THE HONG KONG POLYTECHNIC UNIVERSITY

DEPARTMENT OF CONSTRUCTION MANAGEMENT AND INTELLIGENCE

Undergraduate Degree Programme

Construction Management & Intelligence Scheme

BSc (Hons) in Building Engineering & Management

BSc (Hons) in Surveying

For Student Intake 2026-2027

September 2026

This Programme Requirement Document is subject to review and changes which the programme offering University / Faculty / Department / School can decide to make from time to time. Students will be informed of the changes as and when appropriate.

This document should be read in conjunction with the Academic Registry Handbook on Academic Regulations and Procedures.

Department of Construction Management and Intelligence
Faculty of Construction and Environment

September 2026

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Part I

General Information

The CMI Scheme comprises two Undergraduate Degree Programmes.

- BSc (Hons) in Building Engineering and Management
- BSc (Hons) in Surveying

- BSc (Hons) in Building Engineering and Management is accredited by the Hong Kong Institution of Engineers (HKIE), Chartered Institute of Building (CIOB) and Hong Kong Institute of Construction Managers.

- BSc (Hons) in Surveying is accredited by the Hong Kong Institute of Surveyors (HKIS), Royal Institution of Chartered Surveyors (RICS) and the Hong Kong Institute of Construction Managers (HKICM).

Aims of CMI Scheme

The aim of the Scheme is to provide an appropriate platform for the students within an academic environment to develop his/her knowledge, skills and abilities by application of the methods and practices involved in the building and real estate industry. We aim to produce students with a careful balance of intellectual, vocational and practical constituents relating to building and real estate with independent thinking, an inquiry mind, confidence and professionalism.

General Outcomes of CMI Scheme

These general scheme outcomes are to be achieved through the specific outcomes of the different undergraduate programmes (Majors).

Upon successful completion of the different BSc (Hons) programmes of the CMI Scheme, the student is expected to possess the following abilities:

(i) To synthesize logical solutions to solve building related problems with a creative and imaginative mind.
(ii) To utilize modern instruments, methods, skills and techniques to implement construction methods, contracts, documents, and codes.
(iii) To apply basic technical concepts and technology to solve building problems.
(iv) To apply basic management and procurement concepts and techniques in planning land and construction resources, and in construction and maintenance processes.
(v) To apply legal knowledge in construction works, contracts, maintenance, building and property management.
(vi) To apply basic economic principles in real estate and building construction.
(vii) To identify and analyse diversified problems arising from the changing socio-economic environmental of the real estate market and construction industry.
(viii) To provide fundamental knowledge-based support for professional decisions.

Attributes for All-Roundedness

These all-rounded attributes are common to all the programmes under the Scheme.

Graduates of this Scheme will attain:

(i) The skills to identify, analyse and solve problems.
(ii) An understanding of professional, social and ethical responsibilities.
(iii) The ability to communicate effectively.
(iv) The ability to reflect on knowledge gap for lifetime learning.
(v) The ability to contribute as team member and to lead effectively.
(vi) The ability to transfer and replicate knowledge and skills to other industries/domains.
(vii) The ability to identify contemporary issues.

This document focuses to describe the undergraduate programmes leading to the award of (i) BSc (Hons) in Building Engineering and Management, (ii) BSc (Hons) in Surveying. It is the Departmental policy to maintain commonality in subject teaching within the CMI Scheme and across the three programmes, wherever it is feasible and still maintains the discipline specialism and academic quality. Besides the maintenance of the general aims and outcomes and all rounded attributes of the CMI scheme through the specific outcomes of the programmes, the Scheme Committee would review and revise, where necessary, the content, operations and management of the award programmes, incorporating all changes approved for their commencement.

Graduate attributes and institutional learning outcomes for undergraduate degree programmes

Socially responsible leaders with a strong sense of national pride and a global outlook

Be able to Care about and understand local, national and global issues, and be able to think globally, act responsibly, and lead with integrity and pride for the benefit of society and a sustainable future.

Future-ready professionals who possess technical acumen

Be able to integrate and apply in-depth discipline knowledge and specialised skills, leverage changing and emerging technologies for work, function in variable interdisciplinary contexts, and demonstrate professionalism and entrepreneurial spirit at work.

Critical thinkers and creative problem solvers

Be able to critically evaluate information and arguments, draw logical and informed conclusions, identify problems and formulate innovative solutions, in both professional and everyday contexts.

Effective communicators and collaborators

Be able to communicate effectively in English and Chinese in professional and everyday contexts*, collaborate with people from diverse backgrounds and different perspectives, and contribute to effective teamwork and positive group dynamics.

Adaptable and resilient lifelong learners

Committed to continual learning and self-improvement, engage in learning with a sense of purpose, manage their own learning, adapt to different learning situations, and deal effectively with the arising tress and challenges.

*The expectation to communicate Chinese does not apply to foreign students.

BSc (Hons) in Building Engineering & Management

1. General Information

1.1 *Summary of Programme Details of the Major:*

Name of University:	The Hong Kong Polytechnic University
Faculty:	Construction and Environment (FCE)
Department:	Building and Real Estate (CMI)
Title of Major:	**BSc (Hons) in Building Engineering & Management**
Mode of Attendance:	Full-time (FT)
Mode of Operation:	Credit-Based Programme
Duration:	Full-time four years
Total Credits Requirements:	120 credits (plus 2 training credits for FT)
Commencing:	September 2026
Level of Award:	BSc (Hons) in Building Engineering & Management

1.2 *Contributing Departments / Centres*

Host Department: Construction Management and Intelligence (CMI)

Contributing Departments and Centre:

- English Language Centre (ELC)
- Chinese Language Centre (CLC)
- Department of Civil & Environmental Engineering (CEE)
- Department of Land Surveying & Geospatial Science (LSGS)
- Industrial Centre (IC)

1.2.1 **Programme Planning Committee**

Head of the Department
Associate Head (Teaching)
Undergraduate Scheme Chair
BEM Award Co-ordinator

BSc (Hons) in Surveying

1. General Information

1.1 *Summary of Programme Details of the Major:*

Name of University:	The Hong Kong Polytechnic University
Faculty:	Construction and Environment (FCE)
Department:	Building and Real Estate (CMI)
Title of Major:	**BSc (Hons) in Surveying**
Mode of Attendance:	Full-time (FT)
Mode of Operation:	Credit-Based Programme
Duration:	Full-time four years
Total Credits Requirements:	120 credits (plus 2 training credits for FT)
Commencing:	September 2026
Level of Award:	BSc (Hons) in Surveying

1.2 *Contributing Departments / Centres*

Host Department: Construction Management and Intelligence (CMI)

Contributing Departments and Centre:

- English Language Centre (ELC)
- Chinese Language Centre (CLC)
- Industrial Centre (IC)

1.2.1 **Programme Planning Committee**

Head of the Department
Associate Head (Teaching)
Undergraduate Scheme Chair
SUV Award Co-ordinator

1.3 *Scheme / Programme Structure and Mode of Study*

1.3.1 Structure

The Department offers the BSc (Hons) Building and Real Estate Scheme consisting of two Majors of full-time honours degree awards, namely:

- BEM BSc (Hons) in Building Engineering & Management
- SUR BSc (Hons) in Surveying

1.3.2 Programme (Award) Credits

A subject within the programme has an allocated credit value. In terms of student effort, a student is expected to do 40 (average) hours of study to earn a credit.

The graduation requirement for an honours degree award is to complete 120 credits including the 27 credits of General University Requirements (GUR); 6 credits of Free Electives and the 87 credits of Major including compulsory (core) and elective subjects. Apart from the above, students of the BSc (Hons) in Building Engineering & Management and BSc (Hons) in Surveying have to fulfil the stipulated work integrated education (WIE).

The normal workload of a full-time student within a semester is 15-18 credits.

1.3.3 Academic Year Structure and Duration

The academic year consists of two teaching semesters, each of thirteen weeks, plus a Summer Term of seven weeks' duration. There is normally an examination period that may include Saturday(s) at the end of each semester, and at the end of the Summer Term. Assessment of a subject will usually be completed at the end of the stipulated semester in which it is presented.

The normal duration for completion of an honour's degree award is 4 years.

1.4 *Progression Pattern*

There is a specified progression pattern and curriculum for the programmes. Notwithstanding any alterations, which the Department may consider necessary, students are expected to follow the progression pattern and curriculum unless special approval or credit transfer or exemption has been granted.

Notwithstanding any alterations, which the Department may consider necessary, students are expected to follow the progression pattern and curriculum unless special approval or credit transfer or exemption has been granted.

Progression Pattern Summary (2026-27 cohort intake) ***120 academic credits + 2 training credits (WIE)**
BSc (Hons) in Building Engineering and Management

Stage 1 (Semester 1) (Total Credits = 15)		**Stage 1 (Semester 2) (Total Credits = 15)**		**Stage 1 (Summer Semester)**
GUR	LCR AITLL Subject [###]	GUR	LCR Elective Subject 1 (ELC)	BRE299 Work-Integrated Education (WIE)* (2)
GUR	Healthy Lifestyle (0)	GUR	LCR Elective Subject 2 (CLC)	
MM1031 (GUR)	Introduction to Innovation and Entrepreneurship (MM) (1)	AP10001 (Faculty Compulsory 2 with GUR with CAR D)	Introduction to Physics[##]	
CE1001	Construction and Environmental Professionals in Society (FCE)			
CE1002 (GUR)	Introduction to AI and Data Analytics for Construction and Environment (FCE) (2)	(Free Elective 1)	Free Elective	
		(Free Elective2)	Free Elective	
AMA1140 (Faculty Compulsory 1)	Mathematics for Construction and Environment			
APSS 1L01 (GUR)	Leadership & Intra-Personal Development – Tomorrow's Leaders (APSS)			

Stage 2 (Semester 1) (Total Credits = 19)		**Stage 2 (Semester 2) (Total Credits = 18)**		**Stage 2 (Summer Semester)**
GUR	CAR Subject 1 (Cluster D) [##]	GUR	CAR Subject 2 (Cluster M)	BRE299 Work-Integrated Education (WIE)* (2)
ELC3421	English for Construction & Environmental Professionals	AMA290	Engineering Mathematics	
BRE350	Project Management & Procurement	BRE262	Project Studio	
CSE20290	Introduction to Geotechnology	LSGI2961	Engineering Surveying	
BRE258	Industrial Safety I (1)	BRE349	Building Services I	
BRE2031	Environmental Science	BRE265	Introductory Construction Technology & Materials	
BRE263	Construction Economics & Finance			

Stage 3 (Semester 1) (Total Credits = 17.25)		**Stage 3 (Semester 2) (Total Credits =11.25)**		**Stage 3 (Summer Semester) (Total Credits = 0.25)**
BRE204	Structure I	BRE302	Structure II	BRE365 International Study** (0.25)
BRE365	International Study** (0.25)	BRE3261	Building Maintenance Planning and Technology (2)	
BRE366	Analytical Skills & Methods (2)	BRE345	Measurement, Documentation & Estimating	
BRE370	Intermediate Construction Technology & Materials	BRE364	Construction Contract Law & Administration	
BRE472	Information Technology & Building Information Modelling for Construction Management	BRE365	International Study** (0.25)	
GUR	CAR Subject 3 (Cluster A)			
GUR	Service-Learning			

Stage 4 (Semester 1) (Total Credits = 13.75)		**Stage 4 (Semester 2) (Total Credits = 10.5)**		
BRE365	International Study** (0.25)	BRE426	Geotechnical & Foundation Engineering	
BRE4393	Temporary Work Design (1.5)	BRE4281	Construction Engineering Management	
BRE453	Building Services II			
BRE461	Environmental Impact & Assessment	BRE4393	Temporary Work Design (1.5)	
BRE462	Advanced Construction Technology	BRE466	Capstone Project # (3)	
BRE466	Capstone Project # (3)			

Remarks

Language and Communication Requirements Subjects (LCR)
Cluster Area Requirements Subjects (CAR)

All subjects carry 3 credits each, unless otherwise stated in brackets, e.g. (2)

* BRE299 Work-Integrated Education (WIE) with 2 training credits is to be carried out in the Summer Semester of either Stage 1 or Stage 2. WIE must be satisfactorily completed prior to graduation.

BEM students may take BRE299 for WIE in Industrial Centre during summer semester at either Stage 1 or Stage 2.

** BRE365 International Study is a 1-credit core subject spanning across 4 semesters from Semester 1 of Stage 3 to Semester 1 of Stage 4. Students need to commence their study tour preparation, organization and liaison work from Semester 1 of Stage 3. Students will usually launch their study tours in the Summer Semester of Stage 3.

BRE466 Capstone Project is a 6-credit core subject spanning across 2 semesters from Semester 1 to Semester 2 of Stage 4.

AP10001 Introduction to Physics is equivalent to the CAR subject AP1D05 Introduction to Physics, i.e., students completed AP10001 will also meet the CAR(D) requirement. However, students are required to take an extra subject to make up the credit requirements for exemption.

Students will be required to take the 3-credit : AI as a Tool for Language Learning (AITLL) and two 3-credits of LCR electives to fulfil the LCR requirements (one in English and one in Chinese).

Students with the following academic qualifications are exempted from taking AP10001. These students are required to take a free elective subject to make up the credit requirements:

- HKDSE: Level 3 or above in Physics as a single Science subject or a component of the Combined Science (sub-score)
- GCEAL: B Grade or above in Physics
- IB: 6 or above in Physics (HL)
- JEE: Students who had attended the JEE Exam of Physics or Integrated Science
- Others: will be considered on a case-by-case basis

Completing AP10001 Introduction to Physics meets the Cluster-Area Requirement (D): Science, Technology and Environment. The following table shows the Cluster Area Requirements (CAR) required by different major programmes under the Faculty of Construction and Environment (FCE):

Department	**Programme**	**Required Cluster Area Requirements (CAR)**
Department of Architecture (AS)	BSc (Hons) Architectural Studies	• CAR (A): Human Nature, Relations and Development • CAR (D): Science, Technology and Environment • CAR (M): Chinese History and Culture
Department of Building Environment and Energy Engineering (BEEE)	BEng (Hons) Building Sciences and Engineering	• CAR (A): Human Nature, Relations and Development • CAR (M): Chinese History and Culture • CAR (N): Cultures, Organisations, Societies and Globalisation
Department of Construction Management & Intelligence (CMI)	BSc (Hons) Building Engineering and Management BSc (Hons) Surveying	• CAR (A): Human Nature, Relations and Development • CAR (D): Science, Technology and Environment • CAR (M): Chinese History and Culture
Department of Civil and Environmental Engineering (CEE)	BEng (Hons) Civil Engineering BEng (Hons) Environmental Engineering and Sustainable Development	• CAR (A): Human Nature, Relations and Development • CAR (M): Chinese History and Culture • CAR (N): Cultures, Organisations, Societies and Globalisation
Department of Land Surveying and Geospatial Science (LSGS)	BSc (Hons) Land Surveying and Geospatial Science BSc (Hons) Urban Informatics and Smart Cities	• CAR (A): Human Nature, Relations and Development • CAR (M): Chinese History and Culture • CAR (N): Cultures, Organisations, Societies and Globalisation

Students can switch programmes within the same discipline towards the end of the first year of studies through a ranking assessment, which takes into account their entrance qualification score, Year One GPA, and interview performance. Students admitted to programmes offered by CMI do not have to take a CAR(D) subject, however, they must take (an) extra subject(s) to make up the credit requirements.

The subject offering departments reserve the rights to review/revise the subjects to be offered and the time of offer. Subjects to be offered as electives to students are subjected to the fulfilment of any pre-requisite or co-requisite requirements and time-table constraints.

Progression Pattern Summary (2026-27 cohort intake) ***120 academic credits + 2 training credits (WIE)**
BSc (Hons) in Surveying

Stage 1 (Semester 1) (Total Credits = 15)		**Stage 1 (Semester 2) (Total Credits = 15)**		**Stage 1 (Summer Semester)**
GUR GUR MM1031 CE1001 CE1002 (GUR) AMA1140 (Faculty Compulsory 1) APSS1L01 (GUR)	LCR AITLL Subject (ELC) ### Healthy Lifestyle (0 Introduction to Innovation and Entrepreneurship (MM) (1) Construction and Environmental Professionals in Society (FCE) Introduction to AI and Data Analytics for Construction and Environment (FCE) (2) Mathematics for Construction and Environment Leadership & Intra-Personal Development – Tomorrow's Leaders (APSS)	GUR GUR AP10001 (Faculty Compulsory2 with CAR D) (GUR) (Free Electives 1) (Free Elective 2)	LCR Elective Subject 1 (ELC) LCR Elective Subject 2 (CLC) Introduction to Physics ## Free Elective Free Elective	BRE299 Work-Integrated Education (WIE)* (2)
Stage 2 (Semester 1) (Total Credits = 19)		**Stage 2 (Semester 2) (Total Credits = 18)**		**Stage 2 (Summer Semester)**
GUR GUR ELC3421 BRE350 BRE258 BRE2031 BRE263	CAR Subject 1 (Cluster D) ## CAR Subject 2 (Cluster M) English for Construction & Environmental Professionals Project Management & Procurement Industrial Safety I (1) Environmental Science Construction Economics & Finance	GUR GUR BRE2171 BRE2061 BRE2691 BRE349 BRE265	Service-Learning CAR Subject 3 (Cluster A) Planning and Development : Theories and Practices (2) Legal Context for Building and Construction Professionals in Society (2) Introductory Integrated Professional Workshop I (2) Building Services I Introductory Construction Technology & Materials	BRE299 Work-Integrated Education (WIE)*

Stage 3 (Semester 1) **(Total Credits for BS Disciplines = 17.25)** **(Total Credits for QS, GP, PD and PFM Disciplines = 14.25)**		**Stage 3 (Semester 2)** **(Total Credits for All Disciplines = 11.25)**		**Stage 3 (Summer Semester)** **(Total Credits = 0.25)**
BRE336	Development Control Law	BRE3261	Building Maintenance Planning and Technology (2)	BRE365 International Study** (0.25)
BRE365	International Study** (0.25)	BRE365	International Study** (0.25)	
BRE366	Analytical Skills & Methods (2)	BRE369	Integrated Professional Workshop II	
BS and QS Discipline-Specific Subjects[#1]				
BRE204	Structure I (BS only)	BRE345	Measurement, Documentation & Estimating	
BRE363	Construction Economics	BRE364	Construction Contract Law & Administration	
BRE370	Intermediate Construction Technology & Materials			
BRE472	Information Technology & Building Information Modelling for Construction Management			
GP, PD and PFM Discipline-Specific Subjects[#1]				
BRE315	Property Valuation	BRE337	Property Law	
BRE371	Introduction to Property Management	BRE362	Urban Economics & Property Investment	
BRE397	Property Management Accounting			

Stage 4 (Semester 1) **(Total Credits for GP, PD and PFM Disciplines = 15.25)** **(Total Credits for BS, QS Disciplines = 12.25)**		**Stage 4 (Semester 2)** **(Total Credits for BS, GP, PD and PFM Disciplines = 12)** **(Total Credits for QS Discipline = 15)**		
BRE365	International Study** (0.25)	BRE469	Integrated Professional Workshop III	
BRE466	Capstone Project[#] (3)	BRE466	Capstone Project[#] (3)	
BS Discipline-Specific Elective Subjects				
BRE415	Dispute Resolution	BRE435	Design, Adaptation & Conversion	
BRE453	Building Services II	BRE437	Facility Management	
BRE461	Environmental Impact & Assessment			
QS Discipline-Specific Elective Subjects				
BRE415	Dispute Resolution	BRE439	Engineering Contract Procedures	
BRE453	Building Services II	BRE440	Cost & Value Management	
BRE461	Environmental Impact & Assessment	BRE442	Forecasting & Competition in the Built Environment	
GP, PD and PFM Discipline-Specific Elective Subjects		**GP and PFM Discipline-Specific Elective Subjects**		
BRE427	Applied Property Investment	BRE418	Real Estate Development	
BRE4291	Real Estate Marketing	BRE436	Applied Property Valuation	
BRE465	Asset Management	**PD Discipline-Specific Elective Subjects**		
BRE463	Business Valuation and Accounts	BRE418	Real Estate Development	
		BRE464	Urban Planning	

Remarks

Language and Communication Requirements (LCR)
Cluster Area Requirements (CAR)

BRE466 Capstone Project is a 6-credit core subject spanning across 2 semesters from Semester 1 to Semester 2 of Stage 4.

All subjects carry 3 credits each, unless otherwise stated in brackets, e.g. (2).

* BRE299 Work-Integrated Education (WIE) with 2 training credits is recommended to be carried out in the Summer Semester of either Stage 1 or Stage 2. WIE must be satisfactorily completed prior to graduation.

#1 Surveying students are required to opt ONE Discipline from the 5 surveying disciplines: Building Surveying (BS), General Practice Surveying (GP), Planning & Development (PD), Property & Facility Management (PFM) and Quantity Surveying (QS) offered by the Department prior to Stage 3 studies.

** BRE365 International Study is a 1-credit core subject spanning across 4 semesters from Semester 1 of Stage 3 to Semester 1 of Stage 4. Students need to commence their study tour preparation, organization and liaison work from Semester 1 of Stage 3. Students will usually launch their study tours in the Summer Semester of Stage 3.

AP10001 "Introduction to Physics" is equivalent to the CAR subject AP1D05 "Introduction to Physics", i.e., students completed AP10001 will also meet the CAR(D) requirement. However, students are required to take an extra subject to make up the credit requirements, and students may opt to take a CAR subject or Free Elective Subject.

Students will be required to take the 3-credit : AI as a Tool for Language Learning (AITLL) and two 3-credits of LCR electives to fulfil the LCR requirements (one in English and one in Chinese).

Students with the following academic qualifications are exempted from taking AP10001. These students are required to take a free elective subject to make up the credit requirements:

- HKDSE: Level 3 or above in Physics as a single Science subject or a component of the Combined Science (sub-score)
- GCEAL: B Grade or above in Physics
- IB: 6 or above in Physics (HL)
- JEE: Students who had attended the JEE Exam of Physics or Integrated Science
- Others: will be considered on a case-by-case basis

Completing AP10001 Introduction to Physics meets the Cluster-Area Requirement (D): Science, Technology and Environment. The following table shows the Cluster Area Requirements (CAR) required by different major programmes under the Faculty of Construction and Environment (FCE):

Department	**Programme**	**Required Cluster Area Requirements (CAR)**
Department of Building Environment and Energy Engineering (BEEE)	BEng (Hons) Building Sciences and Engineering	• CAR (A): Human Nature, Relations and Development • CAR (M): Chinese History and Culture • CAR (N): Cultures, Organisations, Societies and Globalisation
Department of Construction Management & Intelligence (CMI)	BSc (Hons) Building Engineering and Management BSc (Hons) Surveying	• CAR (A): Human Nature, Relations and Development • CAR (D): Science, Technology and Environment • CAR (M): Chinese History and Culture
Department of Civil and Environmental Engineering (CEE)	BEng (Hons) Civil Engineering BEng (Hons) Environmental Engineering and Sustainable Development	• CAR (A): Human Nature, Relations and Development • CAR (M): Chinese History and Culture • CAR (N): Cultures, Organisations, Societies and Globalisation
Department of Land Surveying and Geospatial Science (LSGS)	BSc (Hons) Land Surveying and Geospatial Science BSc (Hons) Urban Informatics and Smart Cities	• CAR (A): Human Nature, Relations and Development • CAR (M): Chinese History and Culture • CAR (N): Cultures, Organisations, Societies and Globalisation

Students can switch programmes within the same discipline towards the end of the first year of studies through a ranking assessment, which takes into account their entrance qualification score, Year One GPA, and interview performance. Students admitted to programmes offered by CMI do not have to take a CAR(D) subject, however, they must take (an) extra subject(s) to make up the credit requirements.

The subject offering departments reserve the rights to review/revise the subjects to be offered and the time of offer. Subjects to be offered as electives to students are subjected to the fulfilment of any pre-requisite or co-requisite requirements and time-table constraints.

2. Admission

2.1 *Admission*

Students admitted to the undergraduate programmes offered by the Department will undergo a common first year curriculum. Students would continue their prescribed study programme / major or to select other programmes / major offered by all departments within the Faculty of Construction and Environment after the first year of study. Students are required to indicate their priority on preferred programmes / majors by the end of Semester 2 in the first year of study. If a student prefers a new programme / major to pursue in upper years, he/she will be subjected to a selection and ranking mechanism to determine the eligibility on changing the programme / major.

2.2 *General Minimum Entrance Requirements*

(a) For those apply on the basis of the Hong Kong Diploma of Secondary Education (HKDSE)*:

- Level 3 in English Language

AND

- Level 3 in Chinese Language

AND

- Level 2 in Mathematics

AND

- Achieved “Attained” in Citizenship and Social Development

AND

- Level 3 in two elective subjects

* There are 7 levels of performance of every subject of HKDSE with Level 5** being the highest and Level 1 being the lowest. Please refer to the conversion table for converting HKDSE score to admission score for prioritization.

- Each HKDSE subject (including other languages and applied learning subjects) is assigned a weighting factor of either x5, x7 or x10 and each programme will have their own weighting factors for HKDSE subjects

- An attainment at "Attained" in "Citizenship and Social Development" is required for meeting the entrance requirement but NOT included in the admission score calculation.

- Undergraduate programmes offered by the Department will use the “Best 5” HKDSE subjects score (weighted) to compile the admission score for prioritization.

Conversion Table for HKDSE Score to Admission Score for prioritization

HKDSE Result	Converted Score
5**	8.5
5*	7
5	5.5
4	4
3	3
2	2
1	1

* Preferred HKDSE subject(s) with the highest weighting (x10) in admission score calculation:

BSc (Hons) in Architectural Studies
English

BSc (Hons) in Building Engineering and Management
English
Mathematics (including extended module M1 and M2)
Physics or Combined Science with Physics as one of the components

BSc (Hons) in Surveying
English

(b) For applicants applying for admission on the basis of other qualifications (Non-JUPAS and Non-local admissions), details on entrance requirements and admission process are to be referred to the prevailing Handbook on Academic Regulations and Procedures of the University and to be considered by the Department on case-by-case basis.

