals	Choose any two subjects out of these three subjects
ELC3508 English for Effective Workplace Communication	EIE329 Integrated Project
EIE320 Object-oriented Design and Programming OR EIE306 IC Technology and Processes	EIE338 Applied Electromagnetics
Semester 3 IC367 IC Training II or EIE389 Industrial Attachment (4 training credits)	
Year 3 (35 Credits)	
Semester 1 (20 credits)	Semester 2 (15 credits)
EIE433 Honours Project	EIE433 Honours Project (cont'd)
AF2617 Economics for Engineers	ENG306 Engineering Management OR MM2021 Management and Organisation
CBS2080 Fundamentals of Chinese Communication	ENG307 Society and The Engineer
EIE Technical Elective	EIE Technical Elective
EIE Technical Elective	EIE Technical Elective
EIE Technical Elective	
GEC "Broadening" subject	

5.2 Sandwich mode

Year 1 (33 Credits)	
Semester 1 (15.5 credits)	Semester 2 (17.5 credits)
AMA201 Mathematics I	AMA202 Mathematics II
ENG237 Basic Electricity and Electronics I	ENG238 Basic Electricity and Electronics II
ENG232 Engineering Science	EIE211 Logic Design
ENG224 Information Technology	EIE312 Linear Systems
ENG236 Computer Programming	ENG236 Computer Programming (continued)
ELC2501 University English I	ELC2502 University English II
-	GEC2801 China Studies
IC2105 Engineering Communication and Fundamentals (4 training credits)	IC2105 Engineering Communication and Fundamentals (continued)
Semester 3 IC2111 IC Training I (5 training credits)	
Year 2 (32 Credits)	
Semester 1 (17 credits)	Semester 2 (15 credits)
AMA305 Probability and Engineering Statistics	EIE305 Integrated Analogue and Digital Circuits
EIE304 Electronic Circuits	EIE322 Interface and Embedded Systems
EIE331 Communication Fundamentals	EIE333 Data and Computer Communications
EIE311 Computer System Fundamentals	Choose any two subjects out of these three subjects
ELC3508 English for Effective Workplace Communication	EIE329 Integrated Project
EIE320 Object-oriented Design and Programming OR EIE306 IC Technology and Processes	EIE338 Applied Electromagnetics
Semester 3 IC367 IC Training II or EIE389 Industrial Attachment (4 training credits)	EIE413 Digital Signal Processing
Year 3I (0-6 Credits) *	
Semester 1	Semester 2
EIE388 Industrial Training	EIE388 Industrial Training
Optional – Students may take 1 subject	Optional – Students may take 1 subject
Year 4 (29-35 Credits) *	
Semester 1 (14-20 credits)	Semester 2 (9-15 credits)
EIE433 Honours Project	EIE433 Honours Project (cont'd)
AF2617 Economics for Engineers	ENG306 Engineering Management OR MM2021 Management and Organisation
CBS2080 Fundamentals of Chinese Communication	ENG307 Society and The Engineer
GEC "Broadening" subject	
Electives – Choose 3 to 5 electives	

* Total credits accumulated in Year 3I and Year 4 must be equal to 35 credits.

5.3 Cooperative Education Scheme mode - Track 1

Year 1 (33 Credits)	
Semester 1 (15.5 credits)	Semester 2 (17.5 credits)
AMA201 Mathematics I	AMA202 Mathematics II
ENG237 Basic Electricity and Electronics I	ENG238 Basic Electricity and Electronics II
ENG232 Engineering Science	EIE211 Logic Design
ENG224 Information Technology	EIE312 Linear Systems
ENG236 Computer Programming	ENG236 Computer Programming (continued)
ELC2501 University English I	ELC2502 University English II
-	GEC2801 China Studies
IC2105 Engineering Communication and Fundamentals (4 training credits)	IC2105 Engineering Communication and Fundamentals (continued)
Semester 3 IC2111 IC Training I (5 training credits)	
Year 2 (35 Credits)	
Semester 1 (17 credits)	Semester 2 (15 credits)
AMA305 Probability and Engineering Statistics	EIE305 Integrated Analogue and Digital Circuits
EIE304 Electronic Circuits	EIE322 Interface and Embedded Systems
EIE331 Communication Fundamentals	EIE333 Data and Computer Communications
EIE311 Computer System Fundamentals	Choose any two subjects out of these three subjects
ELC3508 English for Effective Workplace Communication	EIE329 Integrated Project
EIE320 Object-oriented Design and Programming OR EIE306 IC Technology and Processes	EIE338 Applied Electromagnetics
Semester 3 (3 credits)	
EIE387 Cooperative Education	
IC367 IC Training II or EIE389 Industrial Attachment (4 training credits)	
Choose 1 subject under the guidance of the Programme Leader	
Year 3 (24 credits)	
Semester 1 (9 credits)	Semester 2 (12 credits)
EIE387 Cooperative Education (continued)	
CBS2080 Fundamentals of Chinese Communication	EIE433 Honours Project
Choose 2 subjects under the guidance of the Programme Leader	Choose 2 subjects under the guidance of the Programme Leader
Semester 3 (3 credits)	
EIE387 Cooperative Education (continued)	
Choose 1 subject under the guidance of the Programme Leader.	
Year 4 (8 credits)	
Semester 1	
EIE387 Cooperative Education (continued)	
GEC "Broadening" subject	
Choose 2 subjects under the guidance of the Programme Leader	
EIE433 Honours Project (continued)	

5.4 Cooperative Education Scheme mode – Track 2

Year 1 (33 Credits)	
Semester 1 (15.5 credits)	Semester 2 (17.5 credits)
AMA201 Mathematics I	AMA202 Mathematics II
ENG237 Basic Electricity and Electronics I	ENG238 Basic Electricity and Electronics II
ENG232 Engineering Science	EIE211 Logic Design
ENG224 Information Technology	EIE312 Linear Systems
ENG236 Computer Programming	ENG236 Computer Programming (continued)
ELC2501 University English I	ELC2502 University English II
-	GEC2801 China Studies
IC2105 Engineering Communication and Fundamentals (4 training credits)	IC2105 Engineering Communication and Fundamentals (continued)
Semester 3 IC2111 IC Training I (5 training credits)	
Year 2 (35 Credits)	
Semester 1 (17 credits)	Semester 2 (15 credits)
AMA305 Probability and Engineering Statistics	EIE305 Integrated Analogue and Digital Circuits
EIE304 Electronic Circuits	EIE322 Interface and Embedded Systems
EIE331 Communication Fundamentals	EIE333 Data and Computer Communications
EIE311 Computer System Fundamentals	Choose any two subjects out of these three subjects
ELC3508 English for Effective Workplace Communication	EIE329 Integrated Project
EIE320 Object-oriented Design and Programming OR EIE306 IC Technology and Processes	EIE338 Applied Electromagnetics
Semester 3 (3 credits)	
EIE387 Cooperative Education	
IC367 IC Training II or EIE389 Industrial Attachment (4 training credits)	
Choose 1 subject under the guidance of the Programme Leader	
Year 3 (21 credits)	
Semester 1 (9 credits)	Semester 2 (9 credits)
EIE387 Cooperative Education (continued)	
CBS2080 Fundamentals of Chinese Communication	Choose 3 subjects under the guidance of the Programme Leader
Choose 2 subjects under the guidance of the Programme Leader	
Semester 3 (3 credits)	
EIE387 Cooperative Education (continued)	
Choose 1 subject under the guidance of the Programme Leader	
Year 4 (11 credits)	
Semester 1 (11 credits)	Semester 2
EIE387 Cooperative Education (continued)	EIE433 Honours Project (continued)
EIE433 Honours Project	
GEC "Broadening" subject	
Choose 1 subject under the guidance of the Programme Leader	

5.5 Double Degree mode

Year 1 (33 Credits)	
Semester 1 (15.5 credits)	Semester 2 (17.5 credits)
AMA201 Mathematics I	AMA202 Mathematics II
ENG237 Basic Electricity and Electronics I	ENG238 Basic Electricity and Electronics II
ENG232 Engineering Science	EIE211 Logic Design
ENG224 Information Technology	EIE312 Linear Systems
ENG236 Computer Programming	ENG236 Computer Programming (continued)
ELC2501 University English I	ELC2502 University English II
-	GEC2801 China Studies
IC2105 Engineering Communication and Fundamentals (4 training credits)	IC2105 Engineering Communication and Fundamentals (continued)
Semester 3 IC2111 IC Training I (5 training credits)	
Year 2 (38 Credits)	
Semester 1 (20 credits)	Semester 2 (18 credits)
EIE304 Electronic Circuits	EIE322 Interface and Embedded Systems
EIE306 IC Technology and Processes	EIE329 Integrated Project
EIE311 Computer System Fundamentals	EIE338 Applied Electromagnetics
AMA305 Probability and Engineering Statistics	AP351 Modern Physics II
AP200 Mechanics	EIE413 Digital Signal Processing
AP301 Modern Physics I	AP Elective
ELC3508 English for Effective Workplace Communication	
Semester 3 IC367 IC Training II or EIE389 Industrial Attachment (4 training credits)	
Year 3 (37 Credits)	
Semester 1 (19 credits)	Semester 2 (18 credits)
EIE433 Honours Project	EIE433 Honours Project (continued)
EIE305 Integrated Analogue and Digital Circuits	ENG307 Society and The Engineer
EIE331 Communication Fundamentals	AP260 Metals and Ceramics
AF2617 Economics for Engineers	AP3211 Measurement and Experimental Techniques
AP3612 Materials Science Laboratory I	AP3613 Materials Science Laboratory II
AP2211 Physics Laboratory	ENG306 Engineering Management OR MM2021 Management and Organisation
CBS2080 Fundamentals of Chinese Communication	GEC "Broadening" subject
Year 4 (30 Credits)	
Semester 1 (15 credits)	Semester 2 (15 credits)
AP201 Wave and Optics	AP401 Modern Optics
AP210 Materials Science	AP451 Condensed Matter Physics
AP352 Thermal and Statistical Physics	AP3531 Electromagnetic Fields
AP4111 Electronic Materials	AP4611 Reliability and Failure Analysis
EIE Technical Elective	EIE Technical Elective

