

## 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		

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.