2.3 *Admission Procedures*

For applicants seeking admission via JUPAS, essentially the admission procedures will follow the prevailing JUPAS system adopted by tertiary education institutions in Hong Kong SAR.

For local and non-local applicants seeking admission via Non-JUPAS route, the Scheme Chair, and Award Co-ordinator of respective programme will be responsible for the admission process in conjunction with the Enrolment Officer of the Department.

All applicants will normally be selected on the basis of academic merits. For JUPAS applicants who have fulfilled the minimum entrance requirements for admission, aggregate weighted scores of HKDSE subjects will be adopted for prioritizing applicants for JUPAS iteration. Interview may be arranged and the interview score received by applicants will be used for adjusting the priority of JUPAS applicants. For Non-JUPAS and Non-local applicants, applications will be considered on case-by-case basis.

Portfolio submission and aptitude test, together with interview are adopted in addition to academic merits to select eligible candidates for seeking admission to the programme BSc (Hons) in Architectural Studies.

Admission for applicants nominated under the Outstanding Sportsmen Recommendation Scheme (OSRS); the JUPAS Sub-system for School Principal's Nominations (SPNS); the School Nomination Direct Admission Scheme (SNDAS), the Special Talents Admission & Recognition Scheme (STARS), and etc., administered by the University are to be referred to the corresponding sections of the University on admission and general enquiry, contained therein in the prevailing Handbook on Academic Regulations and Procedures.

Details on alternative entry route are to be referred to the prevailing Academic Handbook and applications. Applications will be considered on case-by-case basis, and subject to the availability of appropriate vacancy in the relevant programme(s) of Major(s).

2.4 *Policy to Permit Students to Transfer from One Major to Another*

(a) Applications for transfer of study within the University will be considered on case-by-case basis, subject to the prevailing regulations and procedures stipulated by the University. The University's Academic Regulations and Procedures for the Undergraduate Degree Majors (Programmes) govern the transfer of study within the University and between institutions.

(b) The Department of Building and Real Estate will consider each application on its own individual merit. The Department reserves the right not to grant transfer within the CMI Scheme.

Part II

Curriculum Design

3. University Framework on Curriculum Design of the PolyU Undergraduate Degree Programmes

The Department under the auspices of the Faculty of Construction and Environment is responsible to develop an appointment and coherent curriculum for the programme of each Major under the CMI Scheme within the broad University framework, which is in turn aligned with the programme outcomes of each Major and its requirements of the relevant professional/accreditation body/bodies.

3.1 *The Board University Framework*

Generic Learning Outcomes of the Undergraduate Degree Curriculum (FYFD)

The overarching goal of the undergraduate degree curriculum (FYFD) is to promote the all-round development of human potentials to the fullest extent for the professions. PolyU will aim at nurturing and developing students with abilities/attributes that will prepare graduates to become "practical dreamers" and to be responsible global citizens in the 21st century. In addition to developing professional competence in a chosen discipline and multidisciplinary perspectives with a broad knowledge base, the generic learning outcomes that will be targeted are as follows: critical thinking, innovative problem solving, effective communication, lifelong learning, and social responsibility and global citizenship.

Underlying Principles in Designing the Undergraduate Degree Structure

The ultimate aim of the undergraduate degree structure (FYFD) is to benefit PolyU's students by providing a more flexible, student-centred, holistic professional education that is consistent with PolyU's goals and mission. To achieve this aim, the structure must be able to:

- re-affirm PolyU's mission and strategic objectives of achieving excellence in professional education, applied research and partnership,
- promote all-round development of human potentials to the fullest extent possible for the professions,
- provide more flexibilities for students both in admission and in their programme choice to suit the different backgrounds, aspirations and needs of the more diversified student intake.

Defining Characteristics of the Undergraduate Degree Curriculum (FYFD)

The first-year experience is critical in shaping a student's development. The Faculty Common First-Year Curriculum should provide an introductory exposure to a variety of disciplines offered by the Faculty to help students explore and navigate their disciplinary interest and potential majors. The curriculum should include components that develop positive learning attitudes and behaviours from the outset of their academic journey at PolyU.

The Faculty Common First-Year Curriculum include foundational elements that provide a broad base of knowledge and skills. It should prepare students for further study in their chosen fields and equip them with essential skills (critical thinking, evidence-based reasoning, writing and verbal communication, and digital literacy) for personal and professional success.

Outcome-Based Education (OBE)

In line with PolyU's continued commitment to OBE, the provisions of General University Requirements and profession-specific requirements will be designed in accordance with the intended learning outcomes of the University and the programme, taking into account the views of the professional body and societal needs.

General University Requirements (GUR)

The 27 credits of GUR will be distributed as follows:

Table 3.1 GUR areas and credits distribution

Areas	Credits
▪ Artificial Intelligence and Data Analytics Requirement (AIDA)	2
▪ Innovation and Entrepreneurship Requirement (IE)	1
▪ Language & Communication Requirements (LCR) #	9
*English	(6)
*Chinese	(3)
▪ Leadership Education and Development (LEAD)	3
▪ Service-Learning (SL)	3
▪ Cluster-Area Requirements (CAR)	9
• 3 credits from each of the following 4 cluster areas	
o Human Nature, Relations and Development	(3)
o Science, Technology and Environment	(3)
o Chinese History and Culture	(3)
o Culture, Organizations, Societies and Globalisation	
And of which must fulfil 2 additional requirements:	
• English Reading and Writing (ER/EW) Requirements	
• Chinese Reading and Writing (CR/CW) Requirements	
▪ Healthy Lifestyle (non-credit bearing)	Nil
Total GUR credits	27

 # For the 2026/27 intake cohort, students will be required to take the 3-credit "AI as a Tool for Language Learning" (AITLL) and two 3-credits of LCR electives to fulfil the LCR requirements (one in English and one in Chinese).

GUR subjects are to be academically rigorous for expanding students' intellectual capacity. These subjects will introduce a particular discipline, covering its foundational pre-suppositions, the structure of its knowledge domain, its approach of enquiry and study methodologies, as well as its major trends of development. These subjects should be well illustrated with appropriate examples and made attractive even to non-Majors students. Some of the GUR subjects should challenge students to analyse a major global or local issue from multidisciplinary perspectives, and to tackle the associated problems holistically. Consistent with the University's objective of developing students' critical thinking and language and communication skills, some GUR subjects should have an intensive reading, writing and presentation component built into the learning and assessment process. CAR subjects relating to healthy lifestyle may also be offered to enable students to further pursue this topic more rigorously.

Language & Communication Requirements (LCR)

The overall aim of the requirements is to facilitate students in satisfying the University's objectives of biliteracy and/or trilingualism in terms of their:

- general language proficiency
- language knowledge and skills necessary for effective study at university level
- literacy skills (reading and writing)
- language knowledge and skills necessary for entry into the Broad Discipline's discourse communities and
- AI-empowered capability to support self-directed language learning and/or AI supported application of language and communication skills across different contexts.

These five aspects are addressed in the five major components of the overall English and Chinese language requirements, which must be fulfilled as part of the graduation requirements;

(i) Language & Communication Requirements (LCR) (9 credits) (including 3 credits of AITL, 3 credits of English elective and 3 credits of Chinese elective)
(ii) Writing Requirement (W)
(iii) Reading Requirement (R)
(iv) Discipline-specific Language Requirements (2 credits in English)
(v) Language and Communication Competency Assessment (English and Chinese)

The 9 credits of LCR are the *minimum* credits that students are required to take as GUR. Programmes can stipulate further language and communication requirements within their Major, according to the needs of their discipline. Requirements in writing and oral communication can further be integrated into students' professional studies and assessed accordingly.

Language and Communication Competency Assessment

All FYFD students will be required to sit for both English and Chinese Language and Communication Competency Assessments (LCCA) before graduation. Except for those who are granted an exemption from attempting the LCCA, students who have not sat for the Chinese (written) LCCA and those who do not achieve a specified competency level in the English LCCA will not be eligible for graduation

Students will be required to take suitable languages subjects with reference to their Pre-university languages attainments. Students who can demonstrate that they have achieved the desired level (based on an assessment made by ELC or CLC as appropriate) may apply for subject exemption or credit transfer of the LCR subject or subjects concerned.

Students who are non-Chinese speakers (NCS) will be exempted from the LCR-Chinese elective requirement. However, students whose Chinese standards are at junior secondary level or below will be subject to LCR-Chinese elective requirements. They will, however, by default be exempted from the Reading and Writing Requirements in Chinese and the Discipline-Specific Language Requirement in Chinese, if any.

Cluster-Area Requirements (CAR)

Students have to choose and successfully complete a total of 9 credits from CAR subjects. Students are required to fulfil the Writing (W) and Reading (R) Requirement in English and Chinese, by taking CAR subjects approved as meeting the W and R Requirements.

Other GUR Subjects

Students must complete 9 other credits under GUR, including 3 credits each on Leadership Education and Development and Service-Learning, 2 credits in Artificial Intelligence and Data Analytics (AIDA) and 1 credit in Innovation and Entrepreneurship (IE) respectively. In addition, all students must complete a non-credit bearing requirement on Healthy Lifestyle.

Leadership Education and Development

All students must successfully complete one 3-credit subject in the area of Leadership Education and Development, which is designed to enable students to (i) understand and integrate theories, research, and concepts on the basic qualities (particularly intrapersonal and interpersonal qualities including law abidance) of effective leaders, (ii) develop self-awareness and self- understanding, (iii) demonstrate self-leadership in pursuit of continual self-improvement, (iv) apply intrapersonal and interpersonal skills in daily lives, (v) appreciate the importance of intrapersonal and interpersonal qualities in effective leadership, particularly the connection of learning in the subject to one's professional development and personal growth, and (vi) recognise and accept their social responsibility as professionals and citizens to the society and the world

Free Electives

Free electives under the Ug degree programmes refer to any subjects (including CAR subjects) offered by the University, unless otherwise specified.

Service Learning

All students must successfully complete one 3-credit subject designated to meet the Service-Learning Requirement, in which they are required to (1) participate in substantial community service or civic engagement activities that will benefit the service users or the community at large in a meaningful way, (2) apply the knowledge and skills acquired from their Major or other learning experiences at the University to the community service activities, and (3) reflect on their service-learning experience in

order to link theory with practice for the development of a stronger sense of ethical, social and national responsibility.

Artificial Intelligence and Data Analytics Requirement (AIDA)

All students must successfully complete one 2-credit subject in the area of Artificial Intelligence and Data Analytics, which is designed to (i) demonstrate an understanding of the foundational concepts of Artificial Intelligence and Data Analytics (AIDA); (ii) acquire basic skills in using AIDA technologies and applications; (iii) articulate examples of how the adoption AIDA could enhance their chosen disciplines; and (iv) demonstrate an awareness of global contemporary ethical issues and impact from AIDA applications in daily life.

Innovation and Entrepreneurship Requirement (IE)

All students must successfully complete one 1-credit subject in the area of Innovation and Entrepreneurship, which is designed to (i) demonstrate an elementary understanding of innovation and entrepreneurship; (ii) appreciate the importance of innovation and entrepreneurship in local and global community; (iii) appreciate the applications and implications of the latest technologies on entrepreneurship and innovation in their chosen disciplines; and (iv) identify ethical issues in entrepreneurship and innovation.

Major Requirements

To prepare our graduates to be versatile and adaptive to meet the fast changing needs of the profession and the society in the 21st century, the discipline-specific curriculum at the undergraduate level aims at developing students' fundamental discipline-specific knowledge and the skills they need to function effectively as a beginning professional in their chosen field. Particular emphasis shall also be given to the development of students' generic competencies in the professional context within the discipline-specific curriculum.

DSR subjects form the major components of an undergraduate degree curriculum and are collectively referred to as "Major". The word "Major" will however not appear on the award parchment.

There must be a mandatory requirement within the Major for students to complete a 2-credit credit which containing the necessary embedded language requirements in English and in Chinese.

Work Integrated Education (WIE)

All programmes shall include the mandatory requirement for WIE.

Capstone Project

All programmes are required to include in their Major a Capstone Project/experience (minimum of 3 credits) such that students' learning experience accumulated over the entire undergraduate study will be consolidated in a project or thesis in their final year. This capstone experience will help students develop their generic competencies, as well as prepare them for professional practice in the workplace, for further academic pursuits, and for lifelong learning. These subjects shall include specific elements of study directed toward cultivating the following desired graduate attributes:

- Socially responsible leaders with a strong sense of national pride and a global outlook
- Future-ready professionals who possess technical acumen
- Criteria thinkers and creative problem solvers
- Effective communication and collaborators
- Adaptable and Lifelong learning

A summary of the curriculum structure and graduation requirements for undergraduate programmes (based on a single discipline Major) is given in Section 3.2 and 3.3

3.2 University Graduation Requirements for Undergraduate Degree

All candidates qualifying for a Undergraduate Degree must meet:

1. the University Graduation Requirements, and
2. the specific graduation requirements of their chosen programme of study

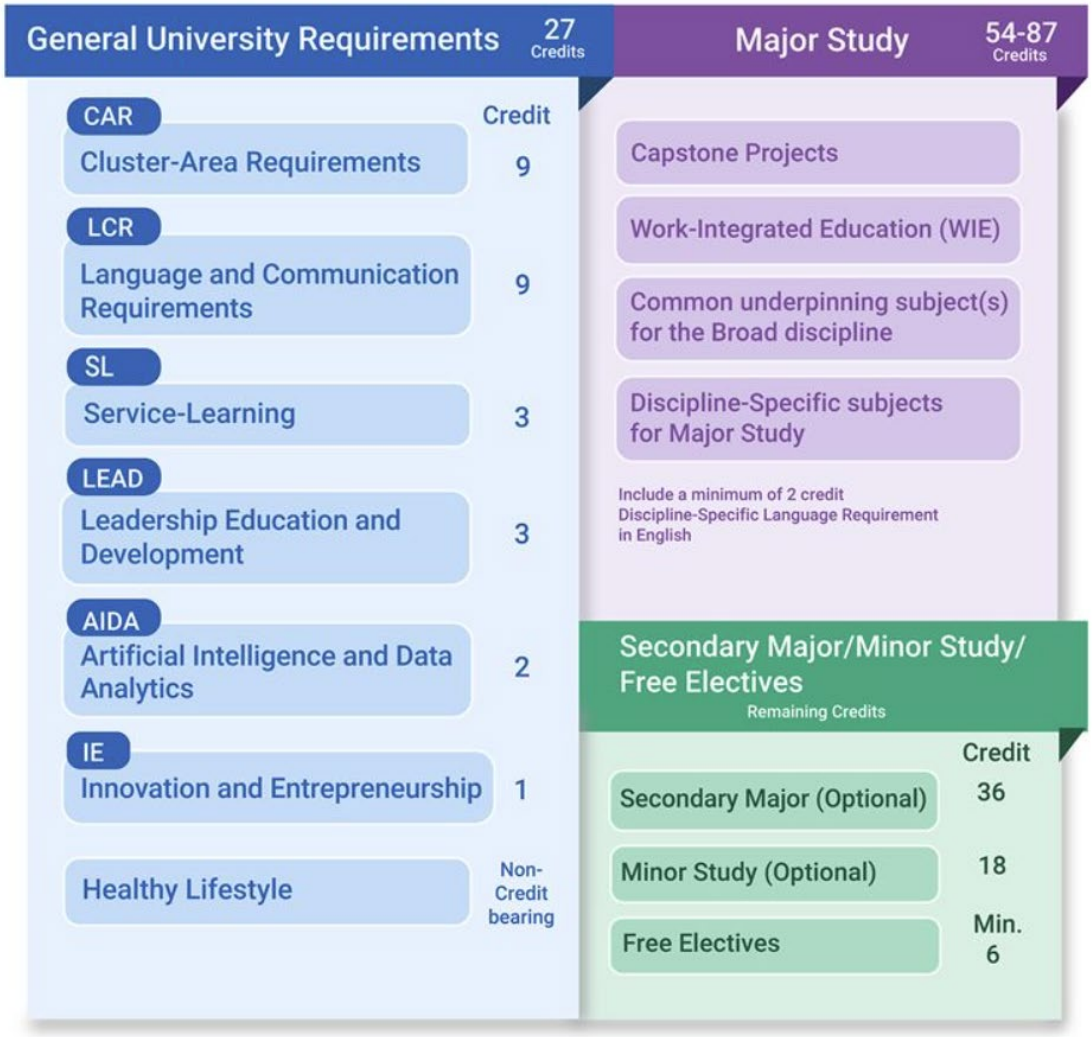
The minimum University Graduation Requirements are explained in the sections below. For the graduation requirements of specific programmes of study (Majors Secondary Majors, double degree and Minors), candidates should refer to the relevant section of the Programme Requirement Document or consult the programme-offering departments concerned.

Summary of University Graduation Requirements

To be eligible for a PolyU Bachelor's Degree under the full-time undergraduate curriculum, a student must:

1. Complete successfully a minimum of 120 credits.
2. Earn a cumulative GPA of 1.7 or above at graduation.
3. Complete successfully the programme requirements including mandatory Work-Integrated Education (WIE) component as specified by their programme/major.
4. Satisfying the National Education (NE) Requirement.
5. Satisfy the following requirements in general education.

Table 3.2 Requirements of GUR and credits distribution



Language and Communication Requirements (LCR)

English

All undergraduate students must successfully complete two 3-credit English language subjects as stipulated by the University (Table 3.1). These subjects are designed to suit students' different levels of English language proficiency at entry, as determined by their HKDSE score or the English Language Centre (ELC) entry assessment (when no HKDSE score is available). Students who are weaker in English at entry (with a HKDSE score of Level 3 with one or two sub-scores below Level 3) are required to take one or two extra credit-bearing English Language Enhancement subject(s) offered by ELC in their area(s) of weakness, as a pre-requisite for taking English LCR subjects.

Students who can demonstrate that they have achieved a level beyond that of the LCR proficient level subjects as listed in Table 3.2 (based on an assessment by ELC) may apply for subject exemption or credit transfer of the LCR subject or subjects concerned.

Table 3.3: English LCR Subjects (3 credits each)

	Subject		
English language competence level	**Practical English for University Studies**	**English for University Studies**	**Any LCR Proficient level elective subject in English (Table 3.4)**
HKDSE Level 4 and above or equivalent	--	Subject 1	Subject 2
HKDSE Level 3 or equivalent	Subject 1	Subject 2	--

Table 3.4: Proficient level elective subjects for DSE Level 4 students and above (or equivalent) (3 credits each)

	Subject Title	**Subject Code**
LCR Proficient level elective subjects	Advanced English Reading and Writing Skills	ELC2011
	Persuasive Communication	ELC2012
	English in Literature and Film	ELC2013
	Advanced English for University Studies	ELC2014

* Students entering the University with specified attainment grades in certain public examinations can be given credit transfer or exemption for one or both LCR English subjects. For the subject exempted, students must take any other subject to make up the 3 credits. For the subject granted credit transfer, student do not need to take any other subject to make up the credits. For details, please consult your programme offering department.

Chinese

All undergraduate students are required to successfully complete one 3-credit Chinese language subject as stipulated by the University (Table 3.5). These Chinese subjects are designed to suit students' different levels of Chinese language proficiency at entry, as determined by their HKDSE score or the Chinese Language Centre (CLC) entry assessment (when no HKDSE score is available). Students who are weaker in Chinese at entry (with HKDSE sub-scores of Level 2) will be required to take one or two extra credit-bearing Chinese Enhancement subject(s) offered by CLC, in their area(s) of weakness, as a pre-requisite for taking the Chinese LCR subject. Students can also opt to take additional Chinese LCR subjects in their free electives.

Students who are non-Chinese speakers (NCS), or whose Chinese standards are at junior secondary level or below, will also be required to take one LCR subject specially designed to suit their language background and entry standard as shown in Table 6.

Students who can demonstrate that they have achieved a level beyond that of the course "Advanced Communication Skills in Chinese" (based on an assessment made by CLC) may apply for subject exemption or credit transfer of the LCR subject concerned.

Table 3.5: Chinese LCR Subjects (3 credits each)

Subject Code	Subject Title	MoI
CLC1104C	University Chinese	Cantonese
CLC1104P	University Chinese	Putonghua

For non-Chinese speaking students or students whose Chinese standards are at junior secondary level or below:

Depending on your Chinese Language Centre entry assessment result, one subject from Table 3.5 will be pre-assigned to you as Chinese LCR. You are also exempted from the Chinese Reading and Writing Requirements of CAR.

Table 3.6: Chinese LCR Subjects for non-Chinese speakers or students whose Chines standards are at junior secondary level or below

Subject Code	Subject Title
CLC1151	Chinese I (for non-Chinese speaking students)
CLC1152	Chinese II (for non-Chinese speaking students)
CLC2151	Chinese III (for non-Chinese speaking students)
CLC2154	Chinese IV (for non-Chinese speaking students)
CLC2152	Chinese Literature – Linguistic and Cultural Perspectives (for non-Chinese speaking students)

* Students entering the University with specified attainment grades in certain public examinations may be given credit transfer or exemption for the LCR Chinese subjects. Please refer to the guidelines for Credit Transfer of GUR subjects for more details.

Writing Requirement

In addition to the LCR subject requirement explained above, all students must also, among the Cluster Areas Requirement (CAR) subjects they take, pass one subject that includes the requirement for a substantial piece of writing in English and one subject with the requirement for a substantial piece of writing in Chinese.

Reading Requirement

All students must, among the CAR subjects they take, pass one subject that includes the requirement for the reading of an extensive text in English and one subject with the requirement for the reading of an extensive text in Chinese.

A list of approved CAR subjects for meeting the Writing Requirement (with a "W" designation) and for meeting the Reading Requirement (with an "R" designation) is shown at: https://www.polyu.edu.hk/ous/GURSubjects/

Non-Chinese speakers and those students whose Chinese standards are at junior secondary level or below will by default be exempted from the DS-Chinese and CAR-Chinese Reading and Writing requirements. However, this group of students would still be required to take one Chinese LCR subject to fulfil their LCR.

Note: In addition to the LCR and Reading and Writing Requirements, students must also complete 2 credits of discipline-specific language requirements (English) as specified in the curriculum requirements of their Major. Students may also be required

to complete 2 credits of discipline specific language requirement in Chinese as specified in the curricular requirements of their Major.

Language and Communication Competency Assessment

• All FYFD students will be required to sit for both the English and Chinese Language and Communication Competency Assessments (LCCA) before graduation. Except for those who are granted an exemption from attempting the LCCA, students who have not sat for the Chinese (written) LCCA and those who do not achieve a specified competency level in the English LCCA will not be eligible for graduation.

• Students who have been waived of the Chinese language requirement during their admission to the University will be given exemption from sitting for the Chinese (written) LCCA. Nevertheless, they will not be precluded from sitting for the Chinese (written) LCCA, but this will entirely be on a voluntary basis.

• To encourage students to exceed the specified competency level, merits or distinctions will be awarded to those who achieve a higher level, and these achievements will be printed on their transcripts to reflect their accomplishments

Leadership Education and Development

All students must successfully complete one 3-credit subject in the area of Leadership Education and Development, which is designed to enable students to (i) understand and integrate theories, research, and concepts on the basic qualities (particularly intrapersonal and interpersonal qualities including law abidance) of effective leaders, (ii) develop self-awareness and self-understanding, (iii) demonstrate self-leadership in pursuit of continual self-improvement, (iv) apply intrapersonal and interpersonal skills in daily lives, (v) appreciate the importance of intrapersonal and interpersonal qualities in effective leadership, particularly the connection of learning in the subject to one's professional development and personal growth, and (vi) recognise and accept their social responsibility as professionals and citizens to the society and the world.

Service-Learning

All students must successfully complete <u>one</u> 3-credit subject designated to meet the service-learning requirement, in which they are required to (1) participate in substantial community service or civic engagement activities that will benefit the service users or the community at large in a meaningful way, (2) apply the knowledge and skills acquired from their Major or other learning experiences at the University to the community service activities, and (3) reflect on their service learning experience in order to link theory with practice for the development of a stronger sense of ethical, social and national responsibility.

These subjects may take the form of:

- An open-to-all GUR service -learning subject,
- A GUR service-learning subject targeted a particular student group or
- A customised Major subject (core or elective) within the Major/Minor, with all the required features and components to meet the Service-Learning Requirement.

Students who have satisfied the Service-Learning Requirement via a customized Major subject will be required to take another 3-credit subject to make up for the total credit requirement.

A list of designated subjects for meeting the service-learning requirement is available at: https://www.polyu.edu.hk/ous/GURSubjects\

Cluster Areas Requirement (CAR)

To expand students' intellectual capacity beyond their disciplinary domain and to enable them to tackle professional and global issues from a multidisciplinary perspective, students are required to successfully complete at least one 3-credit subject per cluster from three of the following four Cluster Areas as determined by their Major:

- CAR(A): Human Nature, Relations and Development (HRD)
- CAR(D): Science, Technology and Environment (STE)
- CAR(M): Chinese History and Culture (mandatory unless a CAR(M) subject has been included in the Major curriculum) (CHC)
- CAR(N): Cultures, Organizations, Societies and Globalization (COSG)

A list of CAR subjects under each of the four Cluster Areas is available at: https://www.polyu.edu.hk/cus/GURSubjects/

Healthy Lifestyle

Students are required to complete the following components: (i) sports training/participation, (ii) e-learning modules, and (iii) lectures/talks. The syllabus covers physical health, mental health, social health, spiritual health, values and priorities on healthy behaviour with reference to competing priorities in life, reflections on healthy living, and plans for self-improvement or maintaining healthy behaviour. Details of the programme can be found at: https://www.polyu.edu.hk/ous/GURSubjects/HLS.php

Artificial Intelligence and Data Analytics Requirement (AIDA)

All students must successfully complete one 2-credit subject in the area of Artificial Intelligence and Data Analytics, which is designed to (i) demonstrate an understanding of the foundational concepts of Artificial Intelligence and Data Analytics (AIDA); (ii) acquire basic skills in using AIDA technologies and applications; (iii) articulate examples of how the adoption AIDA could enhance their chosen disciplines; and (iv) demonstrate an awareness of global contemporary ethical issues and impact from AIDA applications in daily life.