5.6 Double Degree Sandwich mode

Year 1 (33 Credits)	
Semester 1 (15.5 credits)	Semester 2 (17.5 credits)
AMA201 Mathematics I	AMA202 Mathematics II
ENG237 Basic Electricity and Electronics I	ENG238 Basic Electricity and Electronics II
ENG232 Engineering Science	EIE211 Logic Design
ENG224 Information Technology	EIE312 Linear Systems
ENG236 Computer Programming	ENG236 Computer Programming (continued)
ELC2501 University English I	ELC2502 University English II
-	GEC2801 China Studies
IC2105 Engineering Communication and Fundamentals (4 training credits)	IC2105 Engineering Communication and Fundamentals (continued)
Semester 3 IC2111 IC Training I (5 training credits)	
Year 2 (38 Credits)	
Semester 1 (20 credits)	Semester 2 (18 credits)
EIE304 Electronic Circuits	EIE322 Interface and Embedded Systems
EIE306 IC Technology and Processes	EIE329 Integrated Project
EIE311 Computer System Fundamentals	EIE338 Applied Electromagnetics
AMA305 Probability and Engineering Statistics	AP351 Modern Physics II
AP200 Mechanics	EIE413 Digital Signal Processing
AP301 Modern Physics I	AP Elective
ELC3508 English for Effective Workplace Communication	
Semester 3 IC367 IC Training II or EIE389 Industrial Attachment (4 training credits)	
Year 3I (0-6 Credits) *	
Semester 1	Semester 2
EIE388 Industrial Training	EIE388 Industrial Training
Optional – Students may take 1 subject	Optional – Students may take 1 subject
Year 4 (31-37 Credits) *	
Semester 1 (13-19 credits) *	Semester 2 (12-18 credits) *
EIE433 Honours Project	EIE433 Honours Project (continued)
EIE305 Integrated Analogue and Digital Circuits	ENG307 Society and The Engineer
EIE331 Communication Fundamentals	AP260 Metals and Ceramics
AF2617 Economics for Engineers	AP3211 Measurement and Experimental Techniques
AP3612 Materials Science Laboratory I	AP3613 Materials Science Laboratory II
AP2211 Physics Laboratory	ENG306 Engineering Management OR MM2021 Management and Organisation
CBS2080 Fundamentals of Chinese Communication	GEC “Broadening” subject
Year 5 (24-30 Credits) *	
Semester 1 (9-15 credits)	Semester 2 (9-15 credits)
AP201 Wave and Optics	AP401 Modern Optics
AP210 Materials Science	AP451 Condensed Matter Physics
AP352 Thermal and Statistical Physics	AP3531 Electromagnetic Fields
AP4111 Electronic Materials	AP4611 Reliability and Failure Analysis
EIE Technical Elective	EIE Technical Elective

* Total credits accumulated in Year 3I, Year 4 and Year 5 must be equal to 67 credits.

5.7 Major in EIE – Full-time mode

Year 1 (33 Credits)	
Semester 1 (15.5 credits)	Semester 2 (17.5 credits)
AMA201 Mathematics I	AMA202 Mathematics II
ENG237 Basic Electricity and Electronics I	ENG238 Basic Electricity and Electronics II
ENG232 Engineering Science	EIE211 Logic Design
ENG224 Information Technology	EIE312 Linear Systems
ENG236 Computer Programming	ENG236 Computer Programming (continued)
ELC2501 University English I	ELC2502 University English II
-	GE – China Studies
IC2105 Engineering Communication and Fundamentals (4 training credits)	IC2105 Engineering Communication and Fundamentals (continued)
Semester 3 IC2111 IC Training I (5 training credits)	
Year 2 (32 Credits)	
Semester 1 (17 credits)	Semester 2 (15 credits)
EIE311 Computer System Fundamentals	EIE329 Integrated Project
ELC3508 English for Effective Workplace Communication	2 EIE Electives
2 EIE Electives	2 Minor Electives
2 Minor Electives	-
Semester 3 IC367 IC Training II or EIE389 Industrial Attachment (4 training credits)	
Year 3 (35 Credits)	
Semester 1 (18 credits)	Semester 2 (17 credits)
CBS2080 Fundamentals of Chinese Communication	4 EIE Electives
3 EIE Electives	1 Minor Elective
1 Minor Elective	GE – Broadening
Any 1 subject (level 1 to level 4, 3 credits)	-

5.8 Major in EIE – Sandwich mode

Year 1 (33 Credits)	
Semester 1 (15.5 credits)	Semester 2 (17.5 credits)
AMA201 Mathematics I	AMA202 Mathematics II
ENG237 Basic Electricity and Electronics I	ENG238 Basic Electricity and Electronics II
ENG232 Engineering Science	EIE211 Logic Design
ENG224 Information Technology	EIE312 Linear Systems
ENG236 Computer Programming	ENG236 Computer Programming (continued)
ELC2501 University English I	ELC2502 University English II
-	GE – China Studies
IC2105 Engineering Communication and Fundamentals (4 training credits)	IC2105 Engineering Communication and Fundamentals (continued)
Semester 3 IC2111 IC Training I (5 training credits)	
Year 2 (32 Credits)	
Semester 1 (17 credits)	Semester 2 (15 credits)
EIE311 Computer System Fundamentals	EIE329 Integrated Project
ELC3508 English for Effective Workplace Communication	2 EIE Electives
2 EIE Electives	2 Minor Electives
2 Minor Electives	-
Semester 3 IC367 IC Training II or EIE389 Industrial Attachment (4 training credits)	
Year 3I (0-6 Credits)*	
Semester 1	Semester 2
EIE388 Industrial Training	EIE388 Industrial Training continued
Optional – Students may take 1 subject	Optional – Students may take 1 subject
Year 4 (29-35 Credits)*	
Semester 1 (15-18 credits)	Semester 2 (14-17 credits)
CBS2080 Fundamentals of Chinese Communication	4 EIE Electives
3 EIE Electives	1 Minor Elective
1 Minor Elective	GE – Broadening
Any 1 subject (level 1 to level 4, 3 credits)	-

*Total credits accumulated in Year 3I and Year 4 must be equal to 35 credits.

6. HONOURS PROJECT

The Honours Project is considered to be of great importance for an engineering programme. This is reflected in the number of credits it carries, being 6 credits which are equivalent to two standard-sized subjects. Furthermore, the result of the Honours Project will be very important when the Board of Examiners considers the award classification of a student. Normally, the Board of Examiners will expect a very good grade for the Honours Project when a student is to be awarded a high Honours classification.

The feature of the Honours Project is “learning by doing”. It is intended to be a platform for the students to develop their intellectual and innovative abilities and to give them the opportunities to integrate and apply the knowledge and analytical skills gained in previous stages of study. It should also provide students with opportunities to develop their problem solving skills and communication skills. The progress from concept to final implementation and testing, through problem identification and the selection of appropriate solutions will be practised by the students.

6.1 Project Management

Normally each student will be assigned one project under the supervision of an academic staff member so that he/she will work independently to achieve the project objectives. In other cases, several students may work on different aspects of a larger-scale project.

The assignment of projects is expected to be completed by the month of June preceding the beginning of the final year of study. Guidelines for Honours Project are given to students at the beginning of the final year.

6.2 Project Assessment

Assessment of the Honours Project focuses in three main areas: project reports, oral presentations and work done over the whole project period. Assessment will be done by the project supervisor and an assessor. The Project Management Team, which is composed of the Programme Leader and staff members from teaching sections, will oversee the overall standard of assessment of the projects. The Project Management Team will also oversee the daily operation, such as fixing the dates of project report submission, oral presentation, demonstration, etc.

7. INDUSTRIAL CENTRE TRAINING

It is of utmost importance for students to have a chance to develop hands-on experience in various engineering domains in order to prepare for pursuing a career in the engineering profession. Industrial Centre (IC) Training is a practical training element in this curriculum to serve this purpose.

During Semester 1, Semester 2 and Summer Term of Year 1, students will undergo practical training in the Industrial Centre. First-year training is composed of two subjects, namely Engineering Communications and Fundamentals (IC2105) and Industrial Centre Training I for EIE (IC2111). IC2105 will be scheduled to Semester 1 and Semester 2 while IC2111 will be scheduled to the Summer Term. In the Summer Term of Year 2, students will undergo Industrial Centre Training II (IC367) in the Industrial Centre. IC2105 carries 4 training credits, IC2111 carries 5 training credits and IC367 carries 4 training credits. They are graded in the normal manner from A+ to F and will be counted in the evaluation of the Grade Point Average (GPA). However, they will not be counted towards the credit requirement of the award or the evaluation of the Weighted GPA. Students must pass all Industrial Centre subjects in order to be considered for the BEng award. The IC training will be graded at the end of the Summer Terms of Year 1 and Year 2. If the assessment of an Industrial Centre Training, which is completed in a particular academic year, cannot be done in time for the grade to be reported in the particular year, the grade will be reported during Semester One of the following academic year.

7.1 Contents of Industrial Centre Training

Industrial Centre (IC) Training comprises three subjects: IC2105, IC2111 and IC367. The detailed syllabus of these subjects can be found in the syllabi section in this booklet. In Year 1, IC Training covers engineering drawing, the use of computer aided design tools in electronic and mechanical engineering environments, the use of scientific computation tool, industrial safety and practice in electronic and information engineering. IC Training in Year 1 provides a comprehensive set of training in disciplines relevant for the development of a professional engineer in Electronic and Information Engineering.

Industrial Centre Training II (IC367) basically takes the form of an engineering project, with three to six students in a team working under the guidance of staff members from Industrial Centre or from the Department. Typically, the team is charged with the task to complete an electronic or information engineering project from scratch. This will include market research, idea presentation and finish with a working prototype that can enable further development into manufacturing. Students will gain experience, awareness and practice in a full-time industrial like environment for development in professional

attributes and technical competence in handling engineering project. This will include innovation and creativity, team work, proto-type building, engineering document preparation, planning and presentation.

7.2 Assessment of Industrial Centre Training

The assessment method of Industrial Centre Training is based on 100% continuous assessment. Technology training module will be assessed on completion of that module. The components of assessment for technology training modules are workshop report, competency in practical work and the result of an appreciation test. For drawing and industrial safety classes, components of the assessment are assignments and tests. At the end of the training course, a training log book will be submitted by the student for assessment. The training log book summarizes the work undertaken by the student in technology training modules and includes an overall appraisal of the training programme.

To complete the Industrial Centre Training successfully, students must demonstrate good professional attributes including responsible attitude in training, excellent attendance with active learning, exercising best practice and care in equipment and tools while observing all safety codes. Detail of assessment scheme is available from Industrial Centre. If a student fails in a module, he/she will be required to repeat that module, normally during the summer.

8. WORK-INTEGRATED EDUCATION (WIE)

8.1 WIE is a mandatory component of the programme. There can be several routes or options for the students to pursue Work-Integrated Education (WIE). These options include the Cooperative Education Scheme (CES), Sandwich mode of study, Preferred Graduate Development Programme (PGDP), industrial projects, and other workplace training opportunities provided by the University or found by students themselves, etc.

8.2 Credits Requirement

In order to graduate from this programme, students must attain a minimum of one WIE training credit within the period of study. WIE credits to be earned by students may vary. Following the Faculty of Engineering's guideline, students will be awarded one WIE training credit for acquiring every two weeks' full-time training. WIE training credits will not be counted towards the Grade Point Average (GPA) nor the Weighted GPA (WGPA). After assessing the student's training performance, a Pass or a Fail grade

will be awarded to the student on his/her WIE. The number of training credits obtained by the students depends on the actual job duration. For instance, in the case of CES mode of study, the student will earn a maximum of 39 WIE credits over a period of 78 weeks of full-time employment. In the case of Sandwich training, the number of WIE credits earned over a period of 1-year full-time employment will be 26. For the case of industrial attachment or industrial project, normally 2 WIE credits will be earned by the student over a period of 4 weeks of workplace training. For the case of PGDP, the nominal working period is 2 months, resulting in 4 WIE credits.

The WIE credits will be reflected in the Co-curricular Activities Transcript of the student, but will not be counted towards the non-credit bearing co-curricular activities as stated in Section 9.

8.3 Achievement of Programme Outcomes through WIE

Since WIE can be taken in different forms and applied to different kinds of job, the learning outcomes to be achieved will vary depending on the job nature and its duration engaged by the student. However, based on the experience gained from operating the CES and Sandwich modes of the Programme, WIE can bring a lot of advantages to students' learning both in the profession-specific areas and in their all-round development. The extent to which a student can achieve the programme learning outcomes through WIE is assessed by the student's industrial supervisor and Personal Tutor.

8.4 WIE Options

WIE option under the Programme can be in many forms, namely Cooperative Education Scheme, Sandwich Training, industrial attachment, industrial project, Preferred Graduate Development Programme, and other job opportunities.

8.4.1 Cooperative Education Scheme (CES) (EIE387)

Under this Scheme, the students engage in WIE after the second year of study in the Programme. From Semester 3 of Year 2 up to Semester 1 of Year 4, students will take up a full-time job to work. Concurrently, they will pursue their study of the remaining curriculum through a "day-release" (the student is released from the job one day per week by the employer) arrangement. The advantage of the CES mode of WIE is that the students can engage in larger-scale projects and are assumed to bear more responsibilities as a result of a fairly long period of employment (1.5 years). Furthermore, there may be possibility for the student to stay with the job "non-stop" after

graduation. The WIE performance of the student in CES mode is assessed and a grade is assigned to the subject EIE387.

8.4.2 Sandwich Training (EIE388)

The Sandwich Training is quite similar to the CES, except that its workplace training duration is not as long as CES. After the second year of study, the students will engage in a full-time job for one year. On completion of the WIE in the Sandwich mode, the student will return to the University to continue the study of the remaining curriculum. The WIE performance of the student in Sandwich Training is assessed and a grade is assigned to the subject EIE388.

8.4.3 Industrial Project

Industrial projects are Honours Projects working with the industry. Students working on an industrial project will pursue the project in a company for a certain period of time. Students will work with a real-life project in the real working environment.

8.4.4 Preferred Graduate Development Programme (PGDP)

Under the PGDP, students will engage in a real working environment by working in a company which is a partner of the PGDP programme coordinated by the SAO. The duration is usually several weeks in the summer vacation period. Such kind of training is recognized as a WIE option.

8.4.5 Other Job Opportunities

It is possible that the students find jobs for themselves to work during their free time. This kind of job opportunities will be judged by the Department whether it is helpful to the students in achieving the intended programme learning outcomes. The students and the Personal Tutors/WIE Coordinators will work collaboratively with regard to the job selection and the subsequent training contents. The Department will constantly monitor the progress. At the end of the training, an assessment will be made on the student's achievement of learning outcomes.

8.5 Guidelines for Operation and Supervision of WIE

The Department adopts a set of strategies to support students' learning in the workplace. The followings are the details of the operation at different stages.

8.5.1 Preparation

The Department will actively align with the industry to get WIE placement opportunities for students. It is important for students to be fully aware of the benefits brought by WIE. Students will be asked to attend employment seminars as early as possible. Through this type of arrangement, students in all years will be better prepared for job hunting and employment in advance. Students will also be able to realize the benefits for engaging in WIE and the importance of taking an active role in completing the training with the best effort.

8.5.2 Operation

There will be WIE Coordinators overseeing all matters related to WIE activities under the Programme. The WIE Coordinators are the academic staff members of the Department responsible for the organization and operation of WIE activities. To guide the students and monitor their progress in taking the WIE, each student will be assigned an academic supervisor (who is also the student's Personal Tutor) from the Department. The student and his/her Personal Tutor will jointly plan the WIE details, such as job selection, training plan, logging of activities, reporting, and assessment. The Personal Tutor will make contacts with the student and, if appropriate, the employer to monitor the progress of the student.

Each student will be guided by his/her Personal Tutor when conducting the WIE training. The student's work will be monitored continuously and an assessment will be given when the WIE placement is completed.

8.5.3 Assessment of WIE Component(s)

The objective of assessment is to determine what has been achieved by the student through WIE. The actual type of work and duration vary in different cases. For instance, there will be students taking 2-week full-time jobs while some other may undergo a 1.5-year CES training. Hence an assessment framework is set out in the following as a general guideline.

(i) Continuous Assessment

The Personal Tutor may visit the student during the training period so that the Personal Tutor and the employer will be able to discuss the student's performance together. This will give better feedback on the student's performance before the training is completed.

(ii) Report

After the training is completed, the student is required to submit a report to the Personal Tutor. The report must be duly endorsed by the industrial supervisor. The details to be contained in the report should be commensurate with the training duration. It contains a brief account on the training received, the objectives that have been achieved, and the experience gained. The student may also conduct a self-evaluation on his/her own performance.

(iii) Employer Evaluation

At the end of the training period, the industrial supervisor will provide an evaluation of the student's performance, assessing the student's work and all-round development.

(iv) Overall Assessment

An overall assessment of the student's performance will be made by the Personal Tutor by considering all the assessment components as stated in Section 8.5.3(i)-(iii). A pass grade will be given to the student upon satisfactory completion of the WIE; otherwise a failure grade will be given.

9. CO-CURRICULAR ACTIVITIES

9.1 Students are required to participate in at least 6 cumulative hours of non-credit bearing co-curricular activities (CCA) in order to satisfy the overall requirement of general education before graduation. The said duration can cover a combination of a number of recognized CCA. The scope of activities recognized for fulfilling the requirement of mandatory CCA is determined by Student Affairs Office (SAO) (<http://www.polyu.edu.hk/sao/cca>) and outlined as follows:

- (i) The CCA is non-credit bearing and non-course-required.
- (ii) The learning outcomes of such activities/programmes should be able to broaden students' horizon, and inspire them to actualize all-round development with emphasis on the strengthening of competencies as mentioned in Section 2.2.

- (iii) The format of these activities can be structured short courses, experiential learning, workshops, competitions, talks and seminars, study tour, voluntary work within PolyU and Community Service Learning Programme, etc.
- (iv) Community projects can be also recognized as co-curricular activities if the community services are endorsed by the department. Community projects with pre-training and/or briefing sessions are more desirable.
- (v) The activities should be organized or co-organized by PolyU faculties/schools/departments/units/committees, and/or endorsed by the aforesaid parties as fulfilling the above criteria. The organizer of these activities should ensure that quality assurance mechanism is in place as a measurement of student learning outcome.

9.2 Exception

Activities like internship, placement, paid work, and contribution made by office-bearers in student bodies are NOT considered as CCA. Activities counted as Work-integrated Education (WIE) should not be counted as CCA.

9.3 Fulfilment Status

Students may check their CCA Fulfilment Status in SPECIAL ePortfolio at <http://www.polyu.edu.hk/sao/special/portal>.

Besides, students will be notified by email if they have not fulfilled the CCA requirement. Email reminder encouraging students to take part in co-curricular activities will be sent once every semester.

10. DEPARTMENTAL UNDERGRADUATE PROGRAMME COMMITTEE

10.1 The composition of the Departmental Undergraduate Programme Committee is decided by the Head of Department and normally, it consists of Programme Leaders of all degree and higher diploma programmes hosted by the Department, Head of Department, representative from the Departmental Learning and Teaching Committee, teaching staff representatives, representatives from major serving departments and student representatives. The Committee is responsible for programme review and development.

10.2 The Committee will collect and consider, on a regular basis, the views of students and other key stakeholders on the relevance and currency of the syllabi, the standards of

the examinations, the development of the programme, the adequacy of resources and the local and worldwide trends related to learning and teaching, for the continuous improvement of the programmes.