These subjects may take the form of:

- An open-for-all GUR-AIDA subject
- GUR-AIDA subject targeting a particular student group (e.g. a programme).

A list of designated subjects for meeting the GUR-AIDA requirement is available at: https://www.polyu.edu.hk/cus/GURSubjects/

Innovation and Entrepreneurship Requirement (IE)

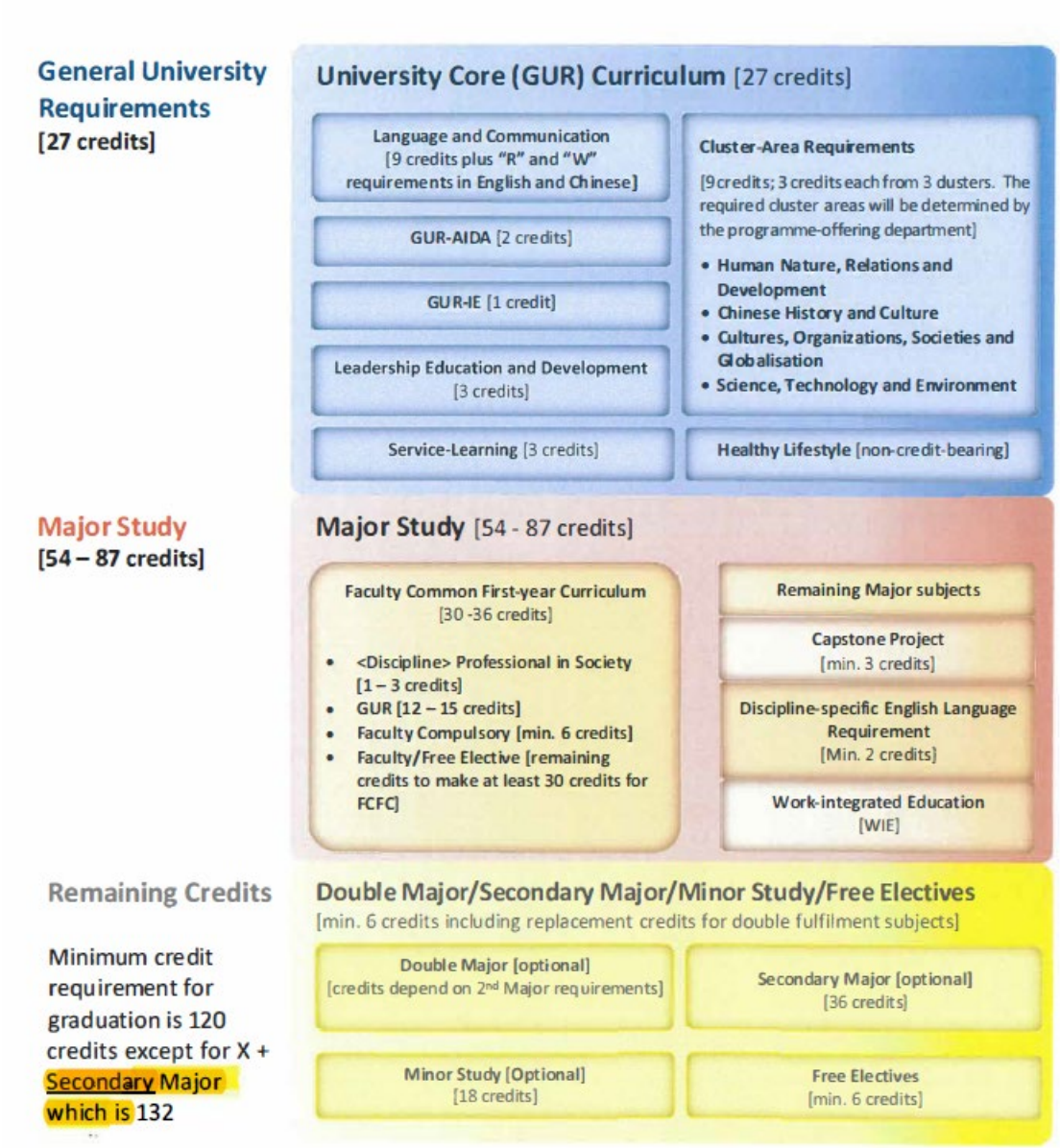
All students must successfully complete one 1-credit subject in the area of Innovation and Entrepreneurship, which is designed to (i) demonstrate an elementary understanding of innovation and entrepreneurship; (ii) appreciate the importance of innovation and entrepreneurship in local and global community; (iii) appreciate the applications and implications of the latest technologies on entrepreneurship and innovation in their chosen disciplines; and (iv) identify ethical issues in entrepreneurship and innovation.

These subjects may take the form of:

- An open-for-all GUR-IE subject
- GUR-IE subject targeting a particular student group (e.g. a programme).

A list of designated subjects for meeting the GUR-IE requirement is available at: https://www.polyu.edu.hk/cus/GURSubjects/

3.2 ***Curriculum Structure and Graduation Requirements for undergraduate programmes (applicable to a single discipline Major, or a Secondary Major, Minor)***



Note: The minimum credit requirement for graduation is 120.

4. Curriculum Design: General University Requirements

General University Requirements (GUR) Structure

Table 4.1 GUR areas and credits distribution

Areas	Credits
▪ Artificial Intelligence and Data Analytics Requirement (AIDA)	2
▪ Innovation and Entrepreneurship Requirement (IE)	1
▪ Language & Communication Requirements (LCR) #	9
*English	(6)
*Chinese	(3)
▪ Leadership Education and Development (LEAD)	3
▪ Service-Learning (SL)	3
▪ Cluster-Area Requirements (CAR)	9
• 3 credits from each of the following 4 cluster areas	
o Human Nature, Relations and Development	(3)
o Science, Technology and Environment	(3)
o Chinese History and Culture	(3)
o Culture, Organizations, Societies and Globalisation	
And of which must fulfil 2 additional requirements:	
• English Reading and Writing (ER/EW) Requirements	
• Chinese Reading and Writing (CR/CW) Requirements	
▪ Healthy Lifestyle (non-credit bearing)	Nil
Total GUR credits	27

For the 2026/27 intake cohort, students will be required to take the 3-credit "AI as a Tool for Language Learning" (AITLL) and two 3-credits of LCR electives to fulfil the LCR requirements (one in English and one in Chinese).

5. Curriculum Design of the Major in Building Engineering & Management

5.1 *Programme Philosophy*

Origins of the Programme

From 1987 until 1992, the Department offered an unclassified B.Sc. Degree course in Building Technology and Management. The unclassified Degree course was accredited then by both Council of National Academic Accreditation (CNAA) and Chartered Institute of Building (CIOB).

In 1993, the unclassified Degree course of Building Technology and Management was successfully upgraded to an Honours Degree course with Honours for student intake from 1992 and was accredited by the Hong Kong Council for Academic Accreditation (HKCAA), the Chartered Institute of Building (CIOB) and the Hong Kong Polytechnic Academic Validation and Review Committee. The new title of BSc (Hons) in Building Engineering and Management was introduced to replace the former course titled BSc (Hons) in Building Technology and Management. The changed title was approved by the Senate held in February, 1999.

In formulating the aims and philosophy of the Programme, the Programme Planning Committee is cognisant of the following fundamental considerations:

The Construction and Real Estate Industry

The construction and real estate industry is interdisciplinary by nature. The whole process of real estate development, from site identification, through acquisition, evaluation, funding, design, construction, marketing and management (during occupation) is carried out by an interdisciplinary project team. A key factor in the successful delivery of built facilities is the achievement of cohesion in the project team. The professionals who make up the team will provide specialist skills in their own area. However, it is important that they have an understanding of the abilities and services which are provided by other professionals within the construction and real estate industry and sometimes beyond.

The need for this interdisciplinary and integrated approach is already established and it will continue to grow with the constraints which impinge on modern real estate development. Project teams need to work together to solve the problems of time, cost, safety, environmental protection and quality construction in providing the client with the completed building.

The requirements of the construction industry and its related professions are constantly changing under the influence of global economy. There will be continued demand for graduates who are able to cope with and manage changes as well as to keep up-to-date technological knowledge. Construction technology, management, communication and information technology within the industry are advancing in importance, as is the need to be aware of the financial context within which construction decisions are made.

It is crucial that the Department plays a role in the response to the challenges facing the industry by assisting, guiding and leading the development of the industry. The Department already has excellent relationships with the industry in research, consultancy, participation in the work of the professional bodies, providing continuing professional development programmes, as well as an Advisory Committee which is very supportive in general and with respect to this programme in particular.

The Changing Face of Hong Kong

Hong Kong is a small territory comprising some 1060 square kilometres and its transformation from a poor and under developed economy in the 1950's to a modern, prosperous, industrialized and international city of the 1990's has been remarkable. In a matter of forty years, the entrepot port, with a post-war population of 600,000 and with very limited industrial development, has grown into a highly urbanised and industrialised export and re-export led economy, with a population of over six million.

Hong Kong has close ties with and been greatly benefited by the Mainland China ever since China has been practising an 'open-door' economic policy since 1981. With Mainland China's move to modernization, massive building works have commenced on the Mainland. At the same time, Hong Kong is changing its role to a knowledge-based economy. Hong Kong is regarded to be one of the main sources for the provision of technological knowledge and management expertise to China, particularly in the construction and real estate market due to its proximate location.

In July, 1997 saw the political formalities finalised: the return of sovereignty whilst Hong Kong's business and commercial connections with Mainland China have already well established particularly so with Guangdong province and the Pearl River Delta. Hong Kong is benefiting from Mainland China's thriving economic growth. In increasing international competitiveness, Hong Kong is to continue to provide expertises in construction engineering, management skills and construction economics to Mainland China. In addition, the recent rapid expansion of the Macau construction sector has also offered ample opportunities to our graduates. This growth in the construction activities is expected to continue until the next decade.

The construction and real estate industry is among Hong Kong's most important in terms of investment expenditure. Land is still in demand for housing, business and industry. As a result of the constraint of limited usable land supply, it has led to the erection of much higher buildings and more diversified and integrated building complex developments with deep basement construction to maximize the return from the use of available land. The building industry has to work at great speed and overcome site and construction problems using construction techniques, mechanical equipment and production management suitable for fast and safe construction. The infrastructures development is vital to the revival of Hong Kong's economic growth in the 21st century.

At the same time there should be a large volume of building construction for the development of land areas at the location of Kai Tak and the development surrounding the current airport in Chap Lap Kok. All these construction works require a large number of efficient construction manager/building engineers with a sound base of construction engineering and production management fundamentals.

Fundamental construction engineering principles and production management techniques, innovative technological knowledge, skills in information technology, the awareness of the effects of environmental problems and the international climate in socio-economic and political situations are required for local demands in her changing to a knowledge-based economy as well as in sustaining her established link with Mainland China in expertise and financial services.

Rationale for the Programme

By examining the inter-relationships between construction technology and management, their current knowledge, status and philosophy may be unfolded. Construction technology is founded as a branch of applied science, whilst construction management is a management discipline devoted to engineering organization and efficiency in production. With the recent developments in the construction industry, construction technology and management do not only ensure efficient site production but also the integration and co-ordination of many different elements in construction. These include:

* design and production disciplines
* incorporation of building services
* construction cost monitoring
* maintenance planning and management

Thus, there has been a significant trend of developing the position of the construction manager to the decision making role not only in the production phase but, sometimes also, in the design phase. This is more so with the move of building works to the design of fast-track construction, design and build, prefabrication and the like. In enhancing his/her consultative ability, the construction manager has been developing additional professional services for the client. These professional services have broadened the range of knowledge and skills offered by the building (production) engineering particularly in the area of engineering design and the different construction processes. Hence, the construction managers concern the design and management of efficient building construction process other than a building production manager.

Construction technology and management can be regarded as a building (production) engineering discipline. It ensures an orderly, purposeful and planned way to build; to identify; to define and to solve constructional problems as well as to integrate the client's and consultants' requirements. Fulfilling these requirements requires intellectual and creative people and this will result in the construction of quality buildings incorporating new construction concepts and processes. Furthermore, it also provides the concepts and techniques to integrate and co-ordinate different building disciplines, bearing cognizance of the socioeconomic and socio-political climate together with environmental problems and the contextual outlook. The construction industry is a dynamic process through which building production is integrated efficiently with society’s purposes and engineering values.

In summary, in the role of a building engineer/construction manager, besides being an efficient manager, the graduate must also be an effective innovator of change within the organization and the industry at large. The programme is therefore structured to develop the student's ability to communicate effectively and to interact in leading role ascribed by the construction industry.

Philosophy of the Programme

Undergraduate education in building must be intrinsically be associated with the industry that this programme endeavours to serve. The programme is designed to provide a programme of study which is both academically rigorous and provides the specific professional expertise in the production engineering/management discipline, so that graduates may play a leading proactive role within the construction industry.

Without overloading individual subject on the programme as a whole, the student efforts will be directed toward coordinating and integrating the construction engineering and construction managerial aspects of the construction industry. The degree programme has been developed to provide a broad, yet rigorous, grounding of education in the engineering technology and management principles and concepts, applied construction economics and legal studies of building construction, whilst at the same time developing students' abilities to be innovative and creative in solving unique construction problems.

To this end, the programme has been structured to provide four areas of study, namely technology, management, context and integrative studies.

Engineering-Technology: The necessary science and engineering underpinning the knowledge base and the professional practice for the programme.

Management: The initiative and abilities necessary for the control and coordinating of the people and processes and resources of construction projects.

Context: The scope, limitations and constraints of the environment within which the construction manager operates, such as economic, legal and social framework.

Integration (Integrative Studies) through Projects & Capstone Project: The holistic and integrative ability to create synergy within terms and projects. It focuses on the fundamental understanding of the requirements of the programme. It relates closely to the integrating project subjects used to provide both horizontal integration of the subject units and a vertical link for curriculum development. Throughout the programme, the knowledge and techniques of research for the design, analysis and computation of data are emphasized.

The programme therefore aims to produce graduates who are innovative, imaginative and can initiate and respond to change by the application of their skills and knowledge.

It is this framework for the programme that offers the graduate the expertise, flexibility and opportunity to develop a wider range of mental abilities so facilitating the development of the proactive role in the construction industry.

5.2 *Programme Aims*

The BEM programme aims to produce graduates who can develop into highly competent and professional building engineers for Hong Kong, China and the international market. It aims to equip students with the knowledge and ability in the production of buildings and facilities so that they will be able to contribute effectively to project and facilities management teams engaged in complex building projects.

The changing demands of the construction industry require that the graduate is capable of leading the profession forward by adopting a dynamic approach to the future development of the profession. This programme is designed so that the graduate will continue to develop professionally during his professional career.

5.3 *Specific Programme Outcomes*

Programme outcomes refer to the intellectual abilities, knowledge, skills and attributes that an all-rounded preferred graduate from BEM programme should possess.

To ensure fulfilment of the goal of developing all-round students with professional competence, it is required that outcome statements encompass the following two categories of learning outcomes:

5.3.1 **Professional/Academic Knowledge and Competence**

Upon successful completion of the programme, the graduate is expected to action the following abilities:

(i) To possess knowledge of building engineering principles, processes and methods for the successful completion of all types of construction projects.
(ii) To use the techniques, skills and engineering principles for different types of construction.
(iii) To apply construction management knowledge and skills in personnel, financial and operational practices and communication aspects required for efficient building production.
(iv) To identify, structure and analyse diverse problems arising from the changing social, economic, environmental and technological pressures.
(v) To solve identified construction problems with appropriate solutions.
(vi) To evaluate alternative strategic options.
(vii) To select appropriate construction materials, practices and methods in compliance with sustainable development.
(viii) To exercise professional judgement in the consideration of alternatives in complex situations.

5.3.2 **Attributes for All-roundedness**

As all undergraduate programmes are under the CMI Degree scheme, the attributes for all-roundedness listed are the same under the scheme.

Upon successful completion of the programme, the students are expected to possess the following attributes for all-roundedness:

(i) To possess skills to identify, analyse and solve problems.
(ii) To have an understanding of professional, social and ethical responsibilities.
(iii) To communicate effectively.
(iv) To reflect on knowledge gap for life time learning.
(v) To contribute as team member and to lead effectively.
(vi) To identify contemporary issues.

Note: PolyU aspires to develop all its students as all-round graduates with professional competence, and has identified a set of highly valued graduate attributes can be developed through the curricular activities of this programme, some (including the all-rounded attributes of 'B4 to reflect on knowledge gap for life time learning and B6 to identify contemporary issues' contained therein in the curriculum mappings of the Majors in BSc (Hons) in Building Engineering & Management and BSc (Hons) in Surveying) are primarily addressed through co-curricular activities offered by faculties, departments, and various teaching and learning support units of the University. Students are encouraged to make full use of such opportunities to develop these attributes.

5. Curriculum Design of the Major in Surveying

5.1. *Philosophy of the Major*

Origins of the Major

The Department of Building and Real Estate together with its predecessors together have over 80 years of experience delivering surveying education. It now runs a four-year Surveying programme, which has proved to be one of the university's most popular among high achievers. It offers advanced subjects in the third and fourth years with electives in Building Surveying, General Practice Surveying, Planning and Development, Property and Facility Management, and Quantity Surveying.

It has been our aim to offer a course that is academically rigorous and professionally relevant, a course that will prepare its graduates for life-long learning, and both immediate and long-term employability. The course is underpinned by the academic disciplines of economics, urban sustainability policy, management and technology, whilst complemented and supplemented with inter-disciplinary integrated projects, summer placements through Work Integrated Education and exchange programmes. Students will learn to apply transferrable knowledge to solve built environment problems from various perspectives. Striving to provide an education that is professionally relevant, we have been inviting guest speakers and, capitalizing on our rich alumni network, asking our distinguished alumni to share their experience with our students. Our graduates will be equipped with broad knowledge of building and real estate in a global context, as well as basic surveying skills that would facilitate their continuous professional development and progression to assume a wide range of key roles in the profession and industry.

The Programme aims to prepare students with fundamental knowledge and skills in the inter-disciplinary professions of land, property and construction for their immediate employability and lifelong learning. The Programme underpins surveying studies with the disciplines of economics, urban sustainability policy, management and technology. Graduates will enter the professions of building surveying, quantity surveying, property & facility management, planning & development, or general practice surveying as graduate trainees but with full potentials to readily become full-fledged professional surveyors and finally take leading and strategic roles in the profession and business of land, property and construction and make contributions to the community through their chosen professional services.

Identification of specific challenges which the course is designed to meet

The general aims and outcomes of the course is to provide educational programmes in the construction and real estate sectors which enable students to develop their full potential for academic and personal development within their chosen professional discipline, thus contributing to the Department's mission of achieving excellence in the context of construction and real estate. We shall provide an appropriate platform for our students within an academic environment to develop his/her knowledge, skills and abilities by application of the methods and practices involved in the building and real estate industry. We aim to produce students with a careful balance of intellectual, vocational and practical constituents relating to building and real estate with independent thinking, an inquiry mind, confidence and professionalism. Our students will have received a rigorous professional education upon graduation to continue to develop professionally during their career as changing demands of the construction industry require graduates capable of leading the profession forward by adopting a dynamic approach to the future development of the profession and life-long learning for his/her personal development. Students will also be equipped with both technical and social skills to navigate the opportunities and challenges presented by the era of artificial intelligence.

The construction and property sectors have always played pivotal role in Hong Kong economy. The development, investment, construction and maintenance of properties have always been capital-intensive. It is perhaps more so in the case of Hong Kong because local land prices have been among the highest in the world, and construction costs are among the highest, if not the highest, in the world. Hong Kong is the regional if not global financial centre in Asia, as well as the leader in the syndication of bank loans for property development and infrastructure projects. With the further development of debt market, the securitization of particularly real assets and increasing sophistication in financial engineering, the role of surveyors as economic advisors will become all the more crucial in the future. Due to the increasing sophistication in financial engineering, project complexity is poised to grow.

Besides financially complex, property development and construction have always been legally, technologically and managerially complex. There is a complex set of institutional, legislative and regulatory frameworks that surveyors work with in the business of land, property and construction. Due to the public's increasing awareness on environmental protection and conservation, the planning, building and environmental regulations are expected to become more stringent. Once a project goes to the design and construction stage, surveyors face the frequent quest for technological and managerial innovations for sustainable construction. To make the most efficient and effective use of resources including time, materials, technology and human resources; surveyors need to be able to identify, adopt and adapt such innovations as concurrent and lean construction, advanced and proprietary technology, web-based project management and delivery, and inter-organizational partnership and strategic alliances.

With the increasing stock of buildings and the growing concern for public health, there is consequent exigency on the part of the surveying profession to fulfilling the rising aspiration of the public to live in a safe, healthy, productive and engaging built environment. Besides, as more businesses come to regard their properties as strategic assets, there arises the opportunities for the surveying profession to cater for their need of corporate asset and facility management services. To play an instrumental role in raising living standards and managing what are generally the most valuable assets of companies, surveyors need to be competent in all the technological and social-economic aspects of building, maintenance and property management.

Surveyors manage the productive and profitable use of land, property and construction resources. Their careers have always been challenging, and the more so in the future. Clients and users themselves are getting more sophisticated, knowledgeable and thus demanding. Advances from basic and applied research from the academic community and industry will present surveyors with complex challenges. To contribute to the well-beings of the community by providing specialized services in enhancing the built environment, surveyors of the future need to be educated in the four inter-woven and inseparable subject areas that underpin the body of knowledge of the surveying profession: technology, management, urban sustainability policy and economics in the context of land, property and construction. The Building and Real Estate Department seek to offer a 'generic' surveying programme to meet these needs.

5.2 *Rationale for Generic Surveying*

In the property, infrastructure and construction sectors in Asia and beyond, there is an increasing trend of privatization, vertical integration and foreign participation. It is attributed to both globalization and de-regulation of markets, particularly consequent to the accession of an increasing number of countries, including China Mainland, to the World Trade Organization. With further integration of the local economy with that of the Mainland, and with the increasing integration of the property and financial markets, there emerges the need for the surveying professionals that are also competent in providing integrated services.

With increasing opening up of markets come the increasing market competition and thus the need for achieving optimal business efficiency. In Hong Kong, there is an increasing trend of vertical integration of professional and business services, innovative property and construction financing, private participation in public services, and securitization of direct properties. There is increasing complexity in every aspect of the entire project delivery process including innovative financing and legal arrangements, complex contract documentation, and integrated design, construction and maintenance of buildings and infrastructure projects. As the Construction Industry Review Committee advocated, there should be less segmentation within the property and construction industry, and innovative project delivery process will involve further integration of hereto generally separate and compartmentalized professional disciplines. Their recommendations have been accepted and strategies and policies will be designed and implemented to encourage further integration of the development, construction and maintenance processes.

Future surveyors will be presented with the challenges brought about by the fundamental changes in the philosophy and logistics of project delivery. The quest for sustainable development and construction, and the new paradigms in property development, construction and maintenance will require the next generation of surveyors to adopt a holistic approach to tackle problems. Future generations of surveyors must be equipped with a broad-based knowledge in each of the traditional surveying disciplines including building surveying, general practice surveying, planning & development, and quantity surveying. As we have witnessed, new modes of project delivery and process, resulting from further integration and privatization for example, have the effect of changing or even demolishing the traditional boundaries of surveyors' works. For example, with the growth of various forms of Public Private Partnership, quantity surveyors need to understand how the unorthodox and ad-hoc financing and legal arrangements would impact on contract documentation and administration. Similarly, building surveyors need to address how the arrangements would impact on building maintenance and facility management. Another example involves the securitization of assets. General practice surveyors need to understand the effect of securitization and its impacts on property valuation, and on building management and the procurement of maintenance contracts, which are usually done by building surveyors and quantity surveyors in the past.

Our next generation of surveyors must be able to comprehend the broad issues concerning land, property and construction so as to be able to work best in his or her chosen surveying disciplines, which themselves are also likely to change. They should be well prepared to grasp opportunities such as the Belt and Road initiatives can offer. They have to be well poised for post-graduate and life-long learning, as what they will have learnt will never be enough. Yet, they will be able to adopt and adapt basic skills and re-apply them in another setting such as China Mainland, and identify and fill their knowledge gaps through life-long learning. In order to be prepared for this life-long quest for learning, they will be trained to think conceptually and in an abstract way in this course. They will be required to think beyond how tasks are performed into why they are performed at all. Procedures and practices will be forever changing to suit the forever changes in the social-economic, legal, political and technological aspects of the built environment.

However, we believe that an understanding of the generic principles and fundamentals of the surveying profession will enhance the self-learning ability of our students when they graduate. And this learning ability can be best cultivated by taking an integrated and holistic approach to appreciate how everything is connected with each other in the education and profession of surveying. This generic degree will provide our students with the basic framework on which to build their career.

5.3 *Philosophy of the Major*

This generic course emphasizes the interconnections rather than the divisions among the four major professional surveying disciplines. Students will be given the opportunity to learn the essential elements of basic science and professional practice through an integrated approach. Professional ethics runs as a consistent thread throughout the curriculum, and will form a key ingredient in professional practice. Graduates will be ready to proceed to postgraduate training and lifelong personal and professional development. The design of the new course reflects educational principles, as follows. Undergraduates will acquire basic skills so that core competencies could be built on during the post-graduate training period. They shall be able to identify, acquire and sharpen specialist ones that may arise or change over from time to time in the future.