11. STUDENT STATUS

- 11.1 Students' eligibility for the range of services provided by the University will be governed by the students' status, which is determined with reference to the mode of attendance of the academic programmes enrolled and/or the study load as described in Sections 11.5 to 11.7 below.
- 11.2 Students are normally expected to follow the specified progression pattern. These are referred to as "regular" students. Those students who have been given special approval by the Programme Leader and the Head of Department for not following the specified pattern are referred to as "self-paced" students.

Self-paced Students:

- 11.3 Students who wish to study at their own pace instead of following the specified progression pattern will have to seek prior approval from their Department. These students are referred to as self-paced students.
- 11.4 Students who register on programmes without any specified progression pattern are also known as self-paced students.

Full-time Students:

- 11.5 Students enrolling on full-time/sandwich programmes or on mixed-mode programmes with a study load of 9 credits or more in a semester, are classified as full-time students. Students on full-time/sandwich programmes or on mixed-mode programmes who wish to change their study load to less than 9 credits in a semester will have to seek prior approval from their Department. Students who enroll on full-time programmes but have been given permission to take less than 9 credits in a semester will be given the option to pay credit fees. If students wish to exercise such option, they have to inform the Department before the end of the add/drop period of that semester.

Part-time Students:

- 11.6 Students enrolling on part-time, distance learning, online, and mixed-mode programmes, with a study load of less than 9 credits in a semester (unless otherwise approved by the Department), are classified as part-time students.

Mixed-mode Students:

- 11.7 Students enrolling on mixed-mode programmes are classified as mixed-mode students. They may engage in a full-time or part-time study load and attend classes either in the evening, in the daytime, or a combination of both. If the mixed-mode students take subjects with a study load reaching the minimum requirement of a full-time student, they will be given full-time status in that semester. If their study load does not reach this minimum of 9 credits, they will be given part-time status (unless otherwise approved by the Department).

Subject-based Students:

- 11.8 Students who wish to take individual subjects, but do not wish to register as a candidate for an award, are classified as subject-based students.

12. SUBJECT REGISTRATION AND WITHDRAWAL

- 12.1 In addition to programme registration, students need to register for subjects at specified periods prior to the commencement of a semester. An add/drop period will also be scheduled for each semester. Students may apply for withdrawal of their registration on a subject after the add/drop period if they have a genuine need to do so. The application should be made to the relevant programme offering Department and will require the approval of both the subject lecturer and the host Department Programme Leader concerned (or an alternate academic staff authorised by the programme host Department). Applications submitted after the commencement of the examination period will not be considered. Once the application of subject withdrawal is approved, the tuition fee paid for the subject will be forfeited and the withdrawal status of the subject will be shown in the examination result notification and transcript of studies but will not be counted towards the calculation of GPA.
- 12.2 The pre-requisite requirements of a subject must have been fulfilled before a student registers for that subject. However, the subject offering department has the discretion to waive the pre-requisite requirements of a subject, if deemed appropriate. If the pre-

requisite subject concerned forms part of the requirements for award, the subject has to be passed in order to satisfy the graduation requirements for the programme concerned despite the waiving of the pre-requisite.

- 12.3 Subject to the maximum study load of 21 credits per semester and the availability of study places, students are allowed to take additional subjects on top of the prescribed credit requirement for award before they become eligible for graduation. For students of full-time programmes, they can take additional subjects from within or outside their programme curriculum. Students can choose freely from those subjects which are available for selection (unless they are barred because of pre-requisites).

13. STUDY LOAD

- 13.1 For students following the progression pattern specified for their programme, they have to take the number of credits as specified in the Programme Booklet, for each semester.
- 13.2 The normal study load is 15 credits in a semester. The maximum study load to be taken by a student in a semester is 21 credits, unless exceptional approval is given by the Head of the programme offering Department. For such cases, students should be reminded that the study load approved should not be taken as grounds for academic appeal.
- 13.3 Students are not allowed to take zero subject in any semester, including the mandatory summer term as required by some programmes, unless they have obtained prior approval from the programme offering Department; otherwise they will be classified as having unofficially withdrawn from their programme. Students who have been approved for zero subject enrolment (i.e. taking zero subject in a semester) are allowed to retain their student status and continue using campus facilities and library facilities. Any semester in which the students are allowed to take zero subject will nevertheless be counted towards the maximum period of registration.
- 13.4 Students who have obtained approval to pace their studies should seek advice from the Department concerned before the selection of subjects.

14. SUBJECT EXEMPTION

Students may be exempted from taking any specified subjects, including mandatory language or general education subjects, if they have successfully completed similar subjects previously in another programme or have demonstrated the level of proficiency/ability to the satisfaction of the subject offering department. Subject exemption is normally decided by the subject offering department (for "Broadening" GE subjects and for all subjects at admission stage, the decision will be made by the programme offering department). However, for applications which are submitted by students who have completed an approved student exchange programme, the subject exemption is to be decided by the host department in consultation with the subject offering departments. In case of disagreement between the host department and the subject offering department, the two Faculty Deans/School Board Chairmen concerned will make a final decision jointly on the application. If students are exempted from taking a specified subject, the credits associated with the exempted subject will not be counted towards the award requirements (except for exemptions granted at admission stage). It will therefore be necessary for the students to consult the host department and take another subject in order to satisfy the credit requirement for the award.

15. CREDIT TRANSFER

15.1 Students may be given credits for recognised previous studies (including mandatory language or general education subjects and the credits will be counted towards meeting the requirements for award. Transferred credits may be counted towards more than one award. The granting of credit transfer is a matter of academic judgment. In assessing the transferability of subjects previously taken, the syllabus of that subject should be carefully scrutinized to ascertain that it is comparable to the PolyU's curriculum. Whether the previous studies are from institutions on credit-based or non-credit-based system should not be a matter of concern, and the subject size need not be a perfect match. To ascertain the academic standing of the institution offering the previous studies, the Department might need to request the institutions concerned to provide more relevant information.

15.2 Credit transfer may be done with or without the grade being carried over; the former should normally be used when the credits were gained from PolyU. Credit transfer with the grade being carried over may be granted for subjects taken from outside the University, if deemed appropriate, and with due consideration to the academic equivalence of the subjects concerned and the comparability of the grading systems adopted by the University and the other approved institutions. Subject credit transfer is normally decided by the subject offering Department (for "Broadening" GE subjects,

however, the decision will be made by the programme offering Department). However, for applications which are submitted by students who have completed an approved student exchange programme, the decision will be made by the programme offering Department in consultation with the subject offering Departments. As the application for credit transfer may involve subjects offered by more than one Department, the programme offering Department should coordinate and check whether the maximum limit for credit transfer for a student has been exceeded, and whether the student has fulfilled the residential requirement of the University.

- 15.3 In case of disagreement between the programme offering Department and the subject offering Department, the two Faculty Deans/School Board Chairmen concerned will make a final decision jointly on the application. The validity period of credits previously earned is up to 8 years after the year of attainment.
- 15.4 Normally, not more than 50% of the credit requirement for award may be transferable from approved institutions outside the University. For transfer of credits from programmes offered by PolyU, normally not more than 67% of the credit requirement for award can be transferred. In cases where both types of credits are being transferred (i.e. from programmes offered by PolyU and from approved institutions outside the University), not more than 50% of the credit requirement for award may be transferred.
- 15.5 If the transferred credits are a PolyU programme which is accredited by a professional body, the Department concerned should ensure that the transferred credits will also meet the requirement of the relevant professional body.
- 15.6 If a student is waived from a particular stage of study on the basis of advanced qualifications held at the time of admission, the student concerned will be required to complete fewer credits for award. For these students, the exempted credits will be counted towards the maximum limit for credit transfer when students apply for further credit transfer after their admission.
- 15.7 Notwithstanding the upper limits stipulated in Section 15.4 above, (and unless professional bodies stipulate otherwise) students may be given more credit transfer than these upper limits (e.g. upon completion of exchange activity as mentioned in Section 15.8 below), subject to their satisfying the residential requirement.
- 15.8 Credit transfer can be applicable to credits earned by students through studying at an overseas institution under an approved exchange programme. Students should, before they go abroad for the exchange programme, seek prior approval from the programme

offering Department (who will consult the subject offering Departments as appropriate) on their study plan and credit transferability. As with all other credit transfer applications, the Departments concerned should scrutinise the syllabuses of the subjects which the students are going to take at the overseas institution, and determine their credit transferability based on academic equivalence with the corresponding subjects on offer at the PolyU, and the comparability of the grading systems adopted by PolyU and the overseas institution. The transferability of credits, and the suitability for allowing grades to be carried over, must be determined and communicated to students before they go abroad for the exchange programme. In order to overcome the problems associated with subject-to-subject mappings, block credit transfer rather than subject-by-subject credit transfer can be given.

- 15.9 All credit transfers approved will take effect only in the semester for which they are approved. A student who applies for transfer of credits during the re-enrolment or the add/drop period of a particular semester will only be eligible for graduation at the end of that semester, even if the granting of credit transfer will immediately enable the student to satisfy the credit requirement for the award.

16. DEFERMENT OF STUDY

- 16.1 Students may apply for deferment of study if they have a genuine need to do so such as illness or posting to work outside Hong Kong. Approval from the Programme Leader and the Head of Department is required. The deferment period will not be counted as part of the maximum period of registration.
- 16.2 Application for deferment of study will be entertained only in exceptional circumstances for students who have not yet completed the first year of a full-time or sandwich programme.
- 16.3 Where the period of deferment of study begins during a stage for which fees have been paid, no refund of such fees will be made.
- 16.4 Students who have been approved for deferment are not entitled to enjoy any campus facilities during the deferment period.

17. PRINCIPLES OF ASSESSMENT

- 17.1 Assessment *of* learning and assessment *for* learning are both important for assuring the quality of student learning. Assessment *of* learning is to evaluate whether students have achieved the intended learning outcomes of the subjects that they have taken and have attained the overall learning outcomes of the academic programme at the end of their study at a standard appropriate to the award. Appropriate methods of assessment that align with the intended learning outcomes should be designed for this purpose. The assessment methods will also enable teachers to differentiate students' different levels of performance within subjects. Assessment *for* learning is to engage students in productive learning activities through purposefully designed assessment tasks.
- 17.2 Assessment will also serve as feedback to students. The assessment criteria and standards should be made explicit to students before the start of the assessment to facilitate student learning, and feedback provided should link to the criteria and standards. Timely feedback should be provided to students so that they are aware of their progress and attainment for the purpose of improvement.
- 17.3 The ultimate authority in the University for the confirmation of academic decisions is the Senate, but for practical reasons, the Senate has delegated to the Faculty/School Boards the authority to confirm the decisions of Boards of Examiners provided these are made within the framework of the General Assessment Regulations. Recommendations from Board of Examiners which fall outside these Regulations shall be ratified by the Academic Regulations Committee (ARC) and reported to the Senate as necessary.

18. ASSESSMENT METHODS

- 18.1 Students' performance in a subject can be assessed by continuous assessment and/or examination, at the discretion of the individual subject offering Department. Where both continuous assessment and examination are used, the weighting of each in the overall subject grade shall be clearly stated in the programme booklet. The subject offering Department can decide whether students are required to pass both the continuous assessment and examination components, or either component only, in order to obtain a subject pass, but this requirement (to pass both, or either components) shall be specified in the programme booklet. Learning outcomes should be assessed by continuous assessment and/or examination appropriately, in line with the outcome-based approach.

- 18.2 Continuous assessment may include tests, assignments, projects, laboratory work, field exercises, presentations and other forms of classroom participation. Continuous Assessment assignments which involve group work should nevertheless include some individual components therein. The contribution made by each student in continuous assessment involving a group effort shall be determined and assessed separately, and this can result in different grades being awarded to students in the same group.
- 18.3 Assessment methods and parameters of subjects shall be determined by the subject offering department.
- 18.4 At the beginning of each semester, the subject teacher will inform students of the details of the methods of assessments to be used in the subject concerned within the assessment framework as specified in the programme booklet.

19. SUBJECT RESULTS

- 19.1 Subject Lecturers have sole responsibilities for marking students' coursework and examination scripts, grading them, finalising the results and informing each student of his/her results, in respect of the subject they teach. In this regard, Subject Lecturers will be accountable to the Head of the subject offering Department to ensure that the scripts are correctly marked and graded, and to avoid administrative errors at all times. To ensure consistency and uniformity for a common subject taught by different Subject Lecturers, meetings can be arranged amongst them before the examination papers are set or before the marking is done.
- 19.2 Subject Assessment Review Panel (SARP) may also be formed by the Head of the Department offering the subjects to review and finalise the subject grades for submission to the Board of Examiners. One Subject Assessment Review Panel may be formed to take care of all subjects offered by the Department.
- 19.3 SARP shall include the Head of the Department offering the subjects (as Chairman), the relevant subject examiners and where appropriate, the programme leader.

20. BOARD OF EXAMINERS (BoE)

- 20.1 The authority for approving the overall results of students rests with the Board of Examiners (BoE). The BoE will meet at the end of each semester (except for Summer

Term unless there are students who are eligible to graduate after the completion of Summer Term subjects) and is responsible to the Senate for making:

- (i) a decision on the classification of awards to be granted to each student on completion of the programme;
- (ii) a decision on deregistration cases; and
- (iii) a decision on cases with extenuating circumstance.

20.2 These decisions are made by the full BoE at the end of each semester in the light of the standard of student achievement appropriate to the award to which the programme is designed to lead, the aims of the programme, the performance on the programme in previous years, the general assessment regulations of the University and the specific programme regulations, and good practice established in the University and elsewhere.

20.3 The BoE will not attempt to change the grades for any student in any subject nor condone failures. The decisions of the BoE, except those on award and deregistration cases which are straight forward, will be ratified by the Faculty Board. The Faculty Board may refer the decisions back to the BoE for further consideration and explanation.

20.4 Any decisions by the BoE outside the General Assessment Regulations of the University, supported by the Faculty Board, shall be referred to the Academic Regulations Committee for ratification. All such cases shall be reported to the Senate. Decisions by BoE outside the programme regulations but within the general assessment regulations of the University fall within the authority of the Faculty Board.

20.5 Students shall be formally notified of decisions affecting them after the BoE meeting except for those cases which require ratification of the Faculty Board. For the latter cases, students shall be formally notified of decisions after the Faculty Board's ratification or, if a decision is outside the General Assessment Regulations, after the Academic Regulations Committee ratifies that decision. Any prior communication of results to these students shall be subject to formal ratification.

21. PROGRESSION / ACADEMIC PROBATION / DEREGISTRATION

21.1 The Board of Examiners shall, at the end of each semester (except for Summer Term unless there are students who are eligible to graduate after completion of Summer Term subjects), determine whether each student is

- (i) eligible for progression towards an award; or
- (ii) eligible for an award; or
- (iii) required to be deregistered from the programme.

- 21.2 When a student has a Grade Point Average (GPA) (see Section 25.3 below) lower than 2.0, he/she will be put on academic probation in the following semester. Once when a student is able to pull his/her GPA up to 2.0 or above at the end of that following semester, the status of “academic probation” will be lifted. The status of “academic probation” will be reflected in the examination result notification but not in the transcript of studies.
- 21.3 A student will have ‘progressing’ status unless he/she falls within the following categories, either of which may be regarded as grounds for deregistration from the programme:
- (i) the student has exceeded the maximum period of registration for the programme as specified in this programme booklet; or
 - (ii) the student’s GPA is lower than 2.0 for two consecutive semesters and his/her Semester GPA in the second semester is also lower than 2.0; or
 - (iii) the student’s GPA is lower than 2.0 for three consecutive semesters.
- 21.4 The progression of students to the following academic year will not be affected by the GPA obtained in Summer Term, unless Summer Term study is mandatory for all students of the programme and constitutes a requirement for graduation, and is so specified in the programme booklet.
- 21.5 A student may be deregistered from the programme enrolled before the time frame specified in Sections 21.3(ii) and 21.3(iii) above if his/her academic performance is poor to the extent that the Board of Examiners considers that there is not much of a chance for him/her to attain a GPA of 2.0 at the end of the programme.
- 21.6 In the event that there are good reasons, the Board of Examiners has the discretion to recommend that students who fall into categories as stated in Sections 21.3(ii) or 21.3(iii) above be allowed to stay on the programme, and these recommendations should be presented to the relevant Faculty/School Board for final decision.
- 21.7 Under the current procedures, a student can appeal against the decisions of Boards of Examiners to deregister him/her. If such an appeal was upheld by the Department, the recommendation (to reverse the previous decision to deregister the student) will also be presented to the relevant Faculty Board for final decision.

22. APPEAL AGAINST ASSESSMENT RESULTS

A student may appeal against a decision of a Subject Assessment Review Panel or the Board of Examiners within 7 working days upon the public announcement of the examination results. The procedures for appeals against examination results are detailed in the Student Handbook.

23. RETAKING OF SUBJECTS

- 23.1 Students may retake any subject for the purpose of improving their grade without having to seek approval, but they must retake a compulsory subject which they have failed, i.e. obtained an F grade. Retaking of subjects is with the condition that the maximum study load of 21 credits per semester is not exceeded. Students wishing to retake passed subjects will be accorded a lower priority than those who are required to retake (due to failure in a compulsory subject) and can only do so if places are available.
- 23.2 The number of retakes of a subject is not restricted. Only the grade obtained in the final attempt of retaking (even if the retake grade is lower than the original grade for an originally passed subject) will be included in the calculation of the Grade Point Average (GPA). If students have passed a subject but failed after retake, credits accumulated for passing the subject in a previous attempt will remain valid for satisfying the credit requirement for award. (The grades obtained in previous attempts will only be reflected in transcript of studies.)
- 23.3 In cases where a student takes another subject to replace a failed elective subject, the fail grade will be taken into account in the calculation of the GPA, despite the passing of the replacement subject.

24. EXCEPTIONAL CIRCUMSTANCES

Absence from an assessment component

- 24.1 If a student is unable to complete all the assessment components of a subject, due to illness or other circumstances which are beyond his/her control and considered by the subject offering Department as legitimate, the Department will determine whether the student will have to complete a late assessment and, if so, by what means. This late assessment shall take place at the earliest opportunity, and before the commencement of the following academic year (except that for Summer Term, which may take place within 3 weeks after the finalisation of Summer Term results). If the late assessment

cannot be completed before the commencement of the following academic year, the Faculty/School Board Chairman shall decide on an appropriate time for completing the late assessment.

- 24.2 The student concerned is required to submit his/her application for late assessment in writing to the Head of Department offering the subject, within five working days from the date of the examination, together with any supporting documents. Approval of applications for late assessment and the means for such late assessments shall be given by the Head of Department offering the subject or the Subject Lecturer concerned, in consultation with the Programme Leader.

Aegrotat award

- 24.3 If a student is unable to complete the requirements of the programme in question for the award due to very serious illness, or other very special circumstances which are beyond his/her control, and considered by the Board of Examiners as legitimate, the Faculty/School Board will determine whether the student will be granted an aegrotat award. Aegrotat award will be granted under very exceptional circumstances.
- 24.4 A student who has been offered an aegrotat award shall have the right to opt either to accept such an award, or request to be assessed on another occasion to be stipulated by the Board of Examiners; the student's exercise of this option shall be irrevocable.
- 24.5 The acceptance of an aegrotat award by a student shall disqualify him/her from any subsequent assessment for the same award.
- 24.6 An aegrotat award shall normally not be classified, and the award parchment shall not state that it is an aegrotat award. However, the Board of Examiners may determine whether the award should be classified provided that they have adequate information on the students' academic performance.

Other particular circumstances

- 24.7 A student's particular circumstances may influence the procedures for assessment but not the standard of performance expected in assessment.