5.4 *Programme Aims of the Major*

The Programme aims to prepare students with fundamental knowledge and skills in the inter-disciplinary professions of land, property and construction for their immediate employability and lifelong learning. The Programme underpins surveying studies with the disciplines of economics, urban sustainability policy, management and technology. Graduates will enter the professions of building surveying, quantity surveying, planning & development, property and facility management, or general practice surveying as graduate trainees but with full potentials to readily become full-fledged professional surveyors and finally take leading and strategic roles in the profession and business of land, property and construction and make contributions to the community through their chosen professional services.

5.5 *Programme Outcomes of the Major*

Programme outcomes refer to the intellectual abilities, knowledge, skills and attributes that an all-round preferred graduate from surveying programme should possess.

To ensure fulfilment of the goal of developing all-round students with professional competence, it is required that outcome statements encompass the following two categories of learning outcomes:

5.5.1 **Professional/Academic knowledge and competencies**

Upon successful completion of the programme, the students and expected to attain the following abilities:

(i) To comprehend and identify issue and problems concerning land, property and construction at project level.
(ii) To comprehend and identify issue and problems concerning land, property and construction at corporate level.
(iii) To comprehend and identify issue and problems concerning land, property and construction at industry level.
(iv) To comprehend and identify issues and problems concerning land, property and construction at marco social-economic and political level.
(v) To advise clients through rendering surveying services.
(vi) To identify, formulate and solve problems related to the surveying profession and real estate industry.

(vii) To analyse and interpret data of the industry.
(viii) To formulate and implement strategies, policies and solutions for sustainable development and construction.

5.5.2 **Attributes for all-roundedness**

As all undergraduate programme are under the CMI Degree scheme, the attributes for all-roundedness listed are the same under the scheme.

Upon successful completion of the programme, for all-roundedness, the students are expected:

(i) To possess skills to identify, analyse and solve problems.
(ii) To have an understanding of professional, social and ethical responsibilities.
(iii) To communicate effectively.
(iv) To reflect on knowledge gap for life time learning.
(v) To contribute as team member and to lead effectively.
(vi) To identify contemporary issues.

Note: PolyU aspires to develop all its students as all-round graduates with professional competence, and has identified a set of highly valued graduate attributes can be developed through the curricular activities of this programme, some (including the all-rounded attributes of 'B4 to reflect on knowledge gap for life time learning and B6 to identify contemporary issues' contained therein in the curriculum mappings of the Majors in BSc (Hons) in Building Engineering & Management and BSc (Hons) in Surveying) are primarily addressed through co-curricular activities offered by faculties, departments, and various teaching and learning support units of the University. Students are encouraged to make full use of such opportunities to develop these attributes.

6. Intended Learning Outcomes (ILOs), Programme Structure and Curriculum Mapping of the Major requirement in Building Engineering & Management

The total credits for graduation on BSc (Hons) in Building Engineering & Management is 120 credits (including GUR 27 credits + Free Elective 6 credits + Major 87 credits).

The following shows the proposed distribution of the 87-credit of Major in the curriculum (no. of credits in brackets):-

[The 27-credit GUR is not shown in this-Major distribution table.]

Mapping of Programme Intended Learning Outcomes to Institutional Learning Outcomes

Graduate Attributes and Institutional Learning Outcomes for Undergraduate Degree Programmes

PolyU is committed to nurturing competent professionals who are also

* Socially responsible leaders with a strong sense of national pride and a global outlook
* Future-ready professionals who possess technical acumen
* Critical thinkers and creative problem solvers
* Effective communicators and collaborators
* Adaptable and resilient lifelong learners

The institutional learning outcomes for these attributes are provided as follows:

(i) **Socially responsible leaders with a strong sense of national pride and a global outlook:** Be able to Care about and understand local, national and global issues, and be able to think globally, act responsibly, and lead with integrity and pride for the benefit of society and a sustainable future.

(ii) **Future-ready professionals who possess technical acumen:** Be able to integrate and apply in-depth discipline knowledge and specialised skills, leverage changing and emerging technologies for work, function in variable interdisciplinary contexts, and demonstrate professionalism and entrepreneurial spirit at work.

(iii) **Critical thinkers and creative problem solvers:** Be able to critically evaluate information and arguments, draw logical and informed conclusions, identify problems and formulate innovative solutions, in both professional and everyday contexts.

(iv) **Effective Communicator and Collaborators:** Be able to communicate effectively in English and Chinese in professional and everyday contexts*, collaborate with people from diverse backgrounds and different perspectives, and contribute to effective teamwork and positive group dynamics.

(v) **Adaptable and resilient lifelong learners:** Committed to continual learning and self improvement, engage in learning with a sense of purpose, manage their own learning, adapt to different learning situations, and deal effectively with the arising stress and challenges

*The expectation to communicate in Chinese does not apply to foreign students.

6.1 *Intended Learning Outcome of BEM programme*

To ensure fulfilment of the goal of developing all-round students with professional competence stipulated by the University, it is required that outcome statements encompass the following two categories of learning outcomes:

A. Professional/Academic Knowledge and Competence

Upon successful completion of the programme, the graduate is expected to action the following abilities:

(i) To possess knowledge of building engineering principles, processes and methods for the successful completion of all types of construction projects.
(ii) To use the techniques, skills and engineering principles for different types of construction.
(iii) To apply construction management knowledge and skills in personnel, financial and operational practices and communication aspects required for efficient building production.
(iv) To identify, structure and analyse diverse problems arising from the changing social, economic, environmental and technological pressures.
(v) To solve identified construction problems with appropriate solutions.
(vi) To evaluate alternative strategic options.
(vii) To select appropriate construction materials, practices and methods in compliance with sustainable development.
(viii) To exercise professional judgement in the consideration of alternatives in complex situations.

B. Attributes for All-roundedness

As all undergraduate programmes are under the CMI Scheme, the attributes for all-roundedness listed are the same under the scheme.

Upon successful completion of the programme, the students are expected to possess the following attributes for all-roundedness:

(i) To possess skills to identify, analyse and solve problems.
(ii) To have an understanding of professional, social and ethical responsibilities.
(iii) To communicate effectively.
(iv) To reflect on knowledge gap for life time learning.
(v) To contribute as team member and to lead effectively.
(vi) To identify contemporary issues.

Table Relationship between the programme intended learning outcomes (ILOs) of the BEM and the Institutional learning outcomes of PolyU

Institutional Learning Outcomes					
ILOs of BEM Programme (Category A)	Socially responsible leaders with a strong sense of national pride and a global outlook	Future-ready professionals who possess technical acumen	Critical thinkers and creative problem solvers	Effective communicators and collaborators	Adaptable and resilient lifelong learners
(i)	X	X	X	X	
(ii)		X	X	X	X
(iii)			X	X	
(iv)	X	X	X		X
(v)		X	X		
(vi)		X	X	X	X
(vii)	X	X	X		X
(viii)			X	X	X
ILOs of BEM Programme (Category B)	Socially responsible leaders with a strong sense of national pride and a global outlook	Future-ready professionals who possess technical acumen	Critical thinkers and creative problem solvers	Effective communicators and collaborators	Adaptable and resilient lifelong learners
(i)		X	X	X	
(ii)	X		X	X	X
(iii)			X	X	X
(iv)	X	X			X
(v)			X	X	
(vi)	X	X	X	X	

6.2 *Components of the Major in Building Engineering & Management Curriculum*

The curriculum comprises four major components, distributed into four years of study other than the 27-credit General University Requirements (GUR).

- The major component of Building Engineering and Management focuses on the academic discipline of technology due to the engineering technology nature of the Major and Management. It is engineering oriented. 24 subjects are grouped under the four academic disciplines of Technology, Management, Urban sustainability policy and Real Estate Economics.

- 4 subjects on Project Studio, International Study, Analytical Skills and Methods and Capstone Project (6 credits) totalling 12 credits grouped under the category of "Project & Capstone Project".

- 1 subject on English for Construction and Environmental Professionals, and Industrial Safety respectively totalling 4 credits grouped under the last column of "Professional Languages, Safety & Electives".

It is the Faculty and Discipline-Specific requirements that students take the professional English and Chinese subjects for enhancement of their communication skills in their chosen profession. Since there will be site visits to supplement classroom lectures, students will be required to obtain a Green Card through attending the Industrial Safety course.

The 27-credit General University Requirements are for students' whole person development as well as to further enhance their languages and communication skills in particular English as the medium of instruction of the University.

6.3 ***Programme Structure & Curriculum***

6.3.1 In Stage 1 to 2 (Level 1 to 3), there are altogether 14 core subjects under the 5 academic disciplines.

a. Technology: AMA1140 Mathematics for Construction and Environment, CE1001 Construction and Environment Professionals, AP10001 Introduction to Physics, BRE2031 Environmental Science, BRE265 Introductory Construction Technology & Materials LSGI Engineering Surveying and BRE349 Building Services I are foundation subjects for AMA290 Engineering Mathematics, BRE370 Intermediate Construction Technology & Materials, BRE3261 Building Maintenance Planning and Technology and BRE453 Building Services II.

b. Real Estate Economics: BRE263 Construction Economics & Finance is to underpin BRE345 Measurement, Documentation and Estimating.

c. Management: BRE350 Project Management & Procurement is to underpin BRE4281 Construction Engineering Management.

6.3.2 In Stage 3 (Level 3), students will explore a variety of specific knowledge related to construction engineering and construction management. BRE204 Structure I is introduced to underpin BRE302 Structure II.

BRE364 Construction Contract Law & Administration grouped under the Urban Sustainability Policy is vital to construction project. BRE472 Information Technology and Building Modelling for Construction Management is to equip students with latest practical knowledge in the use of technology in construction project.

6.3.3 In Stage 4 (Level 4), students will focus on and be further enhanced in building engineering and management with such core subjects like BRE4393 Temporary Work Design, BRE461 Environmental Impact & Assessment, BRE426 Geotechnical & Foundation Engineering, BRE453 Building Services II and BRE4281 Construction Engineering Management. Moreover, students will choose 2 elective subjects for extending their professional knowledge to other related professional disciplines.

BRE466 Capstone Project underpinned by BRE366 Analytical Skills & Methods is a culmination to exhibit students' learning and knowledge in their chosen discipline-specific.

Table 6.2 Programme Structure and Curriculum of the Major Requirement in Building Engineering and Management (BEM)

Stage 4 (24 Credits)	BRE462 Advanced Construction Technology (3)					
	BRE461 Environmental Impact and Assessment (3)					
	BRE453 Building Services II (3)					
	BRE4393 Temporary Work Design (3)					
	BRE426 Geotechnical and Foundation Engineering (3)			BRE4281 Construction Engineering Management (3)	BRE466 Capstone Project (6)	
Stage 3 (23 Credits)	BRE472 Information Technology & Building Information Modelling for Construction Management (3)					
	BRE370 Intermediate Construction Technology and Materials (3)					
	BRE326 1 Building Maintenance Planning and Technology (2)					
	BRE302 Structure II (3)				BRE366# Analytical Skills and Methods (2)	
	BRE204# Structure I (3)	BRE345 Measurement Documentation and Estimating (3)	BRE364# Construction Contract Law & Administration (3)		BRE365 International Study (1)	
Stage 2 (18 Credits)	LSGI2961 Engineering Surveying (3)			BRE350# Project Management & Procurement (3)		
	CSE20290 Introduction to Geotechnology (3)					
	AMA290 Engineering Mathematics (3)				BRE262 Project Studio (3)	ELC3421 English for Construction & Environmental Professionals (3)
Stage 2 (13 Credits)	BRE349# Building Services (3)					
	BRE265# Introductory Construction Technology & Materials (3)					
	BRE2031# Environmental Science (3)					
		BRE263# Construction Economics and Finance (3)				BRE258 Industrial Safety I (1)
Stage 1 (9 credits)	CE 1001# Construction and Environmental Professionals in Society (3) AMA 1140 #Mathematics for Construction and Environment (3) AP10001 #Introduction to Physics (3)					
87 Credits)	Technology	Real Estate Economics	Law	Management	Projects and Capstone Project	Professional Languages, Safety,
	56 Credits	6 Credits	3 Credits	6 Credits	12 Credits	4 Credits

* All CMI Level 3 and Level 4 core subjects of a particular Major or discipline are offered as electives to students of another Major or discipline within the Department (exclusive of subjects offered by APSS), subject to the fulfilment of any pre-requisites and co-requisites requirements and time-table constraints.

Common core subjects

6.4 *Curriculum Mapping: BSc (Hons) in Building Engineering & Management*

This curriculum map gives a holistic view of the degree to which each intended learning outcome will be taught and assessed in your programme.

The following indicators (I, R, A) to show the treatment of the programme outcome in a subject:

I	(Introduced)	That the learning leading to the particular intended outcome is introduced in that subject.
R	(Reinforced)	That the learning leading to the particular intended outcome is reinforced in that subject.
A	(Assessed)	That the performance which demonstrates the particular intended outcome is assessed in that subject

6.4.1 *Level 1 and 2 Subjects*

		Subject Codes														
	Programme Outcomes List programme outcomes in this column in the same order as in the outcomes section for easy referencing	BRE2031	BRE204	BRE265	BRE262	BRE263	BRE350	AMA1140	AMA290	CSE20290	LSGI2961	CE1001	AP1001			
A1	To possess knowledge of building engineering principles, processes and methods for the successful completion of all types of construction projects	IA	I	IA			RA			IA	IA					
A2	To use the techniques, skills and engineering principles for different types of construction	I	IRA	IA					IA	IA	IA					
A3	To apply construction management knowledge and skills in personnel, financial and operational practices and communication aspects required for efficient building production						RA									
A4	To identify, structure and analyse diverse problems arising from the changing social, economic, environmental and technological pressures	I		I	IA	IA										
A5	To solve identified construction problems with appropriate solutions		RA	IA			RA			IA	IA					

	Programme Outcomes List programme outcomes in this column in the same order as in the outcomes section for easy referencing	BRE2031	BRE204	BRE265	BRE262	BRE263	BRE350	AMA1140	AMA290	CSE20290	LSGI2961	CE1001	AP10001			
A6	To evaluate alternative strategic options		IR				RA				I					
A7	To select appropriate construction materials, practices and methods in compliance with sustainable development	IA		IA												
A8	To exercise professional judgement in the consideration of alternatives in complex situations		I							I						
	All-rounded Attributes															
B1	To possess skills to identify, analyse and solve problems	IA			I		A		IA	IA	IA	IA				
B2	To have an understanding of professional, social and ethical responsibilities				IA								IA			
B3	To communicate effectively	IA	I	IA	IA	IA	A		I		I	I	I			
B4	To reflect on knowledge gap for life time learning				IA											
B5	To contribute as team member and to lead effectively	IA	I	IA	I	IA	A									
B6	To identify contemporary issues				IA						I					

6.4.2 *Level 3 Subjects*

		Subject Codes																
	Programme Outcomes List programme outcomes in this column in the same order as in the outcomes section for easy referencing	BRE302	BRE326	BRE345	BRE349	BRE370	BRE364	BRE365	BRE366	BRE472		ELC3421	BRE258					
A1	To possess knowledge of building engineering principles, processes and methods for the successful completion of all types of construction projects	IR			IA	RA		RA		IR			IR					
A2	To use the techniques, skills and engineering principles for different types of construction	IRA		IA	RA	RA				RA			IRA					
A3	To apply construction management knowledge and skills in personnel, financial and operational practices and communication aspects required for efficient building production		I			I	RA	RA		A								
A4	To identify, structure and analyse diverse problems arising from the changing social, economic, environmental and technological pressures					IR		RA	RA									
A5	To solve identified construction problems with appropriate solutions	IRA	IA	IA	RA	RA	RA		RA	R								
A6	To evaluate alternative strategic options	R	IA		RA	R		RA	RA									

	Programme Outcomes List programme outcomes in this column in the same order as in the outcomes section for easy referencing	BRE302	BRE3261	BRE345	BRE349	BRE370	BRE364	BRE365	BRE366	BRE472		ELC3421	BRE258					
A7	To select appropriate construction materials, practices and methods in compliance with sustainable development	I	IA			IRA		RA										
A8	To exercise professional judgement in the consideration of alternatives in complex situations	IR						R	RA				IR					
	All-rounded Attributes																	
B1	To possess skills to identify, analyse and solve problems		I	IA	RA	IR	RA	RA	A	IA			IR					
B2	To have an understanding of professional, social and ethical responsibilities	I				I		IA										
B3	To communicate effectively		I	IA	RA		RA	RA	A	A		IRA	IRA					
B4	To reflect on knowledge gap for life time learning						R	I	IRA	I								
B5	To contribute as team member and to lead effectively	R	I		RA	R		RA		A								
B6	To identify contemporary issues		I		I	IRA	R	R	A	R			I					

6.4.3 *Level 4 Subjects*

		Subject Codes																
	Programme Outcomes List programme outcomes in this column in the same order as in the outcomes section for easy referencing	BRE426	BRE4281	BRE4393	BRE453	BRE461	BRE462	BRE466										
A1	To possess knowledge of building engineering principles, processes and methods for the successful completion of all types of construction projects	IR			RA	RA	RA											
A2	To use the techniques, skills and engineering principles for different types of construction	IRA	R		RA	RA	RA	A										
A3	To apply construction management knowledge and skills in personnel, financial and operational practices and communication aspects required for efficient building production		RA				R											
A4	To identify, structure and analyse diverse problems arising from the changing social, economic, environmental and technological pressures		RA			RA	RA	RA										
A5	To solve identified construction problems with appropriate solutions	IRA		RA	RA		R	RA										
A6	To evaluate alternative strategic options			RA		RA	R	RA										

	Programme Outcomes List programme outcomes in this column in the same order as in the outcomes section for easy referencing	BRE426	BRE4281	BRE4393	BRE453	BRE461	BRE462	BRE466										
A7	To select appropriate construction materials, practices and methods in compliance with sustainable development			I R A		R A	R A	R										
A8	To exercise professional judgement in the consideration of alternatives in complex situations	I	R				R	RA										
	All-rounded Attributes																	
B1	To possess skills to identify, analyse and solve problems	I		A	RA	RA	RA	A										
B2	To have an understanding of professional, social and ethical responsibilities				R	RA												
B3	To communicate effectively		RA	A			RA	A										
B4	To reflect on knowledge gap for life time learning		R				R	IRA										
B5	To contribute as team member and to lead effectively	RA				R	R											
B6	To identify contemporary issues		R		R	R	RA	A										

*(E) = Elective

6. Intended Learning Outcomes (ILOs); Programme Structure and Curriculum Mapping of the Major Requirement in Surveying

The total credits for graduation on BSc (Hons) in Surveying is 120 credits (including GUR 27 credits + Free Elective Subjects 6 credits + Major 87 credits).

The following shows the proposed distribution of the 87-credit of Major in the curriculum (no. of credits in brackets):

[The 27-credit GUR is not shown in this Major distribution table.]

6.1 *Intended Learning Outcome of Surveying programme*

To ensure fulfilment of the goal of developing all-round students with professional competence stipulated by the University, it is required that outcome statements encompass the following two categories of learning outcomes:

A. Professional/Academic knowledge and competencies

Upon successful completion of the programme, the students and expected to attain the following abilities:

(i) To comprehend and identify issue and problems concerning land, property and construction at project level.
(ii) To comprehend and identify issue and problems concerning land, property and construction at corporate level.
(iii) To comprehend and identify issue and problems concerning land, property and construction at industry level.
(iv) To comprehend and identify issues and problems concerning land, property and construction at marco social-economic and political level.
(v) To advise clients through rendering surveying services.
(vi) To identify, formulate and solve problems related to the surveying profession and real estate industry.
(vii) To analyse and interpret data of the industry.
(viii) To formulate and implement strategies, policies and solutions for sustainable development and construction.

B. Attributes for All-roundedness

As all undergraduate programmes are under the CMI Scheme, the attributes for all-roundedness listed are the same under the scheme.

Upon successful completion of the programme, the students are expected to possess the following attributes for all-roundedness:

(i) To possess skills to identify, analyse and solve problems.
(ii) To have an understanding of professional, social and ethical responsibilities.
(iii) To communicate effectively.
(iv) To reflect on knowledge gap for life time learning.
(v) To contribute as team member and to lead effectively.
(vi) To identify contemporary issues.

Table 6.1 Relationship between the programme intended learning outcomes (PILOs) of the SUR and the Institutional learning outcomes of PolyU

Institutional Learning Outcomes					
ILOs of SUV Programme (Category A)	Socially responsible leaders with a strong sense of national pride and a global outlook	Future-ready professionals who possess technical acumen	Critical thinkers sand creative problem solvers	Effective communicators and collaborators	Adaptable and resilient lifelong learners
(i)		X	X		
（ii）		X	X		
(iii)		X	X		X
(iv)	X	X	X		
(v)		X	X	X	
(vi)	X	X	X	X	X
(vii)			X	X	
(viii)	X	X	X	X	X
ILOs of SUV Programme (Category B)	Socially responsible leaders with a strong sense of national pride and a global outlook	Future-ready professionals who possess technical acumen	Critical thinkers and creative problem solvers	Effective communicators and collaborators	Adaptable and resilient lifelong learners
(i)		X	X	X	
(ii)	X	X	X	X	X
(iii)			X	X	X
(iv)	X				X
(v)			X	X	
(vi)	X	X	X	X	

6.2 *Components of the Major in Surveying Curriculum*

The curriculum comprises five major components, evenly distributed into four years of study other than the 27-credit general University Requirements (GUR):

Compulsory Core Foundation Subjects

- 7 Core subjects under the four academic disciplines of Technology, Urban Sustainability Policy, Management and Real Estate Economics.

- 6 subjects on Integrated Professional Workshop I, II, III, Project Studio, International Study, Analytical Skills and Methods and Capstone Project (6 credits) totalling 17 credits grouped under the category of "Projects & Capstone Project".

Professional Languages and Safety Subjects

2 subjects on University English, Chinese and Industrial Safety totalling 4 credits under the last column of "Professional Languages, safety and electives". It is the Faculty and Discipline Specific Requirements that students take the Professional English and Chinese subjects for enhancement of their communication skills in their chosen professions. Since there will be site visits to supplement classroom lectures, students will be required to obtain a green land through attending the Industrial Safety course.

The 27-credit General University Requirements are for students' whole person development as well as to further enhance their languages and communication skills in particular English as the medium of instruction of the University.

Discipline-Specific Elective Subjects

The discipline-specific elective subjects under the five surveying disciplines of Building Surveying (BS), General Practice Surveying (GP), Planning and Development (PD), Property and Facility Management (PFM), and Quantity Surveying (QS).

In the final stage of the Major, the BSc (Hons) in Surveying students will choose their professional disciplines from the Disciplines of Building Surveying, General Practice Surveying, Planning & Development, Property and Facility Management, and Quantity Surveying. Each of which comprises eleven discipline-specific elective subjects which are core subjects to the students' choices of surveying disciplines

Projects and Capstone Project

The challenges as well as the opportunities presented to the surveying profession are many and varied. Other than assignments and readings, students will be required to synthesise what they will have learnt by tackling practical problems. As Figure 1 shows, Integrated Professional Workshop, International Study, Analytical Skills & Methods, together with Capstone, form 18.6% of the Discipline-Specific Major curriculum in terms of credit values. They form part and parcel of the surveying education. After preparing the foundation studies on the Discipline Specific Major in Surveying in year 1 and semester 1 of year 2, semester 2 of year 2 will start with a 3-credit Project. Students will be introduced the inter-disciplinary and inter-sectoral nature of the property and construction industry in general, and the surveying profession in particular. That will move into the project of International Study in the Year 3. Students will be required to identify and solve problems in a professional context. It will involve the application of knowledge and skills of the five surveying disciplines. In addition, students will be required to either carry out an in-depth comparative study or organize, manage and undertake the international study tour by themselves (whereby they will travel to a city or a few cities overseas/Mainland China) to compare and contrast their property and construction sectors with Hong Kong. All the academic and project studies will culminate in the 6-credit Capstone Project when students will work on problems that are more specialized and more discipline-specific.

Fulfilling the pre-requisite requirement of the Capstone Project, students will study research methodology together with qualitative and quantitative techniques to write up a detailed project proposal. Once their proposals are accepted, students will be required to continue working on their proposals to work on their capstone projects. This subject will present students with an opportunity to demonstrate knowledge of a specific area by taking and reporting a small but in-depth research project. They will take a critical and analytical view of an issue relevant to the surveying profession and of particular concern to the local and its neighbouring environments.

<u>Core Foundation Subjects and Discipline-specific Elective Subjects</u>

The core and elective subjects will provide the basic skills for students to build on their core competencies during the post-graduate training period for any of the four surveying disciplines. The core subjects have been selected based on the subjects currently offered as core subjects the three existing disciplines of the generic surveying programme. They have been further development for this generic degree.

6.3 ***Programme Structure & Curriculum***

6.3.1 In Stage 1 to 3, together with the English for Construction and Environmental Professionals, Common Fist Year subjects, the core subjects in stage 2 shall focus on the basic skills of the four surveying disciplines.

a. Technology: BRE265 Introductory Construction Technology & Materials, BRE2031 Environmental Science are foundation subjects to BRE349 Building Services I, BRE326 Maintenance Technology & Management.

b. Economics & Real Estate: BRE263 Construction Economics and Finance is the foundation subject for BRE362 Urban Economics & Property Investment, BRE363 Construction Economics and BRE315 Property Valuation.

   BRE2171 Planning and Development Theories and Practices introduces the urban planning and land development processes. It provides the contextual study for the land, property and construction professions.

c. Urban Sustainability Policy: BRE2061 Legal Context of Building and Construction Professionals in Society is the foundation subject for all the law Urban Sustainability Policy related subjects offered later.

d. Management: BRE350 Project Management and Procurement and BRE371 Introduction to Property Management. BRE350 Project Management & Procurement further enhance the required foundation knowledge of students so as to prepare and develop their professional discipline-specific elective studies off their chosen surveying disciplines (BS, GP, PD, PFM & QS)

6.3.2 In Stage 3, the core subjects of Technology: BRE3261 Building Maintenance Planning and Technology, Urban Sustainability Policy: BRE336 Development Control Law and Management: Students will choose discipline-specific elective subjects. Table 6 shows the surveying discipline and the professional area that each of the discipline-specific elective subjects.