25. GRADING

25.1 Assessment grades shall be awarded on a criterion-referenced basis. A student's overall performance in a subject shall be graded as follows:

<i>Subject grade</i>	<i>Short description</i>	<i>Elaboration on subject grading description</i>
A+	Exceptionally Outstanding	The student's work is exceptionally outstanding. It exceeds the intended subject learning outcomes in all regards.
A	Outstanding	The student's work is outstanding. It exceeds the intended subject learning outcomes in nearly all regards.
B+	Very Good	The student's work is very good. It exceeds the intended subject learning outcomes in most regards.
B	Good	The student's work is good. It exceeds the intended subject learning outcomes in some regards.
C+	Wholly Satisfactory	The student's work is wholly satisfactory. It fully meets the intended subject learning outcomes.
C	Satisfactory	The student's work is satisfactory. It largely meets the intended subject learning outcomes.
D+	Barely Satisfactory	The student's work is barely satisfactory. It marginally meets the intended subject learning outcomes.
D	Barely Adequate	The student's work is barely adequate. It meets the intended subject learning outcomes only in some regards.
F	Inadequate	The student's work is inadequate. It fails to meet many of the intended subject learning outcomes.

'F' is a subject failure grade, whilst all others ('D' to 'A+') are subject passing grades. No credit will be earned if a subject is failed.

25.2 A numeral grade point is assigned to each subject grade, as follows:

Grade	Grade Point
A+	4.5
A	4
B+	3.5
B	3
C+	2.5
C	2
D+	1.5
D	1
F	0

25.3 At the end of each semester, a Grade Point Average (GPA) will be computed based on the grade point of all the subjects as follows:

$$\text{GPA} = \frac{\sum_n \text{Subject Grade Point} \times \text{Subject Credit Value}}{\sum_n \text{Subject Credit Value}}$$

where n = number of subjects as listed in Table 4.1 under the respective mode of study (inclusive of failed subjects) taken by the student up to and including the latest semester, but for subjects which have been retaken, only the grade point obtained in the final attempt will be included in the GPA calculation.

In addition, the following subjects will be excluded from the GPA calculation:

- (i) Exempted subjects
- (ii) Ungraded subjects
- (iii) Incomplete subjects
- (iv) Subjects for which credit transfer has been approved without any grade assigned*
- (v) Subjects from which a student has been allowed to withdraw (i.e. those with the grade 'W')

A subject which has been given an “S” code, i.e. absent from examination, will be included in the GPA calculation and will be counted as “zero” grade point. GPA is thus the unweighted cumulative average calculated for a student, for all relevant subjects taken from the start of the programme to a particular reference point of time. GPA is an indicator of overall performance and is capped at 4.0.

* Subjects taken in PolyU or elsewhere and with grades assigned, and for which credit transfer has been approved, will be included in the GPA calculation.

25.4 Different types of GPA's

25.4.1 GPA's will be calculated for each Semester including the Summer Term. This Semester GPA will be used to determine students' eligibility to progress to the next Semester alongside with the 'cumulative GPA'. However, the Semester GPA calculated for the Summer Term will not be used for this purpose, unless the Summer Term study is mandatory for all students of the programme concerned and constitutes part of the graduation requirements.

25.4.2 The GPA calculated after the second Semester of the students' study is therefore a 'cumulative' GPA of all the subjects taken so far by students, and without applying any level weighting.

25.4.3 Along with the 'cumulative' GPA, a weighted GPA will also be calculated, to give an indication to the Board of Examiners on the award classification which a student will likely get if he/she makes steady progress on his/her academic studies.

25.4.4 When a student has satisfied the requirements for award, an award GPA will be calculated to determine his/her award classification.

25.4.5 For students taking the Major/Minor study route, a separate GPA will be calculated for their Major and Minor programmes. The Major GPA will be used to determine his/her award classification, which will be so reflected on the award parchment. The Minor GPA can be used as a reference for the Board of Examiners to moderate the award classification for the Major, as explained further in Section 28.6 (vi).

26. REQUIREMENTS FOR BENG(HONS) IN EIE AWARD AND BSC(HONS) IN EP AWARD

For students entering the programme via the local Advanced Level examination system, they will pursue a 3-year study. For these students, the requirements for BEng(Hons) in EIE and BSc(Hons) in EP awards are specified in the following Sections 26.1 to 26.8. For students entering the programme from Chinese Mainland or countries which have an education system different from the current Hong Kong system, they will have to pursue a 4-year curriculum in this programme. They will have to satisfy the 32 credits requirement as specified in the Foundation-Year curriculum in addition to the requirements as stated in Sections 26.1 to 26.8 below in order to be eligible for the BEng(Hons) in EIE and BSc(Hons) in EP awards.

26.1 Under the Full-time, CES, and Sandwich mode, a student would be eligible for the BEng(Hons) in EIE award if he/she satisfies all the conditions listed below:

- (i) Obtains a total of 100 academic credits composed of the following:
 - (a) 72 credits from the subjects categorized as COM (compulsory) as stated in Table 4.1;
 - (b) 15 credits from the subjects categorized as ELE (elective) as stated in Table 4.1;
 - (c) 4 credits from the subjects categorized as GEC (General Education) as stated in Table 4.1;
 - (d) 6 credits from the subjects categorized as ELC (English Language) as stated in Table 4.1;
 - (e) 3 credits from the subjects categorized as CBS (Chinese Language) as stated in Table 4.1;
- (ii) Obtains a total 13 credits in the TRN (Training) as stated in Table 4.1.
- (iii) Satisfies the residential requirement for at least 1/3 of the credits to be completed for the award the student is currently enrolled, unless the professional bodies stipulate otherwise.
- (iv) Obtains at least 1 WIE credit as set out in Section 8.2. If the student studies under the CES mode, he/she must pass the subject EIE387. If the student studies under the Sandwich mode, he/she must pass the subject EIE388.
- (v) Fulfills the requirement of co-curricular activities as set out in Section 9.
- (vi) Achieves a GPA of 2.0 or above at the end of the programme.
- (vii) Fulfills the University language requirements as set out in Section 4.2.
- (viii) Passes Foundation Mathematics (AMA106)

(It is only applicable to admittees who have not studied Foundation Year and who do not have a "pass" in the A-level Mathematics subject(s), and who have not been given credit transfer for the subject AMA201 stipulated in the curriculum. These students are required to take a mandatory Mathematics

Benchmark Test (MBT) prior to the commencement of their studies. Those who pass the MBT are exempted from this graduation requirement and they follow the normal study pattern. Those who fail or do not attend the MBT are required to take a non-credit bearing subject AMA106 "Foundation Mathematics", which is a pre-requisite for AMA201. A pass in AMA106 "Foundation Mathematics" is thus a graduation requirement for these students.)

26.2 Under the Double Degree and Double Degree Sandwich mode, a student would be eligible for the BEng(Hons) in EIE award if he/she satisfies all the conditions listed below:

- (i) Obtains a total of 100 academic credits composed of the following:
 - (a) 72 credits from the subjects categorized as COM* (compulsory) as stated in Table 4.1;
 - (b) 15 credits from the subjects categorized as ELE* (elective) as stated in Table 4.1;
 - (c) 4 credits from the subjects categorized as GEC (General Education) as stated in Table 4.1;
 - (d) 6 credits from the subjects categorized as ELC (English Language) as stated in Table 4.1;
 - (e) 3 credits from the subjects categorized as CBS (Chinese Language) as stated in Table 4.1;
- (ii) Obtains a total 13 credits in the TRN (Training) as stated in Table 4.1.
- (iii) Satisfies the residential requirement for at least 1/3 of the credits to be completed for the award the student is currently enrolled, unless the professional bodies stipulate otherwise.
- (iv) Obtains at least 1 WIE credit as set out in Section 8.2. If the student studies under the Double Degree Sandwich mode, he/she must pass the subject EIE388.
- (v) Fulfills the requirement of co-curricular activities as set out in Section 9.
- (vi) Achieves a GPA of 2.0 or above at the end of the programme.
- (vii) Fulfills the University language requirements as set out in Section 4.2.
- (viii) Passes Foundation Mathematics (AMA106)

(It is only applicable to admittees who have not studied Foundation Year and who do not have a "pass" in the A-level Mathematics subject(s), and who have not been given credit transfer for the subject AMA201 stipulated in the curriculum. These students are required to take a mandatory Mathematics Benchmark Test (MBT) prior to the commencement of their studies. Those who pass the MBT are exempted from this graduation requirement and they follow the normal study pattern. Those who fail or do not attend the MBT are

required to take a non-credit bearing subject AMA106 "Foundation Mathematics", which is a pre-requisite for AMA201. A pass in AMA106 "Foundation Mathematics" is thus a graduation requirement for these students.)

26.3 Under the Double Degree and Double Degree Sandwich mode, a student would be eligible for the BSc(Hons) in EP award if he/she satisfies all the conditions listed below:

- (i) Obtains a total of 97 academic credits composed of the following:
 - (a) 83 credits from the subjects categorized as COM# (compulsory) as stated in Table 4.1;
 - (b) 3 credits from the subjects categorized as ELE# (elective) as stated in Table 4.1;
 - (c) 4 credits from the subjects categorized as GEC (General Education) as stated in Table 4.1;
 - (d) 4 credits from the subjects categorized as ELC (English Language) as stated in Table 4.1;
 - (e) 3 credits from the subjects categorized as CBS (Chinese Language) as stated in Table 4.1;
- (ii) Obtains a total 9 credits in the TRN# (Training) as stated in Table 4.1.
- (iii) Satisfies the residential requirement for at least 1/3 of the credits to be completed for the award the student is currently enrolled, unless the professional bodies stipulate otherwise.
- (iv) Obtains at least 1 WIE credit as set out in Section 8.2. If the student studies under the Double Degree Sandwich mode, he/she must pass the subject EIE388.
- (v) Fulfills the requirement of co-curricular activities as set out in Section 9.
- (vi) Achieves a GPA of 2.0 or above at the end of the programme.
- (vii) Fulfills the University language requirements as set out in Section 4.2.
- (viii) Passes Foundation Mathematics (AMA106)

(It is only applicable to admittees who have not studied Foundation Year and who do not have a "pass" in the A-level Mathematics subject(s), and who have not been given credit transfer for the subject AMA201 stipulated in the curriculum. These students are required to take a mandatory Mathematics Benchmark Test (MBT) prior to the commencement of their studies. Those who pass the MBT are exempted from this graduation requirement and they follow the normal study pattern. Those who fail or do not attend the MBT are required to take a non-credit bearing subject AMA106 "Foundation Mathematics", which is a pre-requisite for AMA201. A pass in AMA106 "Foundation Mathematics" is thus a graduation requirement for these students.)

- 26.4 Under the Double Degree and Double Degree Sandwich mode, a student will be eligible for the BEng(Hons) in EIE award or the BSc(Hons) in EP award as soon as he/she satisfies all the conditions for award as set out in Section 26.2 or 26.3 above, even though the requirements for the other award have not yet been met.
- 26.5 Under the Full-time, CES, and Sandwich mode, a student is required to graduate as soon as he/she satisfies all the conditions for award as set out in Section 26.1 above.
- 26.6 Under the Double Degree and Double Degree Sandwich mode, a student is required to graduate as soon as he/she satisfies all the conditions for the **two** awards as set out in Sections 26.2 and 26.3 above.
- 26.7 Subject to the maximum study load of 21 credits per semester, a student may take more credits than he/she needs to graduate on top of the prescribed credit requirements for his/her award in or before the semester within which he/she becomes eligible for award.
- 26.8 Students graduating under the Double Degree or Double Degree Sandwich mode will receive two award parchments which will be issued upon completion of the second degree. Students should claim for the degree completed if they decide not to continue with the second degree.

27. GUIDELINES FOR AWARD CLASSIFICATION

- 27.1 The guidelines for award classification of BEng(Hons) in EIE and BSc(Hons) in EP are stated in the following. In using these guidelines, the respective Board of Examiners shall exercise its judgement in coming to its conclusions as to the award for each student, and where appropriate, may use other relevant information. The derivation of GPA for award classification for the respective degrees (particularly on the counting of subjects common to both degrees) will be decided by the Department offering the degree programme. The honours classification of the two degrees need not be identical.
- 27.2 This programme uses Weighted GPA as a guide for helping to determine award classifications. Subjects studied in Foundation Year will not be counted towards the Weighted GPA. Only subjects contained in the Year 1, Year 2, and Year 3 curricula will be counted towards the Weighted GPA.
- (i) BEng(Hons) in EIE award under the Full-time, Sandwich, CES, Double Degree and Double Degree Sandwich modes.

Weighted GPA will be computed as follows:

$$\text{Weighted GPA} = \frac{\sum_n \text{Subject Grade Point} \times \text{Subject Credit Value} \times W_i}{\sum_n \text{Subject Credit Value} \times W_i}$$

where $W_i = 0.2$ for all level 2 subjects, and

$W_i = 0.4$ for all Level 3, and Level 4 and Level 5 subjects.

n = number of subjects counted towards the award as listed in Table 4.1 under the respective mode of study according to the Specified Progression Pattern (Section 5) (inclusive of failed subjects) taken by the student up to and including the latest semester, but for subjects which have been retaken, only the grade obtained in the final attempt will be included in the GPA calculation except those exclusions specified in Section 27.3.

Same as GPA, Weighted GPA is capped at 4.0.

(ii) BSc(Hons) in EP award under the Double Degree and Double Degree sandwich mode.

$$\text{Weighted GPA} = \frac{\sum_n \text{Subject Grade Point} \times \text{Subject Credit Value} \times W_i}{\sum_n \text{Subject Credit Value} \times W_i}$$

where $W_i = 0.18$ for all level 2 subjects, and

$W_i = 0.27$ for all Level 3 subjects, and

$W_i = 0.55$ for all Level 4.

n = number of subjects counted towards the award as listed in Table 4.1 under the respective mode of study according to the Specified Progression Pattern (Section 5) (inclusive of failed subjects) taken by the student up to and including the latest semester, but for subjects which have been retaken, only the grade obtained in the final attempt will be included in

the GPA calculation except those exclusions specified in Section 27.3.

Same as GPA, Weighted GPA is capped at 4.0.

27.3 Any subjects passed after the graduation requirement has been met or subjects taken on top of the prescribed credit requirements for award shall not be taken into account in the grade point calculation for award classification. However, if a student attempts more elective subjects (or optional subjects) than those required for graduation in or before the semester in which he/she becomes eligible for award, the elective subjects (or optional subjects) with a higher grade/contribution shall be included in the grade point calculation (i.e. the excessive subjects attempted with a lower grade/contribution, including failed subjects, will be excluded.)

27.4 Classification of Awards

27.4.1 The followings are guidelines for the Board for Examiners' reference in determining award classifications:

Award Classification	Guidelines
1 st	The student's performance/attainment is outstanding, and identifies him/her as exceptionally able in the field covered by the programme in question.
2 nd (Division I)	The student has reached a standard of performance/attainment which is more than satisfactory but less than outstanding.
2 nd (Division II)	The student has reached a standard of performance/attainment judged to be satisfactory, and clearly higher than the 'essential minimum' required for graduation.
3 rd	The student has attained the 'essential minimum' required for graduation at a standard ranging from just adequate to just satisfactory.

27.4.2 Under exceptional circumstances, a student who has completed an Honours degree programme, but has not attained Honours standard, may be awarded a Pass-without-Honours degree. A Pass-without-Honours degree award will be recommended, when the student has demonstrated a level of final attainment which is below the 'essential minimum' required for graduation with Honours from the programme in question, but when he/she has nonetheless covered the prescribed work of the programme in an adequate fashion, while failing to show sufficient evidence of the intellectual calibre expected of Honours degree

graduates. For example, if a student in an Honours degree programme has a Grade Point Average (GPA) of 2.0 or more, but his/her Weighted GPA is less than 2.0, he/she may be considered for a Pass-without-Honours classification. A Pass-without-Honours is an unclassified award, but the award parchment will not include this specification.

27.4.3 The following is a set of indicators, for the Board of Examiners' reference, which can be used in helping to determine award classification:

Award Classification	Weighted GPA
1 st	3.7 ⁺ - 4
2 nd (Division I)	3.2 ⁺ - 3.7 ⁻
2 nd (Division II)	2.3 ⁺ - 3.2 ⁻
3 rd	2.0 - 2.3 ⁻

Note: "+" sign denotes 'equal to or more than'; "-" sign denotes 'less than'.

27.4.4 There is no requirement for the Board of Examiners to produce an award list which conforms to the guidelines in Section 27.4.3 above.

28. MAJOR IN ELECTRONIC AND INFORMATION ENGINEERING

28.1 Application for Taking Major/Minor Option

Students will be invited in their first year of registration to indicate an irrevocable option of whether to follow a Major/Minor route or to continue with the single-discipline degree. In conjunction with the Major in Electronic and Information Engineering (Major in EIE) programme, students may either choose a specific Minor programme, in which a set of specific subjects are prescribed for students to study, or students may just freely select elective subjects to fulfil the credit requirements (such subjects are called *free electives*). Normally a Minor programme requires 18 credits.

28.2 Professional Recognition

Students taking major/minor programmes may not satisfy the academic requirements for Corporate Membership of the Hong Kong Institution of Engineers (HKIE).

28.3 Progression Pattern

If a student chooses to follow the Major/Minor route of study, he/she will basically follow the progression pattern set out under section 5.7 or 5.8 when selecting the subjects to study in Year 1, Year 2 and Year 3. In this regard, he/she should consult the Programme Leader in choosing the subjects to study in a particular stage.

28.4 Credit Requirement for Major in EIE Award

The credit requirement for the Major in EIE award is 79 credits made up by the following subjects and as set out under the "Major in EIE" column in Table 4.1:

- (i) 33 credits from the subjects categorized as COM (compulsory).
- (ii) 33 credits from the subjects categorized as ELE (elective).
- (iii) 4 credits from the subjects categorized as GEC (General Education).
- (iv) 6 credits from the subjects categorized as ELC (English Language).
- (v) 3 credits from the subject categorized as CBS (Chinese Language).

28.5 Eligibility for graduation with Major in EIE Award with / without a Minor Award

Students must satisfy the following requirements in order to graduate:

- (i) Credit requirement:
 - (a) 79 credits required by the Major in EIE programme as stated in Section 28.4.
 - (b) 18 credits required by the specific Minor programme or from subjects of any combination of disciplines (i.e. free electives).
 - (c) A total of not less than 100 credits (if the credits required for the Major and Minor combination are less than 100, students must take extra credits from any subjects (level 1 to 4) to make up the total credit requirement of 100 credits).
- (ii) Achieves a GPA of 2.0 or above at the end of the programme.
- (iii) Satisfies the residential requirement for at least 1/3 of the credits to be completed for the award the student is currently enrolled, unless the professional bodies stipulate otherwise.
- (iv) Fulfils the University Language requirements as set out in Section 4.2.
- (v) Achieves 13 credits categorized as TRN in Table 4.1.
- (vi) Achieves at least 1 WIE credit as set out in Section 8.2.
- (vii) Fulfils the requirement of co-curricular activities as set out in Section 9.
- (viii) Passes Foundation Mathematics (AMA106)
(It is only applicable to admittees who have not studied Foundation Year and who do not have a "pass" in the A-level Mathematics subject(s), and who have

not been given credit transfer for the subject AMA201 stipulated in the curriculum. These students are required to take a mandatory Mathematics Benchmark Test (MBT) prior to the commencement of their studies. Those who pass the MBT are exempted from this graduation requirement and they follow the normal study pattern. Those who fail or do not attend the MBT are required to take a non-credit bearing subject AMA106 "Foundation Mathematics", which is a pre-requisite for AMA201. A pass in AMA106 "Foundation Mathematics" is thus a graduation requirement for these students.)