6.3.3 In stage 4, students are required to take the 6 credits BRE466 Capstone Project spans across 2 Semesters from Semester 1 to Semester 2. It is underpinned by BRE366 Analytical Skills and Methods for both qualitative and quantitative research studies.

Table 6.2 Programme Structure and Curriculum of the Major Requirement in Surveying

Stage 4 (30 Credits)	BRE464 [PD] Urban Planning (3)					
	BRE463 [GP/PD/PFM] Business Valuation and Accounts (3)					
	BRE442[QS] Forecasting and Competition in the Built Environment (3)					
	BRE440 [QS] Cost and Value Management (3)					
	BRE436 [GP/PFM] Applied Property Valuation (3)					
	BRE4291 [GP/PD/PFM] Real Estate Marketing (3)		BRE461 [BS/QS] Environmental Impact and Assessment (3)			
	BRE427 [GP/PD/PFM] Applied Property Investment (3)	BRE439 [QS] Engineering Contract Procedure (3)	BRE453 [BS/QS] Building Service II (3)	BRE465 [GP/PD/PFM] Asset Management (3)	BRE469 Integrated Professional Workshop III (3)	
	BRE418 [GP/PD/PFM] Real Estate Development (3)	BRE415 [BS/QS] Dispute Resolution (3)	BRE435 [BS] Design, Adaptation & Conversion (3)	BRE437 [BS] Facility Management (3)	BRE466 Capstone Project (6)	
Stage 3 (26 Credits)	BRE397 [GP/PD/PFM] Property Management Accounting (3)					
	BRE363 [BS/QS] Construction Economics (3)		BRE472 [BS/QS] Information Technology & Building Information Modelling for Construction Management (3)			
	BRE362[GP/PD/PFM] Construction Economics and Property Investment (3)	BRE364 [BS/QS] Construction Contract Law & Administration (3)	BRE370 [BS/QS] Intermediate Construction Technology & Materials (3)		BRE369 Integrated Professional Workshop II (3)	
	BRE345 [BS/QS] Measurement, Documentation and Estimating (3)	BRE337[GP/PD/PFM] Property Law (3)	BRE3261 Building Maintenance Planning and Technology (2)		BRE366 Analytical Skills and Methods (2)	
	BRE315 [GP/PD/PFM] Property Valuation (3)	BRE336 Development Control Law (3)	BRE204 [BS/QS] Structure I (3)	BRE371[GP/PD/PFM] Introduction to Property Management (3)	BRE365 International Study (1)	
Stage 2 (25 Credits)						ELC3421 English for Construction & Environmental Professionals (3)
	BRE2171 Planning and Development Theories and Practice (2)	BRE2061 Legal Context for Building and Construction Professionals in Society (2)		BRE350 Project Management & Procurement (3)	BRE2691 Introductory Integrated Professional Workshop I (2)	
	BRE263 Construction Economics and Finance (3)		BRE349 Building Services (3) BRE265 Introductory Construction Technology & Materials (3) BRE2031 Technology & Materials (3)			BRE258 Industrial Safety I (1)
Stage 1 (6 Credits)			AP10001 Introduction to Physics (3)			
			AMA1140 Mathematics for Construction and Environment (3)			

Real Estate Economics	Law	Technology	Management	Projects and Capstone Project	Professional Languages, Safety
5 Credits + BS/QS 6 Credits + QS 6 Credits + GP/PD/PFM 21 Credits + GP/PFM 3 Credits PD 3 credits	5 Credits + BS/QS 6 Credits + QS 3 Credits + PD/PFM 3 Credits GP	17 Credits + QS 15 Credits BS 3 Credits	3 Credits + GP/PD/PFM 6 Credits + BS 3 Credits +	17 Credits	4 Credits

Surveying students are required to opt **ONE** Discipline from the 5 surveying disciplines: Building Surveying (BS), General Practice (GP), Planning & Development (PD), Property and Facility Management (PFM) and Quantity Surveying (QS) offered by the Department.

Table 6 Professional Areas that Discipline-Specific Elective Subjects Specialize

	Professional Areas			
	BUILDING SURVEYING	GENERAL PRACTICE SURVEYING	QUANTITY SURVEYING	PLANNING AND DEVELOPMENT Property &Facility Management
BRE453 Building Services II	• Building Services		• Building Services - Energy Costing Estimation	
BRE435 Design, Adapation and Conversion	• Building Maintenance • Demolition, Structural Survey and Assessment			
BRE437 Facility Management	• Property Management			
BRE415 Dispute Resolution	• Building Economics and Contract Administration		• Contract Services	
BRE442 Forecasting and Competition in the Built Environment			• Cost Advice and Cost Planning	
BRE461 Environmental Impact and Assessment				
BRE439 Engineering Contract Procedure	• Demolition, Structural Survey and Assessment		• Contract Documentation • Tendering and Contractual Arrangements	
BRE427 Applied Property Investment		• Valuation of Land and Building • Sales, Lettings and Purchases of Land and Buildings		• Development Appraisal & Viability Studies • Property Development
BRE4291 Real Estate Marketing		• Sales, Lettings and Purchases of Land and Buildings		
BRE436 Applied Property Valuation		• Valuation of Land and Building		• Development Appraisal & Viability Studies • Property Development
BRE418 Real Estate Development		• Planning and Development		• Planning and Development • Property Development • Town Planning
BRE465 Asset Management		• Estate Management & Landlord & Tenant Including Maintenance & Repair • Housing Management		• Asset Management
BRE463 Business Valuation and Accounting		• Valuation of Land and Building • Sales, Lettings and Purchases of Land and Buildings		• Development Appraisal and Viability Studies • Development and Planning Research
BRE464 Urban Planning				• Planning and Development • Town Planning

6.4 *Curriculum Mapping: BSc (Hons) in Surveying*

This curriculum map gives a holistic view of the degree to which each intended learning outcome will be taught and assessed in your programme.

The following indicators (I, R, A) to show the treatment of the programme outcome in a subject:

I	(Introduced)	That the learning leading to the particular intended outcome is introduced in that subject.
R	(Reinforced)	That the learning leading to the particular intended outcome is reinforced in that subject.
A	(Assessed)	That the performance which demonstrates the particular intended outcome is assessed in that subject

*6.4.1 **Level 1 and 2 Subjects***

		Subject Codes														
	Programme Outcomes List programme outcomes in this column in the same order as in the outcomes section for easy referencing	AMA1140	BRE2031	BRE204 (DSE)	BRE2061	BRE2171	BRE265	BRE2691	BRE263	AP10001						
A1	To comprehend and identify issues and problems concerning land, property and construction at project level		IA	IA	I	I	IA	I								
A2	To comprehend and identify issues and problems concerning land, property and construction at corporate level				R		I	I								
A3	To comprehend and identify issues and problems concerning land, property and construction at industry level		I		I			IA	IA							
A4	To comprehend and identify issues and problems concerning land, property and construction at macro socio-economic and political level		I		A	I		IA	IA							
A5	To advise clients through rendering surveying services		I	I												
A6	To identify, formulate and solve problems related to the surveying profession and real estate industry			IA	I		IA									

	Programme Outcomes List programme outcomes in this column in the same order as in the outcomes section for easy referencing	AMA1110	BRE2031	BRE204 (DSE)	BRE206	BRE217	BRE265	BRE269	BRE263	AP10001						
A7	To analyse and interpret data of the industry		IA				I									
A8	To formulate and implement strategies, policies and solutions for sustainable development and construction		I					I								
	All-rounded Attributes															
B1	To possess skills to identify, analyse and solve problems		IA	IA	A	I		I								
B2	To have an understanding of professional, social and ethical responsibilities				R			IA								
B3	To communicate effectively		IA	IA	A	R	IA	IA	IA							
B4	To reflect on knowledge gap for life time learning				RI			IA								
B5	To contribute as team member and to lead effectively		IA	I			IA	I	IA							
B6	To identify contemporary issues							IA								

(DSE) = Discipline - Specific Elective Subject

6.4.2 ***Level 3 Subjects***

		Subject Codes																	
	Programme Outcomes List programme outcomes in this column in the same order as in the outcomes section for easy referencing	BRE258	BRE315 (DSE)	BRE3261	BRE336	BRE337 (DSE)	BRE345 (DSE)	BRE349	BRE362 (DSE)	BRE363 (DSE)	BRE364 (DSE)	BRE365	BRE366	BRE369	BRE370 (DSE)	BRE371 (DSE)	BRE397 (DSE)	ELC3421	BRE350	
A1	To comprehend and identify issues and problems concerning land, property and construction at project level	IR	IRA	IA	IRA	I	IA	IA	RA	RA	RA	RA	RA	RA	RA		RA		RA	
A2	To comprehend and identify issues and problems concerning land, property and construction at corporate level				I	I			IA	RA		RA	RA	RA	RA	I	R			
A3	To comprehend and identify issues and problems concerning land, property and construction at industry level			IA	IRA	A			IA	RA		IA	RA	IR	RA		R			
A4	To comprehend and identify issues and problems concerning land, property and construction at macro socio-economic and political level			I	I	R			RA	R		IA	RA	IR	I	I				
A5	To advise clients through rendering surveying services	IRA	A	I	I	I	I	I		RA	IA			IR	R		R		RA	
A6	To identify, formulate and solve problems related to the surveying profession and real estate industry		A	IA	IRA	R		IA		RA		RA	A	IR	RA		R			

	Programme Outcomes List programme outcomes in this column in the same order as in the outcomes section for easy referencing	BRE258	BRE315 (DSE)	BRE326	BRE336	BRE337 (DSE)	BRE345 (DSE)	BRE349	BRE362 (DSE)	BRE363 (DSE)	BRE364 (DSE)	BRE365	BRE366	BRE369	BRE370 (DSE)	BRE371 (DSE)	BRE397 (DSE)	ELC3421	BRE350	
A7	To analyse and interpret data of the industry		A				I R	I A	IA	R A		IA	R	I R						
A8	To formulate and implement strategies, policies and solutions for sustainable development and construction	I		I	RA	I			IA	R		RA		I	I					
	All-rounded Attributes																			
B1	To possess skills to identify, analyse and solve problems	IR		I	R	A	IA	R A	RA	RA	RA	RA	A	RA	IR	R	IRA		A	
B2	To have an understanding of professional, social and ethical responsibilities	I	R		RA	R				RA		IA		RA	I		R			
B3	To communicate effectively	IRA	R	I	RA	R	IA	R A	RA	RA	RA	RA	A	RA		I	R	IRA	A	
B4	To reflect on knowledge gap for life time learning				RI	I				I	R	I	IRA	I						
B5	To contribute as team member and to lead effectively			I				R A		R		RA		I			R		A	
B6	To identify contemporary issues	I		I	RA			I	IA	RA	R	R	A	I	IRA		IR			

(DSE) = Discipline - Specific Elective Subject

6.4.3 ***Level 4 Subjects***

		Subject Codes																				
	Programme Outcomes List programme outcomes in this column in the same order as in the outcomes section for easy referencing	BRE415 (DSE)	BRE418 (DSE)	BRE427 (DSE)	BRE4291 DSE)	BRE435 (DSE)	BRE436 (DSE)	BRE437 (DSE)	BRE439 (DSE)	BRE440 (DSE)	BRE441 (DSE)	BRE442 (DSE)	BRE450 (DSE)	BRE453 (DSE)	BRE461 (DSE)	BRE462	BRE463 (DSE)	BRE464 (DSE)	BRE465 (DSE)	BRE466	BRE469	BRE472
A1	To comprehend and identify issues and problems concerning land, property and construction at project level	A		A		IRA	A		A	RA	RA	RA	R	RA	RA	R	A	RA		RA	RA	RA
A2	To comprehend and identify issues and problems concerning land, property and construction at corporate level					I		A	A	RA	RA	IA			R		A	R	IA	RA	RA	
A3	To comprehend and identify issues and problems concerning land, property and construction at industry level	A		A		RA	A		R			RA	R		R	R	A	RA	IA	RA	RA	
A4	To comprehend and identify issues and problems concerning land, property and construction at macro socio-economic and political level		A		A	R		A				IA	R		R		R	RA		RA	RA	
A5	To advise clients through rendering surveying services			A	A	R			R			RA		RA			A	RA	A	A	RA	IA
A6	To identify, formulate and solve problems related to the surveying profession and real estate industry	R		A	A	R	A				A	I					A	RA	A	A	RA	A

	Programme Outcomes List programme outcomes in this column in the same order as in the outcomes section for easy referencing	BRE415 (DSE)	BRE418 (DSE)	BRE427 (DSE)	BRE4291 (DSE)	BRE435 (DSE)	BRE436 (DSE)	BRE437 (DSE)	BRE439 (DSE)	BRE440 (DSE)	BRE441 (DSE)	BRE442 (DSE)	BRE450 (DSE)	BRE453 (DSE)	BRE461 (DSE)	BRE462 (E)*	BRE463 (DSE)	BRE464 (DSE)	BRE465 (DSE)	BRE466	BRE469	
A7	To analyse and interpret data of the industry	A	A			R A					R	R A	R A		R A		A	R	A		R A	
A8	To formulate and implement strategies, policies and solutions for sustainable development and construction					RA				I	R		RA	RA	RA	RA	R	RA	I		R	
	All-rounded Attributes																					
B1	To possess skills to identify, analyse and solve problems	R			A	R	R	A	A	RA	R	RA	RA	RA	RA	RA	A	RA	A	A	RA	IA
B2	To have an understanding of professional, social and ethical responsibilities	I		R	R	RA	R		R			IA	R	R	RA		A	RA	IR		RA	
B3	To communicate effectively	A	A	R	R	RA	R	R	R	RA	RA	RA	RA			RA	A	RA	RA	A	RA	A
B4	To reflect on knowledge gap for life time learning	I				R						I				R	R	R	R	IR A	R	
B5	To contribute as team member and to lead effectively	A				RA					R	I	R		R	R	A	RA	R		R	A
B6	To identify contemporary issues	R				RA					R		R	R	IR	RA	R	RA	IR	A	R	R

(DSE) = Discipline - Specific Elective Subject
*(E) = Elective

Mapping of the accreditation subject area requirements with the Compulsory Core Foundation Subjects

Table 1

		Building Surveying (Accreditation Subject Areas Specified by Divisions)								
	Compulsory Core Foundation Subjects	Building Construction and Structure	Building Maintenance	Building Services	Structural Survey & Assessment	Project Management	Property Management	Building Ordinance, Administrative Law & related legal aspects	Building Economics & Contract Administration	Research & development
Construction Technology										
BRE2031	Environmental Science	✓				✓	✓			
BRE349	Building Services, I	✓	✓	✓			✓			
BRE261	Construction Technology & Material I	✓	✓		✓	✓	✓			
BRE325	Maintenance Technology & Management	✓	✓		✓		✓			
Management										
BRE350	Project Management and Procurement					✓	✓			
Law										
BRE2061	Legal Context for CRE						✓	✓	✓	
BRE336	Development Control law					✓	✓	✓		
Real Estate & Economics										
BRE2171	Planning and Development					✓		✓		
BRE263	Construction Economics and Finance					✓	✓		✓	
Research & Capstone Project										
BRE366	Analytical Skills and Methods									✓
BRE466	Capstone Project									✓
Integrated Studies/ Professional Workshops										
BRE365	International Study					✓				
BRE299	Work-Integrated Education					✓				
BRE2691	Integrated Professional Workshop I					✓				
BRE369	Integrated Professional Workshop II					✓				
BRE469	Integrated Professional Workshop III					✓				
	Guided studies with seminars & workshops	✓							✓	

Notes:

The above table aims to demonstrate the fulfilment of the accreditation subject area requirements by the compulsory core foundation subjects which are common to all surveying students.

Mapping of the accreditation subject area requirements with the Compulsory Core Foundation Subjects

Table 2

		General Practice Surveying (Accreditation Subject Areas Specified by Divisions)								
	Compulsory Core Foundation Subjects	Buildings	Estate agency & Asset Management**	Law II (Property Law & Landlord & Tenant Law)**	Law I	Property Valuation**	Urban land economics**	Land Administration and Town Planning	Business Valuation, Accountancy, Investment and Finance	Economics
Construction Technology										
BRE2031	Environmental Science	✓								
BRE349	Building Services, I	✓								
BRE261	Construction Technology & Material I	✓	✓							
BRE325	Maintenance Technology & Management	✓								
Management										
BRE350	Project Management and Procurement		✓							
Law										
BRE2061	Legal Context for CRE		✓	✓	✓					
BRE336	Development Control law									
Real Estate & Economics										
BRE2171	Planning and Development					✓	✓	✓	✓	
BRE263	Construction Economics and Finance					✓			✓	✓
Research & Capstone Project										
BRE366	Analytical Skills and Methods									
BRE466	Capstone Project									
Integrated Studies/ Professional Workshops										
BRE365	International Study					✓				
BRE299	Work-Integrated Education					✓				
BRE2691	Integrated Professional Workshop I					✓				
BRE369	Integrated Professional Workshop II					✓				
BRE469	Integrated Professional Workshop III					✓				
	Guided studies with seminars & workshops		✓	✓		✓			✓	

Notes:

The above table aims to demonstrate the fulfilment of the accreditation subject area requirements by the compulsory core foundation subjects which are common to all surveying students.

***Revised new subjects**

****Four minimum common core competence areas as required by the GP Division in the HKIS/HKPU meeting on 11 Jun 2012**

Mapping of the accreditation subject area requirements with the Compulsory Core Foundation Subjects

Table 3

		Planning and Development (Accreditation Subject Areas Specified by Divisions)											
	Compulsory Core Foundation Subjects	Construction Technology	Building Construction and Structure as in Building Surveying	Project Management	Building Ordinance, Administrative Law & related legal aspects	Building Economics & Contract Administration	Town Planning	Property Development Appraisal	Business Valuation, Accountancy, Investment and Finance	Urban land economics	Economics	Environment issues & Transportation planning for development***	
Construction Technology													
BRE2031	Environmental Science	✓	✓	✓								✓	
BRE349	Building Services, I	✓	✓										
BRE261	Construction Technology & Material I	✓	✓	✓									
BRE326	Maintenance Technology & Management	✓	✓										
Management													
BRE350	Project Management and Procurement		✓										
Law													
BRE2061	Legal Context for CRE				✓	✓							
BRE336	Development Control law			✓	✓			✓					
Real Estate & Economics													
BRE2171	Planning and Development			✓	✓		✓	✓	✓	✓		✓	
BRE263	Construction Economics and Finance			✓		✓		✓	✓		✓		
Research & Capstone Project													
BRE366	Analytical Skills and Methods												
BRE466	Capstone Project												
Integrated Studies/ Professional Workshops													
BRE365	International Study						✓						
BRE299	Work-Integrated Education						✓						
BRE2691	Integrated Professional Workshop I						✓						
BRE369	Integrated Professional Workshop II						✓						
BRE469	Integrated Professional Workshop III						✓						
	Guided studies with seminars & workshops							✓	✓			✓	

Notes:

The above table aims to demonstrate the fulfilment of the accreditation subject area requirements by the compulsory core foundation subjects which are common to all surveying students. The complete curriculum design showing both the core subjects and the discipline-specific subjects are included in the original submission document.

**** Enhancement in the areas of environment and transportation as suggested by the PD Division in the HKIS/HKPU meeting on 11 Jun 2012**

Mapping of the accreditation subject area requirements with the Compulsory Core Foundation Subjects

Table 4

		Property & Facilities Management **(Accreditation Subject Areas Specified by Divisions)**											
	Compulsory Core Foundation Subjects	Core Skills	Property Asset Management	Corporate Real Estate	Project Management	Property Management							
Construction Technology													
BRE2031	Environmental Science	✓			✓	✓							
BRE349	Building Services, I					✓							
BRE261	Construction Technology & Material I		✓		✓	✓							
BRE326	Maintenance Technology & Management		✓			✓							
Management													
BRE350	Project Management and Procurement		✓	✓	✓	✓							
Law													
BRE2061	Legal Context for CRE	✓	✓	✓		✓							
BRE336	Development Control law				✓	✓							
Real Estate & Economics													
BRE2171	Planning and Development				✓								
BRE263	Construction Economics and Finance	✓		✓	✓	✓							
Research & Capstone Project													
BRE366	Analytical Skills and Methods												
BRE466	Capstone Project												
Integrated Studies/ Professional Workshops													
BRE365	International Study				✓								
BRE299	Work-Integrated Education				✓								
BRE2691	Integrated Professional Workshop I												
BRE369	Integrated Professional Workshop II				✓								
BRE469	Integrated Professional Workshop III				✓								
	Guided studies with seminars & workshops		✓			✓							

Notes:

The above table aims to demonstrate the fulfilment of the accreditation subject area requirements by the compulsory core foundation subjects which are common to all surveying students. The complete curriculum design showing both the core subjects and the discipline-specific subjects are included in the original submission document.

Mapping of the accreditation subject area requirements with the Compulsory Core Foundation Subjects

Table 5

		Quality Surveying **(Accreditation Subject Areas Specified by Divisions)**											
	Compulsory Core Foundation Subjects	Common Skills	Development Management	Construction Technology and Management	Construction Law and Contracts	Construction Costs							
Construction Technology													
BRE2031	Environmental Science			✓									
BRE349	Building Services, I												
BRE261	Construction Technology & Material I			✓									
BRE326	Maintenance Technology & Management												
Management													
BRE350	Project Management and Procurement	✓	✓	✓	✓								
Law													
BRE2061	Legal Context for CRE				✓								
BRE336	Development Control law		✓										
Real Estate & Economics													
BRE2171	Planning and Development		✓										
BRE263	Construction Economics and Finance	✓											
Research & Capstone Project													
BRE366	Analytical Skills and Methods	✓											
BRE466	Capstone Project	✓											
Integrated Studies/ Professional Workshops													
BRE365	International Study				✓								
BRE299	Work-Integrated Education				✓								
BRE2691	Integrated Professional Workshop I				✓								
BRE369	Integrated Professional Workshop II												
BRE469	Integrated Professional Workshop III				✓								
	Guided studies with seminars & workshops	✓	✓		✓	✓							

Notes:

The above table aims to demonstrate the fulfilment of the accreditation subject area requirements by the compulsory core foundation subjects which are common to all surveying students. The complete curriculum design showing both the core subjects and the discipline-specific subjects are included in the original submission document.

7. Programme Curriculum of the Major in Building Engineering & Management*

Subject Descriptions

'Level' codes reflect the intellectual demand on the students. The levels of the subjects are coded according to a common coding system of the Hong Kong Polytechnic University.

1 = Some subject intended learning outcomes are at the exit level for Associate Degree/Higher Diploma; intended to be taken during year 1 of a 4-year degree programme or year 1 of an Associate Degree/Higher Diploma programme; usually have no pre-requisite.

2 = The majority of the subject intended learning outcomes are at the exit level for Associate Degree/Higher Diploma; intended to be taken during year 2 of a 4-year degree programme or the final year of an Associate Degree/Higher Diploma programme; some subjects at this level may have prerequisites.

3 = Some subject intended learning outcomes are at the exit level for Bachelor's degree while the rest at the exit level for Associate Degree/Higher Diploma; intended to be taken during year 3 of a 4-year degree programme; usually require the completion of subjects at the preceding levels as a prerequisite.

4 = The majority of the subject intended learning outcomes are at The exit level for Bachelor's degree while the rest at the exit level for Associate Degree/ Higher Diploma; intended to be taken during the final year of a 4-year degree programme; usually require the completion of subjects at the preceding levels as a pre-requisite.

7.1 Programme Curriculum of Major* in Building Engineering & Management for Stage 1 and 2

Stage 1 and 2		Curriculum								Assessment Methods	
		Timetabled Contact Hours per Week			No. of Teaching Weeks	Total Hours	Teaching Dept.	Subject Weighting for Final Assessment Grade (FAG)			
Subject Code	**Subject Title**	**Lecture**	**Tutorial/ Seminar**	**Lab. (Pract.)/ Project Work/ Guided Study**				**Subject Weighting**	**Credit Value**	**CW/CA**	**Exam.**
CE1001	Construction and Environment Professionals in Society	7.5	-	-	13	39	FCE	2.0	3	100%	-
AMA1140	Mathematics for Construction and Environment	2.0	1.0	-	13	39	AMA	2.0	3	40%	60%
AP10001	Introduction to Physics	2.0	1.0	-	13	39	AP	2.0	3	40%	60%
AMA290	Engineering Mathematics	2.0	1.0	-	13	39	AMA	2.0	3	40%	60%
BRE262	Project Studio	2.0	1.0	2.0	-	-	CMI	2.0	3	100%	-
BRE350	Project Management & Procurement	2.0	1.0	-	13	39	CMI	3.0	3	50%	50%
CSE20290	Introduction to Geotechnology	1.5	1.0	0.5 (field work)	13	39	CSE	2.0	3	30%	70%
ELC3421	English for Construction and Environmental Professionals	-	3.0	-	13	39	ELC	3.0	3	100%	-
LSGI2961	Engineering Surveying	2.0	0.6	0.3	13	39	LSGS	2.0	3	40%	60%

NOTE: Students must complete and pass the 30-credit GUR subjects and all the subjects listed in Level 2 and Level 3 in Stage 2 prior to their graduation.