28.6 Guidelines for Award Classification (Major / Minor Programme)

- (i) For students who have completed a Major/Minor programme, a single classification will be awarded and their award classification will be based on their "Major GPA", but it can be moderated by the Board of Examiners with reference to the "Minor GPA". For students who have completed a Major programme combined with free electives, their award classification will be determined by their "Major GPA" and the grades obtained for the free electives.
- (ii) "Major GPA" is derived based on all subjects of the Major programme.
- (iii) The "Major GPA" will be Weighted GPA to be derived by a mechanism same as that for the Weighted GPA for award classifications of students on the single-discipline programme (see Sections 27.1 to 27.3 above), except that there will be fewer subjects to be counted for the "Major GPA" due to the difference in the curriculum between a Major programme and a single-discipline programme.
- (iv) "Minor GPA" is derived based on the 18 credits of the specific Minor programme. "Minor GPA" will be unweighted.
- (v) The "Major GPA" and the "Minor GPA" will be presented separately to the Board of Examiners for consideration. The guidelines for determining award classification as stipulated in Section 27.4 are applicable to Major/Minor study route.
- (vi) Where a student has a high GPA for his/her Major but a low GPA for his/her Minor, he/she will not be 'penalised' in respect of his/her award classification, which is attached to the Major. On the other hand, if a student has a lower GPA for his/her Major than his/her GPA for the Minor, the Board of Examiners

may consider giving the student a higher award classification than that with reference to his/her Major GPA.

29. MINOR IN ENGINEERING PHYSICS

To minor in EP under the Double Degree or Double Degree Sandwich mode of study, a student must obtain at least 18 credits from the subjects listed under the “DD Minor in EP” mode in Table 4.1 according to the following composition:

- (i) at least 6 credits from the group label with (1).
- (ii) at least 12 credits from the group label with (2).

30. CURRICULUM MAP

(Please see pages 59 to 60.)

31. SYLLABI

(Please see pages 61 to 279.)

For details about subject syllabi under the Engineering Physics programme, please refer to the corresponding programme booklet published by the Department of Applied Physics, or the URL: <http://ap.polyu.edu.hk/pdf/11039-Booklet.pdf>

CURRICULUM MAP
Alignment of Subjects with Programme Intended Learning Outcomes

	Programme Intended Learning Outcomes	AF2617*	AMA201*	AMA202*	AMA305*	CBS2080*	EIE211*	EIE304*	EIE305*	EIE306*	EIE311*	EIE312*	EIE320*	EIE322*	EIE329*	EIE331*	EIE333*	EIE338*	EIE401#	EIE402#	EIE403#	EIE408#	EIE413*	EIE414#	EIE415#	EIE424#	
1	Ability to apply knowledge of mathematics, science, and engineering appropriate to electronic and information engineering.	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Ability to design and conduct experiments, as well as to analyse and interpret data.				✓		✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Ability to design a system, component or process to meet desired needs within realistic constraints, such as economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability.						✓					✓	✓		✓	✓	✓	✓				✓	✓				✓
4	Ability to function on multi-disciplinary teams.																										
5	Ability to identify, formulate and solve engineering problems.		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6	Ability to understand professional and ethical responsibility.																										
7	Ability to communicate effectively.	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8	Ability to understand the impact of engineering solutions in a global and societal context, especially the importance of health, safety and environmental considerations to both workers and the general public.																					✓					
9	Ability to stay abreast of contemporary issues.	✓																✓									
10	Ability to recognize the need for, and to engage in life-long learning.	✓			✓							✓			✓									✓			✓
11	Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice appropriate to electronic and information engineering.						✓			✓		✓		✓	✓	✓							✓	✓			
12	Ability to use the computer/IT tools relevant to electronic and information engineering along with an understanding of their processes and limitations.						✓		✓					✓	✓	✓						✓	✓	✓	✓	✓	✓
13	Ability to understand the creative process.		✓	✓	✓				✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
14	Ability to exercise leadership when working in a team.	✓				✓		✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Note:

- * Compulsory subject
- # Elective subject
- ✓ Supports this programme intended learning outcome

EIE Subject Title

EIE211 Logic Design
EIE304 Electronic Circuits
EIE305 Integrated Analogue and Digital Circuits
EIE306 IC Technology and Processes
EIE311 Computer System Fundamentals
EIE312 Linear Systems
EIE320 Object-Oriented Design and Programming
EIE322 Interface and Embedded Systems
EIE329 Integrated Project
EIE331 Communication Fundamentals
EIE333 Data and Computer Communications
EIE338 Applied Electromagnetics
EIE401 VLSI and Computer-Aided Circuit Design
EIE402 Power Electronics
EIE403 High Frequency Circuit Design
EIE408 Principles of Virtual Reality
EIE413 Digital Signal Processing
EIE414 Computer Architecture and Systems
EIE415 Multimedia Technology
EIE424 Distributed Systems and Network Programming
EIE433 Honours Project
EIE435 Image and Audio Processing
EIE443 Telecommunication Networks
EIE447 Mobile Communications
EIE448 Bioengineering Signals and Systems
EIE449 Optical Communication Systems and Networks
EIE450 Nanoscience and Technology for Electronic Engineering
EIE451 Circuits for Telecommunications

Servicing Subject Title

AF2617 Economics for Engineers
AMA201 Mathematics I
AMA202 Mathematics II
AMA305 Probability and Engineering Statistics
CBS2080 Fundamentals of Chinese Communication
ELC2501 University English I
ELC2502 University English II
ELC3508 English for Effective Workplace Communication
ENG224 Information Technology
ENG232 Engineering Science
ENG236 Computer Programming
ENG237 Basic Electricity and Electronics I
ENG238 Basic Electricity and Electronics II
ENG306 Engineering Management
ENG307 Society and The Engineer
GEC2801 China Studies
IC2105 Engineering Communication and Fundamentals
IC2111 Industrial Centre Training I for EIE
IC367 Industrial Centre Training II
MM2021 Management and Organisation

CURRICULUM MAP
Alignment of Subjects with Programme Intended Learning Outcomes

	Programme Intended Learning Outcomes	EIE433*	EIE435#	EIE443#	EIE447#	EIE448#	EIE449#	EIE450#	EIE451#	ELC2501*	ELC2502*	ELC3508*	ENG224*	ENG232*	ENG236*	ENG237*	ENG238*	ENG306*	ENG307*	GEC2801*	IC2105*	IC2111*	IC367*	MM2021*	
1	Ability to apply knowledge of mathematics, science, and engineering appropriate to electronic and information engineering.	✓	✓	✓	✓	✓	✓	✓	✓				✓	✓	✓	✓	✓				✓	✓	✓	✓	✓
2	Ability to design and conduct experiments, as well as to analyse and interpret data.	✓	✓	✓	✓	✓	✓	✓							✓	✓					✓	✓	✓	✓	✓
3	Ability to design a system, component or process to meet desired needs within realistic constraints, such as economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability.	✓		✓			✓		✓					✓	✓			✓	✓		✓	✓	✓	✓	✓
4	Ability to function on multi-disciplinary teams.	✓																				✓	✓	✓	✓
5	Ability to identify, formulate and solve engineering problems.	✓	✓	✓	✓		✓		✓						✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
6	Ability to understand professional and ethical responsibility.	✓											✓						✓	✓	✓	✓	✓	✓	✓
7	Ability to communicate effectively.	✓			✓		✓		✓	✓	✓	✓						✓	✓	✓	✓	✓	✓	✓	✓
8	Ability to understand the impact of engineering solutions in a global and societal context, especially the importance of health, safety and environmental considerations to both workers and the general public.	✓																	✓		✓	✓	✓	✓	✓
9	Ability to stay abreast of contemporary issues.	✓		✓				✓					✓							✓	✓	✓	✓	✓	✓
10	Ability to recognize the need for, and to engage in life-long learning.	✓		✓																✓	✓	✓	✓	✓	✓
11	Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice appropriate to electronic and information engineering.	✓		✓		✓									✓						✓	✓	✓	✓	✓
12	Ability to use the computer/IT tools relevant to electronic and information engineering along with an understanding of their processes and limitations.	✓				✓							✓		✓						✓	✓	✓	✓	✓
13	Ability to understand the creative process.	✓	✓	✓			✓	✓	✓												✓	✓	✓	✓	✓
14	Ability to exercise leadership when working in a team.	✓	✓	✓	✓		✓		✓	✓	✓				✓	✓			✓		✓	✓	✓	✓	✓

Note:

- * Compulsory subject
- # Elective subject
- ✓ Supports this programme intended learning outcome

EIE Subject Title

EIE211 Logic Design
EIE304 Electronic Circuits
EIE305 Integrated Analogue and Digital Circuits
EIE306 IC Technology and Processes
EIE311 Computer System Fundamentals
EIE312 Linear Systems
EIE320 Object-Oriented Design and Programming
EIE322 Interface and Embedded Systems
EIE329 Integrated Project
EIE331 Communication Fundamentals
EIE333 Data and Computer Communications
EIE338 Applied Electromagnetics
EIE401 VLSI and Computer-Aided Circuit Design
EIE402 Power Electronics
EIE403 High Frequency Circuit Design
EIE408 Principles of Virtual Reality
EIE413 Digital Signal Processing
EIE414 Computer Architecture and Systems
EIE415 Multimedia Technology
EIE424 Distributed Systems and Network Programming
EIE433 Honours Project
EIE435 Image and Audio Processing
EIE443 Telecommunication Networks
EIE447 Mobile Communications
EIE448 Bioengineering Signals and Systems
EIE449 Optical Communication Systems and Networks
EIE450 Nanoscience and Technology for Electronic Engineering
EIE451 Circuits for Telecommunications

Servicing Subject Title

AF2617 Economics for Engineers
AMA201 Mathematics I
AMA202 Mathematics II
AMA305 Probability and Engineering Statistics
CBS2080 Fundamentals of Chinese Communication
ELC2501 University English I
ELC2502 University English II
ELC3508 English for Effective Workplace Communication
ENG224 Information Technology
ENG232 Engineering Science
ENG236 Computer Programming
ENG237 Basic Electricity and Electronics I
ENG238 Basic Electricity and Electronics II
ENG306 Engineering Management
ENG307 Society and The Engineer
GEC2801 China Studies
IC2105 Engineering Communication and Fundamentals
IC2111 Industrial Centre Training I for EIE
IC367 Industrial Centre Training II
MM2021 Management and Organisation