T/S = Tutorial/Seminar
Lab. (Pract.) = Laboratory (Practical)
PW = Project Work
CW = Coursework
GS = Guided Study
CA = Continuous Assessment

7.2 Programme Curriculum of Major* in Building Engineering & Management for Stage 3

Stage 3		Curriculum								Assessment Methods	
		Timetabled Contact Hours per Week			No. of Teaching Weeks	Total Hours	Teaching Dept.	Subject Weighting for Final Assessment Grade (FAG)			
Subject Code	**Subject Title**	**Lecture**	**Tutorial/ Seminar**	**Lab. (Pract.)/ Project Work/ Guided Study**				**Subject Weighting**	**Credit Value**	**CW/CA**	**Exam.**
BRE204	Structure I	2.0	0.8	0.2	13	39	CMI	2.0	3	30%	70%
BRE302	Structure II	2.0	0.8	0.2	13	39	CMI	3.0	3	50%	50%
BRE3261	Building Maintenance Planning and Technology Development Control Law	2.0	0.5	-	13	31	CMI	3.0	2	20%	80%
BRE345	Measurement, Documentation & Estimating	2.0	1.0	-	13	39	CMI	3.0	3	60%	40%
BRE364	Construction Contract Law & Administration	2.0	1.0	-	13	39	CMI	3.0	3	40%	60%
BRE365	International Study**	-	0.9	-	13	13	CMI	3.0	1	100%	-
BRE366	Analytical Skills & Methods	1.2	0.8	-	13	26	CMI	3.0	2	100%	-
BRE370	Intermediate Construction Technology & Materials	2.0	1.0	-	13	39	CMI	3.0	3	40%	60%
BRE472	Information Technology & Building Information Modelling for Construction Management	2.0	1.0	-	13	39	CMI	3.0	3	50%	50%

NOTE: Students must complete and pass the 30-credit GUR subjects and all the subjects listed in Level 3 and Level 4 in Stage 3 prior to their graduation.

** International Study Tour is to take place in the Summer Semester. Students need to commence preparation, organization and liaison work of their study tour from Semester 1 of Stage 3.

T/S = Tutorial/Seminar
Lab. (Pract.) = Laboratory (Practical)
PW = Project Work
CW = Coursework
GS = Guided Study
CA = Continuous Assessment

7.3 Programme Curriculum of Major* in Building Engineering & Management for Stage 4

Stage 4		Curriculum								Assessment Methods	
		Timetabled Contact Hours per Week			No. of Teaching Weeks	Total Hours	Teaching Dept.	Subject Weighting for Final Assessment Grade (FAG)			
Subject Code	**Subject Title**	**Lecture**	**Tutorial/ Seminar**	**Lab. (Pract.)/ Project Work/ Guided Study**				**Subject Weighting**	**Credit Value**	**CW/CA**	**Exam.**
BRE466	Capstone Project[#]	-	0.4	-	13	5	CMI	3.0	6	100%	-
BRE426	Geotechnical & Foundation Engineering	2.0	0.7	0.3	13	39	CMI	3.0	3	30%	70%
BRE4281	Construction Engineering Management	2.0	1.0	-	13	39	CMI	3.0	3	50%	50%
BRE4393	Temporary Work Design	1.0	40 (PW)	-	13	65	CMI	3.0	3	100%	-
BRE453	Building Services II	2.0	1.0	-	13	39	CMI	3.0	3	40%	60%
BRE461	Environmental Impact & Assessment	2.0	1.0	-	13	39	CMI	3.0	3	100%	-
BRE462	Advanced Construction Technology	2.0	1.0	-	13	39	CMI	3.0	3	50%	50%

NOTE: Student must complete and pass all subjects listed in Level 4 and the three electives of their choice prior to their graduation.

[#] BRE466 is a **6-credit** core subject spanning across from Semester 1 to Semester 2 of Stage 4.

[##] BEM students are required to opt three elective subjects. All CMI Level 3 and Level 4 subjects of a particular Major or discipline are offered in the Semester 2 as electives to students in their Stage 3 and 4 of another Major or discipline within the Department (exclusive of the subjects offered by APSS) subject to subject offering, the fulfilment of any pre-requisite or co-requisite requirements and time-table constraints.

T/S = Tutorial/Seminar
Lab. (Pract.) = Laboratory (Practical)
PW = Project Work
CW = Coursework
GS = Guided Study
CA = Continuous Assessment
E = Elective

7. Programme Curriculum of Major in Surveying*

Subject Descriptions

'Level' codes reflect the intellectual demand on the students. The levels of the subjects are coded according to a common coding system of the Hong Kong Polytechnic University.

1 = Some subject intended learning outcomes are at the exit level for Associate Degree/Higher Diploma; intended to be taken during year 1 of a 4-year degree programme or year 1 of an Associate Degree/Higher Diploma programme; usually have no pre-requisite.

2 = The majority of the subject intended learning outcomes are at the exit level for Associate Degree/Higher Diploma; intended to be taken during year 2 of a 4-year degree programme or the final year of an Associate Degree/Higher Diploma programme; some subjects at this level may have prerequisites.

3 = Some subject intended learning outcomes are at the exit level for Bachelor's degree while the rest at the exit level for Associate Degree/Higher Diploma; intended to be taken during year 3 of a 4-year degree programme; usually require the completion of subjects at the preceding levels as a prerequisite.

4 = The majority of the subject intended learning outcomes are at The exit level for Bachelor's degree while the rest at the exit level for Associate Degree/ Higher Diploma; intended to be taken during the final year of a 4-year degree programme; usually require the completion of subjects at the preceding levels as a pre-requisite.

7.1 *Programme Curriculum of Major* in Surveying for Stage 1*

**** Programme Curriculum displays the 97-credit Major requirement for the Major in Surveying only. Details of the 30-details of the 30-credit General University Requirements (GUR) can be referred to their respective websites provided by the University (Section 3.2)***

Stage 1		**Curriculum**								**Assessment Methods**	
		Timetabled Contact Hours per Week			**No. of Teaching Weeks**	**Total Hours**	**Teaching Dept.**	**Subject Weighting for Final Assessment Grade (FAG)**			
Subject Code	**Subject Title**	**Lecture**	**Tutorial/ Seminars**	**Lab. (Pract.)/ Project Work/ Guided Study**				**Subject Weighting**	**Credit Value**	**CW/CA**	**Exam.**
CE1001	Construction and Environment Professionals in Society	2.5	0.5	-	5	14.5	FCE	2.0	3	100%	-
AP10001	Introduction to physics	2.0	1.0	-	13	39	AP	2.0	3	40%	60%
AMA1140	Mathematics for Construction and Environment	2.0	1.0	-	13	39	AMA	2.0	3	50%	50%

NOTE: 1. Students must complete and pass the 30-credit General University Requirements (GUR) and all the subjects listed in Level 1, Level 2 and Level 3 in Stage 1 before they can graduate.

2. Students must satisfactorily complete the Work-Integrated Education (WIE) before they can graduate.

T/S = Tutorial/Seminars
Lab (Pract.) = Laboratory (Practical)
PW = Project Work
CW = Coursework
GS = Guide Study
CA = Continuous Assessment

7.2 *Programme Curriculum of Major* in Surveying for Stage 2*

Stage 2		**Curriculum**								**Assessment Methods**	
		Timetabled Contact Hours per Week			**No. of Teaching Weeks**	**Total Hours**	**Teaching Dept.**	**Subject Weighting for Final Assessment Grade (FAG)**			
Subject Code	**Subject Title**	**Lecture**	**Tutorial/ Seminars**	**Lab. (Pract.)/ Project Work/ Guided Study**				**Subject Weighting**	**Credit Value**	**CW/CA**	**Exam.**
ELC3421	English for Construction and Environmental Professionals	-	3.0	-	13	39	ELC	3.0	3	100%	-
BRE2061	Legal Context for Building and Construction Professionals in Society	2.0	0.8	-	9	39	CMI	2.0	2	30%	70%
BRE2171	Planning & Development: Theories and Practices	2.0	0.8	-	6	39	CMI	2.0	2	50%	50%
BRE2691	Introductory Integrated Professional Workshop I	-	-	21	18	39	CMI	2.0	2	100%	-
BRE350	Project Management & Procurement	2.0	1.0	-	13	39	CMI	3.0	3	50%	50%
BRE2031	Environmental Science	2.0	0.5	0.5 (Lab.)	13	39	CMI	2.0	3	40%	60%
BRE258	Industrial Safety I	-	0.5	0.5	13	39	IC	3.0	1	100%	-
BRE263	Construction Economics & Finance	2.0	1.0	-	13	39	CMI	2.0	3	40%	60%
BRE299	Work-Integrated Education (WIE)	Minimum 4 weeks continuously (in semester of either stage 1 or stage 2)					CMI/ Employer	2.0	2 training credits	100%	-
BRE349	Building Services I	2.0	1.0	-	13	39	CMI	3.0	3	40%	60%

NOTE: 1. Students must complete and pass the 30-credit General University Requirements (GUR) and all the subjects listed in Level 2 and Level 3 in Stage 2 before they can graduate.

T/S = Tutorial/Seminars
Lab (Pract.) = Laboratory (Practical)
PW = Project Work
CW = Coursework
GS = Guide Study
CA = Continuous Assessment

7.3 *Programme Curriculum of Major* in Surveying for Stage 3*

Stage 3		Curriculum								Assessment Methods	
		Timetabled Contact hours per week			No. of Teaching Weeks	Total Hours	Teaching Dept.	Subject Weighting for Final Assessment Grade (FAG)			
Subject Code	Subject Title	Lecture	Tutorial/ Seminars	Lab. (Pract.)/ Project Work/ Guided Study				Subject Weighting	Credit Value	CW/CA	Exam.
BRE3261	Building Maintenance Planning and Technology	3.0	-	0.5 (Lab)	13	31	CMI	2.0	3	20%	80%
BRE336	Development Control Law	2.0	1.0	-	13	39	CMI	3.0	3	50%	50%
BRE365	International Study***	-	0.9	-	13	15	CMI	3.0	1	100%	-
BRE366	Analytical Skills & Methods	1.2	0.8	-	13	26	CMI	3.0	2	100%	-
BRE369	Integrated Professional Workshop II	-	-	-	13	39	CMI	3.0	3	100%	-
BRE472	Information Technology & Building Information Modelling for Construction Management	2.0	1.0	-	13	39	CMI	3.0	3	50%	50%
**BS/QS Discipline-specific Elective subjects											
BRE204	Structure I	2.0	1.0	-	13	39	CMI	2.0	3	30%	70%
BRE345	Measurement, Documentation & Estimating	2.0	1.0	-	13	39	CMI	3.0	3	60%	40%
BRE363	Construction Economics	2.0	1.0	-	13	39	CMI	3.0	3	40%	60%
BRE364	Construction Contract Law & Administration	2.0	1.0	-	13	39	CMI	3.0	3	40%	60%
BRE370	Intermediate Construction Technology & Materials	2.0	1.0	-	13	39	CMI	3.0	3	40%	60%
**GP/PD /PFM Discipline-specific Elective subjects											
BRE315	Property Valuation	2.0	1.0	-	13	39	CMI	3.0	3	50%	50%
BRE337	Property Law	2.0	1.0	-	13	39	CMI	3.0	3	30%	70%
BRE362	Urban Economics & Property Investment	2.0	1.0	-	13	39	CMI	3.0	3	50%	50%
BRE371	Introduction to Property Management	2.0	1.0	-	13	39	CMI	3.0	3	30%	70%
BRE397	Property Management Accounting	2.0	1.0	-	13	39	CMI	3.0	3	50%	50%

NOTE: ** 1. Students are required to opt **ONE** Discipline from the Surveying disciplines: BS, GP, PD, FPM and QS.
2. Students must complete and pass all the subjects listed in Stage 3 before they can graduate.
*** International Study tour is to take place in the Summer Semester of stage 3. Students need to commence their study tour preparation, organization and liaison work from Semester 1 of stage 3.

T/S = Tutorial/Seminars
Lab (Pract.) = Laboratory (Practical)
PW = Project Work
CW = Coursework
GS = Guide Study
CA = Continuous Assessment

7.4 ***Programme Curriculum of Major* in Surveying for Stage 4***

Stage 4		**Curriculum**								**Assessment Methods**	
		Timetabled Contact Hours per Week			**No. of Teaching Weeks**	**Total Hours**	**Teaching Dept.**	**Subject Weighting for Final Assessment Grade (FAG)**			
Subject Code	**Subject Title**	**Lecture**	**Tutorial/ Seminars**	**Lab. (Pract.)/ Project Work/ Guided Study**				**Subject Weighting**	**Credit Value**	**CW/CA**	**Exam.**
BRE466	Capstone Project#		0.4	1.0	13	5	CMI	3.0	6	100%	-
BRE469	Integrated Professional Workshop III	-	-	-	13	39	CMI	3.0	3	100%	-
BS and QS Discipline-Specific Elective Subjects											
BRE415	Dispute Resolution	2.0	1.0	-	13	39	CMI	3.0	3	100%	-
BRE453	Building Services II	2.0	1.0	-	13	39	CMI	3.0	3	40%	60%
BRE461	Environmental Impact & Assessment	2.0	1.0	-	13	39	CMI	3.0	3	100%	-
BS Discipline-Specific Elective Subjects											
BRE435	Design, Adaptation & Conversion	2.0	1.0	-	13	39	CMI	3.0	3	60%	40%
BRE437	Facility Management	2.0	1.0	-	13	39	CMI	3.0	3	50%	50%
QS Discipline-Specific Elective Subjects											
BRE439	Engineering Contract Procedure	2.0	1.0	-	13	39	CMI	3.0	3	50%	50%
BRE440	Cost & Value Management	2.0	1.0	-	13	39	CMI	3.0	3	50%	50%
BRE442	Forecasting & competition in the Built Environment	2.0	1.0	-	13	39	CMI	3.0	3	40%	60%
GP, PD and PFM Discipline-Specific Elective Subjects											
BRE427	Applied Property Investment	2.0	1.0	-	13	39	CMI	3.0	3	30%	70%
BRE4291	Real Estate Marketing	2.0	1.0	-	13	39	CMI	3.0	3	50%	50%
BRE463	Business Valuation and Accounts	2.0	1.0	-	13	39	CMI	3.0	3	50%	50%
BRE465	Asset Management	2.0	1.0	-	13	39	CMI	3.0	3	50%	50%
GP and PFM Discipline-Specific Elective Subjects											
BRE418	Real Estate Development	2.0	1.0	-	13	39	CMI	3.0	3	50%	50%
BRE436	Applied Property Valuation	2.0	1.0	-	13	39	CMI	3.0	3	50%	50%
PD Discipline-Specific Elective Subjects											
BRE418	Real Estate Development	2.0	1.0	-	13	39	CMI	3.0	3	50%	50%
BRE464	Urban Planning	2.0	1.0	-	13	39	CMI	3.0	3	100%	-

NOTE:
1. Students must complete and pass all the subjects listed in Level 4 and the Discipline-Specific Elective Subjects of their chosen surveying disciplines and one elective of their choice before they can graduate.
2. #BRE466 Capstone Project is a 6-credit core subject spanning across two semesters: Semester 1 and Semester 2 of Stage 4.

T/S = Tutorial/Seminars
Lab (Pract.) = Laboratory (Practical)
PW = Project Work
CW = Coursework
GS = Guide Study
CA = Continuous Assessment
E = Elective

7. Programme Curriculum of Secondary Major *

The option of Secondary Major in Artificial Intelligence and Data Analytics (AIDA) is available of BSc (Hons) Building Engineering and Management and the other option of Secondary Major in Innovation and Entrepreneurship (IE) is also available of BSc (Hons) in Property Management.

Admission to the Secondary Majors are on competitive basis and subject to a different credit requirement for graduation.

Secondary Major in Artificial Intelligence and Data Analytics (AIDA)

	Title of Secondary Major	
	in English:	AI and Data Analytics (AIDA)
	in Chinese:	人工智能及數據分析
	Department/Faulty offering the Secondary Major:	COMP
	Effective year	2022/23 (For students admitted from 2022/23)
	Pre-requisite requirements for enrolment:	Nil
	Secondary Major curriculum	
	(a) Rationale and aim	Artificial intelligence and data analytics (AIDA) are the most prevailing technologies across various disciplines, and have become a de-facto standard approach to enrich business, advance technology and achieve breakthroughs in virtually all fields. Therefore, it is essential for students to possess expertise in AIDA and other underpinning technologies.
	(b) Intended learning outcomes of the Secondary Major	On successful completion of AIDA, students will be able to: 1. Understand the fundamentals of AIDA, and have the ability to apply them. 2. Design AIDA systems, components and processes to meet given specifications and constraints. 3. Identify, formulate and solve problems relevant to AIDA. 4. Use modern IT tools appropriate to AIDA practice. 5. Know the contemporary issues, and understand the impact of AIDA solutions in a global and societal context.

<table>
<tr><td></td><td>(c) Credit requirements

Note: At least 50% of the credits required for satisfying the Secondary Major requirements should be at level 3 or above.</td><td><table>
<tr><td>Core (compulsory subjects)</td><td>30 credits</td></tr>
<tr><td>Electives</td><td>6 credits</td></tr>
<tr><td>Total credits required</td><td>36 credits</td></tr>
</table></td></tr>
<tr><td></td><td>(d) Overlapped subjects</td><td>3 subjects (12 credits in total) are overlapped to fulfil the Secondary Major (AIDA) requirements.
*AMA1110 Basic Mathematics I/AMA1140 Mathematics for Construction and Environment
*BRE472 Information Technology and Building Information Modelling for Construction Management
*BRE4661 Integrated Capstone Project
*BRE368 AI and Data Analytics for Smart Construction (E)</td></tr>
</table>

Programme Structure

The programme structure of the Secondary Major in Artificial Intelligence and Data Analytics (AIDA) is as follows:

Artificial Intelligence and Data Analytics (AIDA)	
Core	30-36 credits
Mathematics I for AIDA	3 credits
Mathematics II for AIDA	3 credits
Programming I: Programming Fundamentals	3 credits
Programming II: Data Structures and Algorithms	3 credits
Fundamentals of Data Analytics	3 credits
Machine Learning	3 credits
Artificial Intelligence	3 credits
DSR-AIDA Bridging Subject(s)	3-9 credits
Integrated Capstone Project	6 credits
Electives	0-6 credits
Total	**36 credits**

The details of the Secondary Major in Artificial Intelligence and Data Analytics (AIDA) is available at https://www.polyu.edu.hk/comp/study/ug-programmes/aida/

Subject List *

(a) Core (Compulsory)

Subject code	Subject title	Offering Dept	Level	Credits
Mathematics I for AIDA (3 credits)				
*AMA1110/ AMA1140	Basic Mathematics I – Calculus and Probability & Statistics Mathematics for Construction and Environment (for FCE and FENG students only)	AMA	1	3
Mathematics II for AIDA (3 credits)				
AMA1751	Linear Algebra (for students from other Faculties/ Schools)	AMA	1	3
Programming I: Programming Fundamentals (3 credits)				
COMP1012	Programming Fundamentals and Applications (for students from other Faculties/ Schools) (Exclusion: COMP1011 / ENG2002)	COMP	1	3
Programming II: Data Structures and Algorithms (3 credits)				
COMP2013/ DSAI2201	Data Structures and Algorithms (Pre-requisite: COMP1011 / COMP1012 / ENG2002 / LGT3109 & AMA1110 / AMA1501 / AMA2634 & AMA1751 / AMA2111)	COMP	2	3
Fundamentals of Data Analytics (3 credits)				
AMA1611/ DSAI1102	Data Analytics Fundamentals	AMA	1	3
COMP1433/ DSAI1201	Introduction to Data Analytics	COMP	1	3
EIE1003	Foundations of Data Science	EIE	1	3
Machine Learning (3 credits)				
COMP4432/ DSAI4203	Machine Learning (for students from other Faculties/ Schools)	COMP	4	3
ELE3124	Fundamentals of Machine Intelligence	ELE	3	3
Artificial Intelligence (3 credits)				
COMP4431	Artificial Intelligence (Pre-requisite: COMP1012 / COMP2011 / ENG2002)	COMP	4	3
DSR-AIDA Bridging Subject(s) (minimum of 3 credits)				
AF3213	Business Analytics in Accounting and Finance (Pre-requisite: LGT2425 / MM2425 / LGT3425 / MM3425)	AF	3	3
AMA4602	High Dimensional Data Analysis (Pre-requisite: AMA2631 / AMA2631A / AMA2602 / AMA2691)	AMA	4	3
AP30019	Data Analysis Techniques for Scientists	AP	3	3

	(Pre-requisite: AP20018)			
BME34145	AIDA for Health Care and Smart Ageing (Pre-requisite: ENG2002)	BME	3	3
*BRE472	Information Technology and Building Information Modelling for Construction Management	CMI	4	3
BSE3610	Computational Methods in Building Sciences and Engineering	BEEE	3	3
BSE4510	Building Automation and Control [Pre-requisite: BSE2122 & BSE3225 (before 2022/23 cohort) / BSE2124 & BSE3227 (from 2022/23 cohort)]	BEEE	4	3
CBS3947	Programming and Data Analysis for Language Studies	CBS	3	3
CSE30313	Machine Learning Practice in Smart Mobility (Pre-requisite: One basic mathematics subject and one basic computer programming subject Mathematics AMA2007 / AMA2111 / AMA2131 / AMA2308 / AMA2707 / AMA290 Computer Programming AMA2222 / AMA2222A / COMP1011 / COMP1012 / ENG2002)	CEE	3	3
EE4014A	Intelligent Systems Applications in Electrical Engineering	EE	4	3
EIE3127	Artificial Intelligence of Things (Pre-requisite: EIE2112 & EIE2113)	EIE	3	3
ENGL4022	Quantitative Literacy for Language Professionals	ENGL	4	3
ENGL4026	Language and Social Data Analytics	ENGL	4	3
HTM3228	Smart Service Design in Tourism and Hospitality (Pre-requisite: HTM2305)	SHTM	3	3
HTM4362	Artificial Intelligence in Tourism and Hospitality	SHTM	4	3
ISE3018	Logistics Automation	ISE	3	3
ITC329XE	UX Design for Fashion	ITC	3	3
ITC342MC	Digital Marketing and Data Analytics	ITC	3	3
LGT3108	Introduction to Enterprise Resource Planning System	LMS	3	3
LSGI3803	Spatial Data Analytics and Mining	LSGS	3	3
ME46002	Numerical Methods for Engineers (Pre-requisite: AMA2111)	ME	4	3
MM3462	Artificial Intelligence and Big Data for Business (Pre-requisite: MM3425)	MM	3	3
SD3781	Interface Design	SD	3	3
SD4788	User Experience Design	SD	4	3

SO4020X	Application of AI and Data Analytics to Manage Ocular Problems	SO	4	3
Integrated Capstone Project (6 credits)				
*BRE4661	Integrated Capstone Project (Pre-requisite: BRE366) (Exclusion: Any other equivalent capstone project)	CMI	4	6

(b) Electives (6 credits)

Subject code	Subject title	Offering Dept	Level	Credits
AAE4009	Data Science and Data-driven Optimisation in Airline and Airport Operations	AAE	4	3
AAE4011	Artificial Intelligence in Unmanned Autonomous Systems	AAE	4	3
AMA3201	Computational Methods (Pre-requisite : AMA2007 / AMA2008 / AMA2111 / AMA2308 / AMA2380 / AMA2512 / AMA2882 / AMA290 / AMA3001)	AMA	3	3
AMA3602	Applied Linear Models for Finance Analytics (Exclusion: AMA2631 / AMA2631A)	AMA	3	3
AMA3640	Statistical Inference (Pre-requisite: AMA2007 / AMA2111 / AMA2308 / AMA2703 / AMA2703A / AMA273 / AMA2882 & AMA1501 / AMA1502 / AMA2104 / AMA2601 / AMA2601A / AMA2634 / AMA2634A / AMA2691)	AMA	3	3
AMA3820	Operations Research Methods (Pre-requisite: AMA1007 / AMA1008 / AMA1101 / AMA1102 / AMA1120 / AMA1130 / AMA2007 / AMA2111 / AMA2701 / AMA2701A / AMA2703 / AMA2703A / AMA2308 / AMA2380 / AMA2512 / AMA2882 / AMA290)	AMA	3	3
AMA4602	High Dimensional Data Analysis (Pre-requisite: AMA2602 / AMA2631 / AMA2631A / AMA 2691)	AMA	4	3
AMA4650	Forecasting and Applied Time Series Analysis (Pre-requisite: AMA2602 / AMA2631 / AMA2631A / AMA364 / AMA4001)	AMA	4	3
AMA4670	Modelling of Epidemic and Pandemic	AMA	4	3

	(Pre-requisite: AMA2691 / AMA2702)				
AMA4688	Simulation (Pre-requisite: AMA1501 / AMA1502 / AMA2104 / AMA2601 / AMA2634 / AMA2634A / AMA2691)	AMA	4	3
AMA4840	Decision Analysis (Pre-requisite: AMA1501 / AMA1502 / AMA2104 / AMA2601 / AMA2634 / AMA2634A / AMA2691)	AMA	4	3
AMA4850	Optimization Methods (Pre-requisite: AMA2007 / AMA2111 / AMA2112 / AMA2308 / AMA2380 / AMA2882 / AMA3001)	AMA	4	3
AP40012	Machine Learning in Physics (Pre-requisite: AP20005)	AP	4	3
AP40013	Energy Conversion and Storage with Machine Learning (Pre-requisite: AP20002)	AP	4	3
BME44144	AIDA for Biosignal Processing and Medical Imaging (Pre-requisite: BME31116)	BME	4	3
BME34145	AIDA for Health Care and Smart Ageing (Pre-requisite: ENG2002) Programme code changed from BME44145	BME	3	3
*BRE368	AI and Data Analytics for Smart Construction	CMI	3	3
BSE458	Building Performance Diagnosis and Management [Pre-requisite: BSE3514 (before 2022/23 cohort) / BSE3515 (from 2022/23 cohort)]	BEEE	4	3
BSE4610	Building Informatics (Pre-requisite: BSE1610 & BSE2610 & BSE3227)	BEEE	4	3
CBS3410	Python for Language Analytics (Pre-requisite: CBS3947)	CBS	3	3
CBS4702	Advanced Topics in Quantitative Language Studies (Pre-requisite: CBS3947)	CBS	4	3
CBS4703	Social Media and Social Network Analysis	CBS	4	3
CBS4704	Workshop on Language Analytics (Pre-requisite: CBS4958)	CBS	4	3
CBS4844	Machine Aided Translation	CBS	4	3
CBS4954	Statistics for Language Studies	CBS	4	3

CBS4958	Fundamentals of Computational Linguistics (Pre-requisite: CBS3947)	CBS	4	3
CBS4962	Corpus and Language Technology for Language Studies (Pre-requisite: CBS1902)	CBS	4	3
COMP4434/ DSAI4434	Big Data Analytics (Pre-requisite: AMA1104 / AMA1110 & COMP1011 / COMP1012 / ENG2002 & COMP2011 / COMP2013/DSAI2201)	COMP	4	3
COMP4442	Service and Cloud Computing (Pre-requisite: COMP2421 & COMP4232)	COMP	4	3
COMP4436	Artificial Intelligence of Things (Pre-requisite: COMP1011 / COMP1012 / ENG2002)	COMP	4	3
CSE30313	Machine Learning Practice in Smart Mobility (Pre-requisite: One basic mathematics subject and one basic computer programming subject Mathematics AMA2007 / AMA2111 / AMA2131 / AMA2308 / AMA2707 / AMA290 Computer Programming AMA2222 / AMA2222A / COMP1011 / COMP1012 / ENG2002)	CEE	3	3
EE3013B	Transportation Data Analytics (Pre-requisite: EE2029B)	EE	3	3
EE4014A	Intelligent Systems Applications in Electrical Engineering	EE	4	3
EIE4121	Machine Learning in Cyber-security	EIE	4	3
EIE4122	Deep Learning and Deep Neural Networks (Pre-requisite: AMA2104/ EIE3124)	EIE	4	3
ENGL4022	Quantitative Literacy for Language Professionals	ENGL	4	3
ENGL4026	Language and Social Data Analytics	ENGL	4	3
HTI3990	Big Data Analytics for Bioinformatics and Genomic Medicine	HTI	3	3
HTI4990	AIDA in Clinical Diagnosis and Radiotherapy	HTI	4	3
HTM4350	Big Data Analytics in Hospitality, Tourism and Events (Pre-requisite: HTM3205)	SHTM	4	3
HTM4364	Social Media and Digital Marketing Analytics (Pre-requisite: HTM2324)	SHTM	4	3

ISE3017	Applied AIDA in Operations Research and Management	ISE	3	3
ISE3011	Applied Quality and Reliability with AIDA	ISE	3	3
ITC426ME	Business Intelligence and Analytics for Fashion	ITC	4	3
ITC446XE	Mobile App Design for Fashion (Pre-requisite: ITC212MC / ITC329XE)	ITC	4	3
ITC4202T	Smart Textiles for Wearable Applications	ITC	4	3
LSGI3801	GeoAI	LSGS	3	3
LSGI3802	Spatial Data Science	LSGS	3	3
LSGI3803	Spatial Data Analytics and Mining (Pre-requisite: AMA1751 & COMP1011 / COMP1012)	LSGS	3	3
LSGI3804	Urban Big Data Analytics	LSGS	3	3
LSGI3805	Urban Sensing for Smart City	LSGS	3	3
LSGI3220	Building Information Modelling & 3D GIS	LSGS	3	3
ME41006	Perceptual Robotics (Pre-requisite: ME31002)	ME	4	3
ME42001	Artificial Intelligence in Products (Pre-requisite: ME31002 / ME41004)	ME	4	3
ME42011	Fundamentals of Robotics (Pre-requisite: ME31002 / ME41004)	ME	4	3
SD4772	Interactive Media and Marketing	SD	4	3

*The Subject Offering Departments reserve the rights to review/revise the subjects to be offered and the time of offer

The Progression pattern of AI and Data Analytics

36 academic credits – 12 double counted

Stage 1 (Semester 1) (Total Credits = 3)		**Stage 1 (Semester 2) (Total Credits = 0)**		**Stage 1 (Summer Semester)**
Mathematics I for AIDA				
AMA1140***	Mathematics for Construction and Environment (AMA)			
Stage 2 (Semester 1) (Total Credits = 0)		**Stage 2 (Semester 2) (Total Credits = 0)**		**Stage 2 (Summer Semester)**
Stage 3 (Semester 1) (Total Credits = 9)		**Stage 3 (Semester 2) (Total Credits = 9)**		**Stage 3 (Summer Semester)**
Mathematics II for AIDA		**Programme II: Data Structures and Algorithms**		
AMA1751	Linear Algebra	COMP2013/DSAI2001	Data Structures and Algorithms	
Programme I: Programme Fundamentals		**Fundamentals of Data Analytics (select one subject below)**		
COMP1012	Programme Fundamentals and Applications	AMA1161/DSAI1102 or ELE1003 or COMP1433/ DSAI1120	Data Analytics Fundamentals Foundations of Data Science Introduction to Data Analytics	
DSR-AIDA Bridging Subject * (Select one subject from the subject pool)**		**Electives (Subject one elective subject from the subject pool)**		
Stage 4 (Semester 1) (Total Credits = 9)		**Stage 4 (Semester 2) (Total Credits = 6)**		**Stage 4 (Summer Semester)**
Artificial Intelligence		**Machine Learning (select one subject below)**		
COMP 4431	Artificial Intelligence	COMP4432 /DSAI 4203 Machine Learning or		
BRE4661***	Integrated Capstone Project #	ELE3124	Fundamentals of Machine Intelligence	
Electives (Subject one elective subject from the subject pool)		BRE4661***	Integrated Capstone Project #	

Remarks

*** 12 credits (BRE368 (E) /BRE472 (C) and BRE4661 Integrated Capstone Project (C) - double counted for both BEM discipline-specific requirement and Secondary Major (AIDA) requirements.; BRE368 AI and Data Analytics for Smart Construction; BRE472 Information Technology & BIM for Construction Management- DSR-AIDA Bridging Subject; BRE4661 Integrated Capstone Project – Compulsory subject. Students can refer to the list of elective subjects available on the website. 3 credits (AMA1140 (C) – double fulfilment) AMA1140 Mathematics for Construction and Environment (AMA) – Faculty Compulsory subject.

BRE4661 Integrated Capstone Project is a 6-credit core subject spanning across 2 semesters from Semester 1 to Semester 2 of Stage 4. The Secondary Major (AIDA) students pursuing the Secondary Major in AIDA who take the BRE4661 Integrated Capstone Project are not required to complete the BRE466 Capstone Project

The subject offering departments reserve the rights to review/revise the subjects to be offered and the time of offer. Subjects are offered as electives to students, subject to the fulfilment of any pre-requisite or co-requisite requirements and time-table constraints.

Programme Structure and Curriculum of Minor in Real Estate Investment

Title of Minor Programme & Programme Code:	Minor in Real Estate Investment (32405-YRI)
Offering Department(s) in Full & in Abbreviation:	Department of Building and Real Estate
Requirement for Claiming the Minor Award:	For students admitted form 2012-13 inwards (Undergraduate Degrees) Attained 18 credits from the subjects listed under section 7, of which at least 9 credits are at level 3 or above.
Exclusive Programme(s) & Programme Code(s):	BSc (Hons) in Surveying (32405-SUV)
Effective Year:	For students admitted from 2012-13 onwards
Professional Recognition:	Not applicable

Subject Code	**Subject Title**	**Subject Offering**	**Level**	**Credit Value**	**Subject Nature (Compulsory Elective)**
BRE363	Construction Economics	CMI	3	3	Compulsory
BRE265*	Introductory Construction Technology & Materials	CMI	2	3	Compulsory
BRE263*	Construction Economics & Finance	CMI	2	3	Compulsory
BRE315	Property Valuation (*Instead of BRE265 and BRE263, student with a Major study in BSc(Hons) in Building Engineering and Management (BEM) are to take BRE397 Property Management Accounting; and BRE427 Applied Property Investment.)	CMI	3	3	Compulsory
BRE3261	Urban Economics and Property Investment Building Maintenance Planning and Technology	CMI	3	2	Elective
BRE371	Introduction to Property Management	CMI	3	3	Elective
BRE397	Property Management Accounting	CMI	3	3	Elective
BRE427	Applied Property Investment	CMI	4	3	Elective
BRE431	Housing Studies	CMI	4	3	Elective
BRE418	Real Estate Development	CMI	4	3	Elective

8. Work Integrated Education (WIE)

8.1 *Introduction*

The Department of Building and Real Estate has put a strong emphasis on the WIE element in the design of curriculum of all its UGC funded full-time programmes of the CMI Scheme to (i) affirm our position in offering academic programmes in a professional context; (ii) strengthen the competitive edge of our professional oriented programmes with quality learning and enhancement of employability of our students; and (iii) enhance all-round development of students.

8.2 *Rationale and Philosophy*

As a major provider of professional education in real estate and construction, the Department understands the importance and responsibilities of enhancing the intellectual as well as the holistic development of our students. Both the attributes for all-round (i.e. generic skills) and professional competencies are complementary. At present, the labour market is placing increasing demand on people to possess an appropriate combination of professional skills and generic skills so as to cope with a rapidly changing work environment. We hope to provide students with an education not only in the acquisition of their own area of professional specialization, but also skills that are transferable in their professional education. This will increase our students' competitiveness in diversification and employability for multi-disciplinary work opportunities and environment in this rapidly changing socio-economic climate. WIE is a way to educate our students in learning and experiencing the multi-facets of workplace environment. We recognize however that WIE arrangements will be subject to the constraints of an industry that is both project based and comprises predominantly small and medium sized enterprises.

8.3 *Intended Learning Outcomes of the WIE Components*

1. To identify, formulate and solve problems related to the surveying profession & property industry.
2. To communicate effectively.
3. To contribute as a team member and lead effectively.

8.4 *Structure of the WIE Components*

The WIE element in CMI will last for a minimum duration of FOUR weeks, which will take place in the summer after Stage-1 and before Stage-2 study. The WIE element will be mandatory for all full-time undergraduate programmes and will bear TWO training credits.

The Department is aware of the University's guideline that the learning outcomes of WIE can be geared either towards "professional knowledge and skills" or "attributes for all-roundedness and generic skills". It is the view of the Department that, where possible, we will aim to gear our WIE activities to improve students' professional knowledge and skills.

Other forms of placements such as relevant summer jobs secured by students may also be considered as WIE element. However, these activities must be endorsed by the Department and must meet the requirements of being "structured", "measurable", and in an organisational context.

8.5 *Strategies for Supporting Learning in the Workplace*

The Department will fully utilise the mentors in our mentor scheme to facilitate our students to find profession-based placements. The Department will be involved in the assessment of the students to make sure they have achieved the intended learning outcomes of the WIE element.

A departmental WIE coordinator will be appointed to liaise with the SAO and industry, to arrange work placements for students and to coordinate WIE activities such as assessment with programme coordinators. The Department will also explore the possibilities of finding placements through other channels, including (1) working with CFSO as student helpers to conduct works in the area of surveying and property management; (2) working in Mainland China by utilising our links with universities and institutions there, and our graduates/alumni in China.

8.6 *Assessment of the WIE Components*

The Department will adopt universal assessment methods for the WIE elements in all full-time undergraduate programmes. The assessment methods will include two components: (1) a reflective journal by the student, and (2) a report by the employer. For sandwich students, a log book is also required, which is essential for them to fulfil the requirement of the professional institutions.

Students will be required to document their workplace learning experience in reflective journals, which will be assessed in conjunction with an assessment report by the employer to see whether the WIE learning outcomes have been achieved. The Department may form an interview panel when necessary to assess whether students have achieved the intended learning outcomes.

9. Teaching and Learning Methods

The teaching and learning methods are adopted to align with the intended learning outcomes of the subjects/programme.

The first two years of study will provide students with a broad-based education to fulfil university and faculty requirements, and then a foundation study which explains the characteristics and multi-disciplinary nature of building and real estate industries and analyses various components of the industries.

The third year of study offers to develop students' abilities to consider and analyse the constraints and solutions/options and decision making skill to the building and real estate proposals, development, production and available resources. A sound academic and professional knowledge at with all-rounded attributes and communication skills are thus developed.

The final year of study further develops students' abilities of problems solving skills, critical thinking and synthesis for new insights or views through dissertation and professional studies in projects. Students of all programmes will be able to develop their areas of specialism or interest through studies of both core subjects and elective subjects. Both professional and all-rounded attributes are further enhanced through different studies.

Emphasis will be placed on student's participation in the learning process under the close supervision and direction of academic staff to the student's studies.

Student participation will be encouraged through:

Tutorials
Student presentations in structured seminars
Guided reading in all subjects
Application of computer packages
Student involvement in professional studies, case studies, site visits, integrated and subject projects, guest lecturers, international study tour etc.
Final year individual dissertation and team projects for integrative and professional studies.

The following major T&L methods are implemented in the programme under the Scheme/Programmes:

1. Interactive Lecture
2. Tutorial/Seminar
3. Project-based Learning
4. Guided Study/Self-directed Learning
5. E-learning
6. Problem-based Learning
7. International Study

The primary objectives of the implementation of these T&L method are to ensure students' achievement in acquisition of knowledge and critical thinking and all-roundedness with professional competence defined by the programme outcomes.

Such alignment of the T&L methods with the programme outcomes is illustrated with examples of subjects which may adopt one or two particular type(s) of T&L methods.

9.1 *Interactive Lecture (subject example: BRE437 Facility Management)*

The interactive type of lecturing mode is encouraged and implemented in the programmes. The sequence of such lectures is as follows:

(i) Briefing concepts, principles and fundamentals are introduced and explained with the requirement of necessary knowledge retention from students: e.g. quality and performance assessment to facilities, bench marking process, etc.

(ii) Application and case studies: Real-life building projects and cases are presented for drawing students' focuses and analysis on issues and solutions with the applications of principles and fundamentals learned e.g. comparison between Cyberport and the HK Science Park.

(iii) De-briefing: Providing opportunities during the lecture to solicit students' views and perceptions. Students are encouraged to participate by raising questions and discussion.

(iv) Reinforcement: Reiterating the learning objectives of the topical unit through conclusive remarks, observations and contemporary issues. Students are encouraged to interpret issues and solutions holistically with knowledge-transfer to real-life situations and occasions e.g. quality and performance assessment to facilities with considerations of sustainability and management.

9.2 *Tutorial/Seminar (T/S)*

Tutorial/Seminars supplement T&L activities and implement lectures. T/S are used to amplify what are introduced and learned from the lectures. Students are encouraged to think critically, question and make inquiries, discuss problems/issues and make suggestions and proposals. In the case, where there are student's presentations, peer discussion and criticism/review are encouraged. Usually students form groups of 2 to 5 and each group is given a question for discussion either in the beginning of the tutorials/seminars or given in advance. A leader is chosen to record and report important ideas to the T/S group. Students 'buzz' for about 10 minutes on the former case. Leaders take turns to report important points of their groups to the whole class. During reporting, teacher prompts students for explanations and suggestions. Students post up ideas and inquiry, if any. Lastly, the teacher gives feedback and invites the whole class in participation.

The intended learning outcomes are an ability to communicate effectively through presentations and discussions/explanation of contemporary issues, comparing and contrasting ideas in view of different stakeholders of the industry with reference to knowledge gained during lectures. In doing so, students learn and gain the abilities delineated in the Programme Outcomes of professional/academic knowledge and competence (section 3.5). Moreover, all-rounded education especially in the areas of communication knowledge transfer and awareness of contemporary issues are attributed (section 3.5.2).

Tutorials/Seminars are included in nearly all subjects. The typical group size is around 28.

9.3 ***Project-based Learning (subject example: BRE262 Project Studio, BRE4393 Temporary Work Design, BRE435 Design, Adaptation and Conversion, BRE466 Capstone Project)***

Projects are usually open-ended embedded with a real-life 'investigation' for information, re-visit of issues and proposal of solution(s). Students are given project brief whereby they are asked to find/identify and analyse problems/issues and propose method(s) to solve the problems. Such project briefs involve investigation and study of problem originated from a contemporary issue (e.g. current maintenance issues of the building stock) or real-estate related situation (e.g. land price and property market) or a realistic workplace problem (e.g. measurement and estimating, strategies of bidding construction works, etc.). Students are required to actively carry out their own studies, produce reports and present findings/solutions in teams or individually.

Quite a few number of all-rounded attributes are exhibited in project-based learning.

The learning process and outcomes include:

(i) The ability to identify, analyse and solve problems in their related professional studies (outcomes of professional/academic knowledge and competences and attributes for all roundedness).

(ii) The ability to function as team members or as leader – it is among the group to determine and distribute responsibilities and tasks of works to make decisions and agreement both internally and externally and to ensure work done (Attributes for all roundedness).

(iii) An ability to manage/control time and plan works accordingly and effectively and work within reasonable time frame.

(iv) The ability to work in partnership with the skills of negotiation: "give and take", and resolution of conflicts and disputes within a group selling.

(v) The ability to self-evaluate performance to ensure work quality.

(vi) The ability to seek advice and expert knowledge and be aware of own's limitations and hence be able to identify knowledge gap for further learning (Attributes for all roundedness).

(vii) An ability to differentiate performance, work and achievement priorities within given time frame and resources.

(viii) The ability to communicate effectively through aural, graphical, numerical and text presentation.

Project-based learning method is a comprehensive approach to instruction and learning whereby students need to actively participate with self-motivation and practise with an array of multi-disciplinary knowledge and skills.

Students learn through both internalization (mental process) and externalities (peer affects, constraints, information, etc.), where these intrinsic knowledge is learned through project work in teams (groups) or individually.

Small-scale project based learning assignments are adopted by many other subjects (e.g. BRE435 Design, Adaptation and Conversion).

9.4 ***Guided Study/Self-directed learning (BRE466 Capstone Project)***

This component of guided study and self-directed learning creates a facilitation for and a favourable attitude towards independent learning for students. This will be one of the most important skills a student acquires from degree level education. Both student and lecturer play an active role in such learning.

Guided study/Self-directed learning is specially designed for particular subjects underpinned with strong research and investigation studies whereby an atypical pace of study and minimal intervention by supervisors or facilitators are required. In this case is the subject Dissertation. In general, self-directed learning is individualized instruction designed from the point of view of the learner who studies individually at his/her own pace, place and time. However, self-discipline is required by the students for progress monitoring with specified pre-arranged regular meeting. Study programme is scheduled in the 'table of works' and students have to formulate problem statement, research objectives, research design and methodology; carry out literature review and investigations in a pre-determined period of time. Hence, at times, students need to adjust their learning pace or content with the exercise of self-initiative and time management. The intended learning outcome is to develop life time learning abilities e.g. action plan decision making strategies, information funding abilities and achievement of targeted goals. (Outcomes of professional/academic knowledge and competencies and attributes of all roundedness are culminated).

9.5 *E-learning (subject example: BRE217 Planning and Development, BRE4291 Real Estate Marketing)*

Electronic learning (e-learning) provides a virtual learning environment allowing students to experience and learn topics similar to what they would experience in reality. In this environment, the support of computer, information technology and on-line teaching/learning platform is vital.

A web-site for a particular subject is designed to include the presentations of learning materials (e.g. journal papers, book chapters, etc.), downloadable notes or PowerPoint notes, practising exercises quizzes and assignments for the topical units of the subject. Usually teaching/learning plan of the subject with information regarding grading and weighting of examination, test and assignments/coursework are also included. Hyperlinks to both local and overseas websites of related subject topics facilitate and guide students to seek most updated information and hence gain a wider perspective and in-depth understanding of the related topics. (e.g. sustainable development and construction, assessment of building performance, etc.).

Animation and film strips are also used to explain and simulate the actual construction process. Moreover, students can communicate among peers or with the subject lecturer through e-mails and chatroom. There are a number of e-learning subjects currently in use in the Department.

9.6 *Problem-based learning (BRE435 Design, Adaptation & Conversion)*

Problem-based learning is introduced in many other subjects.

It is characterized by the use of actual cases with practical issues/problems e.g. part of the building under adaptation and conversion (e.g. the Landmark in Hong Kong): how disturbance can be minimized to the existing tenants in particular noise problem; how that part of building can be adapted and converted without disturbing the existing building services, etc. The inquiry and exploration leads to a series of learning task e.g. technical issues (environmental issues and engineering issues), communication (with tenants and sub-contractors), legal requirements, logistic of works, etc. Students, thus, gain concepts, knowledge and application within the learning process. Thus, both the programme outcomes, subject outcomes and the attributes of all-roundedness are fulfilled.

9.7 *International Study (BRE365 International Study)*

An overseas study tour is organized during the summer semester of stage 3 during their course of study (under the guidance of a tutor,) students are responsible for the organization and contact from the choice of destination to the arrangement of study visits to overseas academic institutions and professional/industrial establishments, transport and boarding arrangements budget controls, logistics, division of works, etc. Usually two members of staff will accompany the students for the study tour. The duration of the study tour is about a week. On return, a study report is produced together with an open oral presentation of the studies to other student faculty, teaching faculty, mentors and sponsors. The attributes for all roundedness in this programme are learned through this organization of study tour from initiative to production.

9.8 *Learning to Learn (L2L)*

Scheme/programme outcome for learning to learn (L2L)

The programmes of BSc(Hons) Scheme in Building and Real Estate are committed to nurture students with the continual learning and self-improvement mindset in the context of students' respective programmes, and able to plan, manage and evaluate their own learning in pursuit of self-determined goals.

In Year 1, the L2L focus is on fostering students to develop the attitudes of becoming lifelong learners. Students will be introduced to the concepts of L2L through the General University Requirements (GUR) subject, APSS1L01 (Tomorrow's Leaders). The importance of their identity as learner and belief and confidence in leading their own development will be recognised. The subject lays down a solid foundation for students to prepare their personal self-development plan. In addition, students will meet with academic advisors to explore the curricular and co-curricular opportunities for fostering their aspirations and developmental learning needs in the first year of study. The academic advisors will continue to play an advisory role in facilitating L2L throughout students' course of study.

In Year 2 and Year 3, students' understanding of L2L concept will be reinforced through two major subjects. BRE299 [The Work-Integrated Education (WIE)] will take the form of an industrial attachment after the completion of stage 2 study. The expected programme L2L outcomes will be achieved through better understanding of the work environment. Students will be engaged in the reflection on personal growth, future career planning into their respective professionals and enhancement in the future learning process. In Year 3, the L2L focus will emphasize on learning the 'methods to learn' through research, critical analysis and self-learning. BRE366 (Analytical Skills and Methods) is a major component leading to the completion of BRE466 (Capstone Project). It contributes towards awareness of the importance of developing the ability to engage in a rigorous self-determined learning process.

In Year 4, students will be able to apply and evaluate their L2L ability in planning and managing a comprehensive learning project through the subject, BRE466 (Capstone Project). Students' achievement of the programme L2L outcomes will be assessed through a final reflection demonstrating their experience and development of L2L outcomes throughout the previous academic years of study and continuing their passion for lifelong learning after graduation.

In order to assess the learning to lean element and students' continued development of learning, a reflection journal is incorporated into the assessment methods of the above subjects at different stages of the study.

L2L Elements in the Curriculum

Programme	Year/Level 1	Year/Level 2	Year/Level 3	Year/Level 4
JS3100	APSS1L01 (Tomorrow's Leaders)	BRE299 [Work-Integrated Education (WIE)]	BRE366 (Analytical Skills and Methods)	BRE466 (Capstone Project)

APSS1L01 (Tomorrow's Leaders)

L2L outcomes	Recognise the importance of learning to learn and make initial plans for their development as learners based on self-reflection on aspirations and developmental needs.
Teaching and learning methods	Students will be introduced to the idea of L2L and a model for reviewing and planning their development as learners. They will explore the connection between their aspirations and university study and engage in guided reflections to review their developmental needs. This provides the basis on which students will formulate an initial personal development plan.
Assessment methods	Personal development plan + reflection (5% of whole subject grade)

BRE299 [Work-Integrated Education (WIE)]

L2L outcomes	• Recognize the importance of learning new skills and practical knowledge in the workplace. • Demonstrate the gaining of learning experience and practical knowledge through industrial placement. • Reflect on and develop their capacity for learning in their professional practice in the workplace.
Teaching and learning methods	• Apply their knowledge and skills acquired from the programme in carrying out tasks in the workplace during their WIE period. • Reflect on their growth as a learner through a personal reflection journal on their learning process and experience in understanding the process of developing problem-solving skills, communication skills, leadership and teamwork skills and possible improvements actions.
Assessment method	Personal Reflection Journal on their learning experience through industrial placement (600 - 1,000 words) (Pass/Fail grade only)

BRE366 (Analytical Skills and Methods)

L2L outcomes	Develop and evaluate the ability to engage in a rigorous self-determined learning process through research. Reflect on their readiness for learning through engaging in the research process.
Teaching and learning methods	Students will be engaged in identifying a research topic, asking research questions, learning about research methodology, and writing a research proposal, to develop the mindset and skills for planning and managing research projects. They will be guided through a series of tutorial discussions to demonstrate their understanding of the whole research process from a learner's perspective and reflect on how well they equip themselves for engaging in a rigorous self-determined study.
Assessment method	Personal Reflection Journal on their learning experience in how to develop a research topic and a research proposal (800 - 1,000 words) (10% of whole subject grade; students must pass all the assessment components of coursework)

BRE466 (Capstone Project)

L2L outcomes	Recognise the need for continual learning and self-improvement in the context of their respective professional disciplines, and be able to plan, manage and evaluate their own learning in pursuit of self-determined goals.
Teaching and learning methods	Students are expected to: • carry out self-study and research work • plan and manage their own research project • reflect on: (1) how well they have applied their L2L capability in completing the capstone project, (2) how far they have developed as a learner over the course of their university study, and (3) their readiness for learning in the workplace in future.
Assessment method	Personal Reflection Journal on students' learning process and their L2L development over the project period. (minimum of 500 words) (10% of whole subject grade; students must pass all the assessment components of coursework)

Co-curricular Elements

Academic Advising

All students are assigned to an academic advisor and are able to meet them at least once a year to discuss their academic plans and aspirations. The Academic Advisors will introduce the ideas of L2L to students in Year 1 and encourage them to explore both curricular and co-curricular opportunities for development (e.g. the Mentorship Programme), reflect on their experience, and adjust their learning and development goals, plans and approaches throughout the whole course of study. The plans and reflections generated in the designated L2L subjects will be used as materials for discussion in academic advising meetings.

10. Assessment

Assessment plays an important role in enhancing students' learning. Assessment is the process of finding out and putting a value on a student's achievements in studying a programme. It is a means to measure the learning outcomes/goals of a subject/programme. With the movement from a norm-referenced to a criterion-referenced model of measurement in this University, students are assessed and measured of their performance against an explicit set of standards. Therefore, the prime objective of assessment is to enable students to demonstrate their abilities in attaining the intended learning outcomes and fulfilling the intended learning outcomes and requirements of a subject/programme. Assessment is also served as feedback both to students of their performance and learning in progress and attainment of the subject/programme and to the teaching faculty of their teaching.

Different assessment methods including formative and summative assessments are adopted as deemed appropriate to the subjects depending on the natures of the subject disciplines and the alignment of the intend learning outcomes of the courses. The assessment methods are contained therein in the subject specifications which are distributed to all students in the beginning of the academic year. It is also reinforced by the subject lecturers by informing the students at the learning commencement on the assessment modes, standards and criteria.

With the move to criterion-referenced assessment, rubrics are developed to assess student performance with a scoring scale along a task-specific continuousness of criteria for some subjects. Students work is evaluated against scoring standards/criteria. Rubrics must be specified for all major assessment items at the subject level, made available to students before the assessment, and used for grading the assessment. As a rule of thumb:

(i) For subjects without examinations, rubrics should be required for single assessment items with a weighting of 30% or above of the subject's overall assessment.
(ii) For subjects with examinations, rubrics should be required for single assessment items with a weighting of 20% or above of the subject's overall assessment.

In general, the student performance in each subject is assessed by coursework and examination respectively. Weightings are allocated to coursework and examination of a subject, e.g. 30% and 70%, 40% and 60% or 50% and 50% respectively. Coursework includes assignments, case studies, seminar/tutorial presentation, role playing, field work, tests and other forms of learning activities. Grades will be assigned to reflect both individual contribution and group effort in the case it is not an individual piece of work. Examination is an end of unit/subject assessment. Grades are usually awarded to the written examinations. Marking schemes are provided to ensure assessment and grading on student performance are based on criteria and standards. The quality of examination papers and marking schemes is scrutinized by the external examiners and departmental academic advisor.

Other than projects and dissertation, where appropriate, some subjects can employ 100% continuous assessment. Usually students are assessed in their performance attainment of technical skills over an extended period of time, for example, measurement, estimating & documentation, and engineering surveying.

In the case of group projects, both aggregating grades and assigning grades are given to group effort and individual contribution in a group. This is to ensure that there will be no 'non performer'. Moreover, peer interactive learning in project proposal/solutions, and different components of the project, presentations, reports and communication are included in the grading for the group effort.

10.1 ***Assessment Methods***

Students' performance in a subject is assessed by either of the following methods:

(a) Coursework only: To pass a subject by this method of assessment, a student must attain a minimum Grade 'D' in coursework (tests, assignments, projects, laboratory work, field exercises, presentations and other forms of classroom participation).

(b) Examination and Coursework (the weighting of each component is stated in the Subject Portfolio): To pass a subject by adopting this method of assessment a student must attain a minimum Grade 'D' in coursework and a minimum Grade 'D' in the examination.

(c) Continuous Assessment: Both Project and Capstone Project are of this type of assessment where students are assessed through a period of time with stages of work and progress together with the final products of works.

Assessment methods and parameters are determined by the Subject Leader who will inform the students of the details at the beginning of each semester.

10.2 ***Grading*** (in accordance with C1-10 General Assessment Regulations of AR Handbook on Academic Regulations and Procedures)

At the end of each semester students will be informed of the grade achieved for each subject normally.

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

Subject Grade	***Short Description***	***Elaboration on subject grading description***
A+ A A-	Excellent	Demonstrates excellent achievement of intended subject learning outcomes by being able to skilfully use concepts and solve complex problems. Shows evidence of innovative and critical thinking in unfamiliar situations, and is able to express the synthesis or application of ideas in a logical and comprehensive manner.
B+ B B-	Good	Demonstrates good achievement of intended subject learning outcomes by being able to use appropriate concepts, and solve problems. Shows the ability to analyse issues critically and make well-grounded judgements in familiar or standard situations, and is able to express the synthesis or application of ideas in a logical and comprehensive manner.
C+ C C-	Satisfactory	Demonstrates satisfactory achievement of intended subject learning outcomes by being able to solve relatively simple problems. Shows some capacity for analysis and making judgements in a variety of familiar and standard situations, and is able to express the synthesis or application of ideas in a manner that is generally logical but fragmented.
D+ D	Pass	Demonstrates marginal achievement of intended subject learning outcomes by being able to solve relatively simple problems. Can make basic comparisons, connections and judgements and express the ideas learnt in the subject, though there are frequent breakdowns in logic and clarity.
F	Fail	Demonstrates inadequate achievement of intended subject learning outcomes through a lack of knowledge and/or understanding of the subject matter. Evidence of analysis is often irrelevant or incomplete.

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

Note:
- Marking rubrics aligned with these Grade Descriptors need not include all aspects of the grade descriptor.
- Marking rubrics aligned with these Grade Descriptors may include other aspects aligned with particular subject matter or field of study requirements but are not included in the grade descriptor.

The grade points assigned to subject grades attained by students are as follows:

Grade	New Grade Point	Short Description
A+	4.3	Excellent
A	4.0	
A-	3.7	
B+	3.3	Good
B	3.0	
B-	2.7	
C+	2.3	Satisfactory
C	2.0	
C-	1.7	
D+	1.3	Pass
D	1.0	
F	0.0	Failure

At the end of each semester/term, a Grade Point Average (GPA) will be computed based on the grade point of the subject overall grade as follows:

$$\text{GPA} = \frac{\sum_{n=1}^{N} \text{Subject Grade Point}_n \times \text{Subject Credit Value}_n}{\sum_{n=1}^{N} \text{Subject Credit Value}_n}$$

where N = number of all subjects (inclusive of failed subjects) taken by the student up to and including the latest semester/term. 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, but without any grade assigned[1]
(v) Subjects from which a student has been allowed to withdraw (i.e. those with the code 'W')

Subject which has been given an "S" code, i.e. absent from all assessment components, 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 ranges from 0.00 to 4.30 from 2020/21.

[1] 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.

10.3 ***Retaking of subjects***

Students may only retake a subject which they have failed (i.e. Grade F or S or U). Retaking of subjects is with the condition that the maximum study load of 21 credits per semester is not exceeded. 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 subjects.

The number of retakes of a subject should be restricted to two, i.e. a maximum of three attempts for each subject is allowed. Students need to submit a request to the Faculty/School Board for the second retake of a failed subject. Students who have failed a compulsory subject after two retakes and have been de-registered can submit an appeal to the Academic Appeals Committee (AAC) for a third chance of retaking the subject. In case AAC does not approve further retakes of a failed compulsory subject or the taking of an equivalent subject with special approval from the Faculty, the student concerned would be de-registered and the decision of the AAC shall be final within the University.

(Remark: The rules are currently being reviewed by the University and may be subject to change.)

[1] The retake count of students admitted in or before 2019/20 will be reset to "0" in 2020/21 when the revised regulations come into effect.

10.4 *Appeals*

Appeals against the decision of the Subject Assessment Review Panel must be made within one calendar week days after the public announcement of the overall results. A student should make the appeal to the Head of the CMI Department. The Department will inform the student of the appeal result and, if the appeal is successful, the Department will inform the Faculty. (Details are referred to C7 Student Appeals of AR Handbook on Academic Regulations and Procedures.)

10.5 *Progression/Academic Probation*

When a student has a Grade Point Average (GPA) lower than 1.70, he will be put on academic probation in the following semester. If a student is able to pull his GPA up to 1.70 or above at the end of the semester, the status of "academic probation" will be lifted. The status of "academic probation" will be reflected on e-student but not in the transcript of students.

11. Progression and Award

11.1 *Progression*

A student will have 'progressing' status unless he falls within any one of the following categories which shall be regarded as grounds for de-registration from the programme:

(i) the student has reached the final year of the normal period of registration for that programme, as specified in the Programme Requirement Document, unless approval has been given for extension; or

(ii) the student has reached the maximum number of retakes allowed for a failed compulsory subject; or

(iii) the student's GPA is lower than 1.70 for two consecutive semesters and his/her Semester GPA in the second semester is also lower than 1.70; or

(iv) the student's GPA is lower than 1.70 for three consecutive semesters.

11.2 *Graduation Requirements*

A student will be eligible for award if all the following conditions are satisfied:

(i) Accumulation of the requisite number of credits for the particular award, as defined in the programme requirement document; and

(ii) Satisfying the residential requirement for at least one third of the credits required for the award to be completed under the current enrolment at PolyU; and

(iii) Satisfying the National Education (NE) Requirement (applicable to students admitted in or after 2022/23)

(iv) Satisfying the Academic Integrity and Ethics (AIE) requirement (applicable to students admitted in or after 2024-25); and

(v) Satisfying all requirements as defined in the programme requirement document and as specified by the University; and

(vi) Having a Grade Point Average (GPA) of 1.70 or above at the end of the programme.

A student is required to graduate as soon as all the conditions for award are satisfied.

11.3 ***Guidelines for Award Classification***

The following are guidelines for the Boards of Examiners when determining award classifications. The BoE will exercise its judgement as to the award for each student and may use other relevant information.

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

The following table indicates the ranges of award GPA for determining award classifications:

Honors Classification	All Other Programmes	Award GPA
1st	Distinction	3.60 – 4.30
2:i	Credit	3.00 – 3.59
2:ii	Pass	2.40 – 2.99
3rd		1.70 – 2.39

11.4 A Pass-without-Honours degree award will be recommended only under exceptional circumstances, 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 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.

Weighted GPA will be computed as follows:

$$\text{Weighted GPA} = \frac{\sum_{n=1}^{N} \text{Subject Grade Point}_n \times \text{Subject Credit Value}_n \times W_n}{\sum_{n=1}^{N} \text{Subject Credit Value}_n \times W_n}$$

where W_n = weighting to be assigned according to the level of the subject

N = number of all subjects counted in GPA calculation as set out in Section 8.3 of C1 above, except those exclusions specified in Section 10.3 of C1 below.

For calculating the Weighted GPA (and award GPA) to determine the Honours classification of students who satisfy the graduation requirements of Bachelor's degree awards, a University-wide standard weighting[1] will be applied to all subjects of the same level, with a weighting of 2 for Level 1 and 2 subjects, a weighting of 3 for Level 3 and 4 subjects. Same as for GPA, Weighted GPA ranges from 0.00 to 4.30 commencing from 2020/21.

[1] Requests for deviation from this University-wide standard require specific approval by the APRC.

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.

For students taking the Major/Secondary Major study route, there is no separate 'Secondary Major GPA". The Major GPA is the weighted GPA of all subjects contributing to the Major and Secondary Major.

11.5 *Students Taking the Major/ Minor Option*

Students taking the Major/Minor option will be considered for an award when they have satisfied the requirements for both the Major and Minor studies (i.e. having a GPA of 1.70 or above) and have also submitted a graduation application. If the 18 credits taken for the Minor study can meet the requirements for a specific Minor, the Major students may apply to graduate with a specific Minor, in addition to their Major. If the 18 credits taken are a free collection of electives in any combination of disciplines in conjunction with a Major programme, these students will graduate with a Major only.

Subject to approval by the Minor-offering Department, students may count up to 6 credits from their Major/GUR [including Language Communication Requirements (LCR) subjects at proficiency level] towards their chosen Minor. Nevertheless, students must take at least 6 credits from their chosen Minor programme to satisfy the residential requirement of their chosen Minor. In addition, to be eligible for the Major and Minor awards, the total number of credits taken by the students for their Major-Minor studies must not be lower than the credit requirement of the single discipline Major programme.

11.6 *Students taking the Major/Secondary Major Option*

Students may count up to 12 credits of their Major/GUR subjects towards the Secondary Major. Nevertheless, students must take at least 12 credits from their chosen Secondary Major in order to satisfy the residential requirement of the chosen Secondary Major. Students who have completed more than 12 credits of subjects that are eligible for double counting will need to apply for graduation and indicate the subjects intended for double counting. Notwithstanding the above, students must meet the minimum credit requirements of the "X + Secondary Major" concerned, i.e. 132 credits.

11.7 ***Students taking the Major (including the Major/Secondary Major option) Minor studies***

For students who have completed a Major (including the Major/Secondary Major option)/Minor programme, a single classification will be awarded and their award classification will mainly be based on the "Major GPA", but it can be moderated by the Board of Examiners with reference to the "Minor GPA".

"Major GPA" is derived based on all subjects of the Major programme, as well as the Secondary Major programme, if any, including those meeting the mandatory General University Requirements (GUR) and programme-specific language requirement, but not necessarily including the training credits.

"Minor GPA" is derived based on the 18 credits of specific Minor programme. "Minor GPA" is unweighted.

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 10.7 of C1 below are applicable to programmes with Major (including the Major/Secondary Major option)/Minor studies.

Where a student has a high GPA for his/her Major (including the Major/Secondary Major option) but a lower GPA for his/her Minor, he/she will not be 'penalized' 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 (including the Major/Secondary Major option) than his/her GPA for the Minor, the Board of Examiners may consider giving the student recommending a higher award classification than with reference to his/her Major GPA for the student for ratification by the APRC via the Faculty/School Board.

Part III

Programme Management

12. Programme Operation and Management

12.1 *Board of Examiners (BOE)*

A Board of Examiners shall be appointed for each programme leading to an award of the University. The composition/membership of the Board of Examiners (BoE) will be proposed by the Head of Department and for the Dean's approval. Its composition will be as follows:

Chairperson
(i) Head of the Department in which the Scheme is based

Members
(ii) Associate Head (Teaching)
(iii) Undergraduate Scheme Chair
(iv) Programme Leader (Award Co-ordinator) of the Programme within the Scheme
(v) Examination Officer(s) of the Department
(vi) External Examiner(s) where appointed, if available

Co-opt Members
(vii) 4-5 subject leaders/lecturers

Secretary: Departmental Senior Executive Officer

The Scheme BoE meets at the end of each semester, within one week after the subject results have been finalised. - The BoE is responsible to the Senate for making decisions concerning:

(i) decisions on straight forward progression and de-registration cases;
(ii) decisions on the classification of awards to be granted to each student on completion of the programme, and
(iii) decisions on cases with extenuating circumstance

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 straight forward progression and de-registration cases, shall be ratified by the Faculty Board. The Faculty Board may refer the decisions back to the BoE for further consideration and explanation.

Any decisions by the BoE outside the General Assessment Regulations of the University, supported by the Faculty Board, should be referred to the Academic Planning and Regulations Committee (APRC) for ratification. All approved 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.

12.2 ***Subject Assessment Review Panel (SARP)***

A Subject Assessment Review Panel (SARP) will be formed by the Department to review the grades of the subjects it offers before finalising them, e.g. by observing if there are irregularities or discrepancies in the distribution of grades in the subject results reports and statistics, considering comments and observations made by Subject Teachers, etc. After finalisation by SARP, the subject grades shall be formally released to students and submitted to the Board of Examiners which will not attempt to change any grades.

Composition of the **SARP** is as follows:

Chairman:	(i) Head, Department of Building and Real Estate
Members:	(ii) Associate Head (Teaching)
	(iii) Undergraduate Scheme Chair
	(iv) Examination Officer (Quality)
Secretary:	Departmental Senior Executive Officer

12.3 ***Departmental Programme Committee (Undergraduate Scheme Committee)***

<u>Composition</u>

The Composition of the Departmental Programme Committee (DPC) will be as follows:

Chairperson
(i) Appointed by the Head of Department in which the Scheme is based

Members
(ii) Head of host Department
(iii) Associate Head (Teaching)
(iv) All Award Co-ordinators within the Scheme
(v) A representative of each department which does not host an award but is making a significant contribution to the subjects within the Scheme
(vi) One student representative from each year of the programmes offered within the Scheme

Secretary: Departmental Executive Officer

Terms of Reference

The Departmental Programme Committee (Undergraduate Scheme Committee) will exercise the overall academic and operational responsibility for the Scheme and its development within defined policies, procedures and regulations including the following:

(i) the effective operation, organisation, and development of the programme(s), including the co-ordination of teaching and other inputs and the implementation of University, Faculty and Departmental policies and guidelines for monitoring student progress, student counselling, placements, etc.;
(ii) implementation of University learning and teaching policies and strategies in the context of academic programmes and identification of areas for enhancement, in collaboration with the Departmental Learning and Teaching Committee (DLTC);
(iii) review of academic regulations, admission policy, assessment, and examination methods;
(iv) submissions of proposals to appropriate professional bodies and external validating bodies, normally via the Head of the programme offering Department and in accordance with the University's established procedures;
(v) the continuing critical review of the rationale, aims, intended learning outcomes (ILOs) and the alignment of teaching, learning, and assessment with the ILOs, programme learning outcomes assessment and its results, and the improvement and development of the programme(s), including the approval of minor changes to the curricula of the programmes;
(vi) the definition and maintenance of the academic standard of the programme(s);
(vii) ensuring that the views of students, as reflected by the Student/Staff Consultative Group(s) or additional means as decided by DPC, and other key stakeholders in the programme(s) are known and taken into account;
(viii) co-ordination of the programme review procedures and the submission of the Annual Programme Review reports, including the Departmental Overview report.

12.4 ***The Chairperson of the Departmental Programme Committee (Undergraduate Scheme Committee)***

The Chairperson of the Departmental Programme Committee (Undergraduate Scheme Committee is responsible for the day-to-day management as well as overall management of the programme within the scheme, in particular

(i) co-ordination of the management team;
(ii) administering the admissions procedure with the assistance of the Programme Leaders;
(iii) liaison with FB, Heads of Department contributing to the programme(s), and relevant the Programme Leaders;
(iv) external liaison on behalf of the Scheme, for example with the validating bodies and external bodies concerned with credit transfer via the Head of Department; and
(v) forward planning and the development of the Scheme within the policies of the University at the advice of the Head of the Department.

12.5 ***Programme Leader (Award Co-ordinator)***

The Programme Leader (Award Co-ordinator) will provide the programme's academic and organisational leadership with full support and co-operation of the Head of Department. In particular, a Programme Leader's responsibilities are:

(i) to ensure the effective conduct and organization of the programme within agreed policies and regulations;
(ii) to negotiate with the Head(s) of Department(s) the allocation of appropriate staff for teaching and other duties required by the programme;
(iii) to develop good working relationships with the Heads and relevant senior staff of Departments involved in the programme and with staff teaching in the programme;
(iv) to work with subject teachers to ensure that the university policies and guidelines and quality standards pertaining to academic quality (e.g. policy on Active Learning, Quality Standards for Online Teaching) are observed;
(v) to keep in close touch with the academic welfare and progress of students in the programme, and to be aware of students' views on the programme;
(vi) to report to the Heads of Departments concerned on the ongoing requirements of staff and resources for the programme, as part of the preparation of departmental estimates;
(vii) to co-ordinate any necessary interaction with professional bodies through the appropriate internal mechanisms;
(viii) to lead the development of the programme and the implementation of the Programme Learning Outcomes Assessment Plan;
(ix) to co-ordinate the inputs to and the debate of the Departmental Programme Committee leading to the annual programme review reports (including the programme learning outcomes assessment results) which form part of the Annual Programme Review (APR), and other periodic programme reviews; and
(x) to take executive action as agreed by the Departmental Programme Committee.

12.6 ***Programme Management Committee (Programme Executive Group)***

A Programme Management Committee is responsible to monitor and control day-to-day running within the agreed scheme. The committee comprises Programme Leader (Award Co-ordinator), Deputy Programme Leader (Deputy Award Co-ordinator) and Capstone Research / Capstone Project Co-ordinator. The committee meets at least twice per academic year to consider progress of the students as well as receiving comments from the various subject lecturers or proposed changes to the programme.

12.7 ***Head/Student Consultative Group***

A Head/Student Liaison Group, made up of the Head of Department and two student representatives from each year of individual programme, meets twice a year to discuss issues of concern.

12.8 *Staff/Student Consultative Group*

It is important that there are adequate and effective opportunities for discussion of the programme between students and staff, in a context that allows broad student participation. The nature and extent of student interaction and feedback is one of the issues covered in the annual programme report and the programme review report, to be considered in a Departmental Review exercise.

The Student/Staff Consultative Group (SSCG) is set up to provide a formal channel through which student views can be obtained. Student membership should include, as far as possible, two student representatives from each year of the programme under the normal progression pattern and an appropriate mix of major student groupings. Staff membership should cover the Programme Leader, Deputy Programme Leader and Capstone Research / Capstone Project Co-ordinators. SSCG must meet at least once per semester.

SSCG's terms of reference are:

(i) to discuss any matters directly related to the programme; and
(ii) to report or make recommendations, as felt necessary, to the Departmental Programme Committee (Undergraduate Scheme Committee).

The SSCG report will be one of the data sources for the Annual Programme Review and an agenda item of the first meeting of the next academic year; progress on any unresolved issues should also be reported in this meeting.

12.9 *Academic Advisors Systems for Undergraduate Studies*

In order to ensure that students receive proper academic advice throughout their studies and are provided with accurate information about programmes, academic regulations and procedures, Department should designate an academic staff to serve as the Academic Advisor for a student.

The Academic Advisor, as front-line advisors to students, are responsible for providing students with relevant and current information about curriculum and programme requirements, advising students of the suitable combination of subjects before subject registration in each semester, providing academic advice to students related to their studies and career development, assisting students in solving problems encountered in their studies and formulating study plans, and referring students to other units for relevant information or support.

13. Subject Management

13.1 *Discipline Leader*

A Discipline Leader is responsible for the development of subjects within a particular discipline area across the credit-based honours degree programmes/awards in which they appear. In particular the discipline leaders assist the Scheme Chairperson and the Award Co-ordinators in Scheme/programmes development and they are responsible for monitoring and co-ordination of development and examination standards of subjects in that discipline area. They ensure that the needs of the various awards are met, avoiding duplication and omission of material.

13.2 *Subject Leader*

The Department adopts a team approach to teaching. Subjects are normally delivered by more than one lecturer with one of the team designated as the Subject Leader responsible for the development of the subject and for teaching activities of the lecturers involved.

13.3 *Subject Lecturer*

A Subject Lecturer is responsible for the teaching and delivery of the subject and assessing the student performance.

13.4 *Subject Syllabus and Standard Subject Size*

Syllabus details are provided in the attached SUBJECT PORTFOLIO at Section 11. Each subject has an allocated credit value (the standard is 3 credits) and, in terms of effort, a student is expected to do 40 hours of study to earn a credit.

13.5 *Subject Levels*

The credit-based subjects are classified according to the University Credit-based System. Each subject is given a unique code that identifies the department offering the subject, the intellectual level and the discipline.

13.6 ***Requisites, Co-requisites and Exclusions***

Each subject may have pre-requisites, co-requisites and exclusions. The pre-requisite of a subject must have been obtained before a student registers for that subject. However, the Department has the discretion to waive the pre-requisite requirements of a subject, if deemed appropriate. If a subject X has a subject Y as a co-requisite, both X and Y must be taken in the same semester. And, if subject X has subject Y as exclusion, a student having completed subject Y cannot have subject X count towards the award.

13.7 ***Credit Transfer and Exemption***

13.7.1 **Credit Transfer** will be given credits for recognized previous study, which will count towards the award requirement. University policy stipulates that not more than 50% of the required number of credits for the academic programme may be transferable from approved institutions outside the University, and not more than 67% of the required credits for the programme can be transferred from programmes within the University.

13.7.2 **Exemption** from taking subjects means that the credits associated with the exempted subjects will not count towards the award requirement. If a student is exempted from taking a specified subject because they have previously successfully completed similar subjects in another programme, another subject will have to be taken in order to satisfy the credit requirement.

(Remarks: The rules are currently being reviewed by the University and may be subject to change.)

13.8 ***Subject Registration***

A student must register for a subject 2 weeks prior to the start of the semester in which it is offered. The schedule for subject registration includes an “add-drop” period of 2 weeks at the beginning of each semester.

14. Programme Review and Quality Control

In addition to the information set out below further details are provided in the Hong Kong Polytechnic University document Programme Planning, Validation and Management (July, 2004) Section C2 - Programme Review and Generic QA Exercise and C3 - Changes to Programmes.

14.1 *Programme Evaluation and Review*

Each programme is to be reviewed on an annual basis and the review report will form part of the Annual QA Report and Business Plan to be submitted to the Faculty Dean. The process makes provision for the Scheme/Award Committee to analyse on a systematic basis, the evidence available on the operation and progress of the programme and amends the programme in the light of that evidence. It also serves to ensure that, and provides a mechanism whereby, the department/Faculty Board (FB) can carry out its responsibility to ascertain the satisfactory operation of the programme on a year-to-year basis.

The annual programme report will be subsumed in the Annual QA Report which also covers other academic and administrative functions. Based on the Annual QA Report submitted by departments, Faculty Dean will prepare a consolidated Faculty QA Report for submission to the Quality Assurance Committee (Academic Departments).

14.2 *Annual Review*

A meeting (or series of meetings) of the programme team under the leadership of the Scheme/Programme Leaders will take place in each academic year (normally late October or November) for the purpose of critically reviewing and assessing the operation of the programme during the preceding year. In respect of the programme this process should include:

(a) identification of strengths and weaknesses;

(b) consideration of strategies to build on strengths, solve problems and remedy weaknesses;

(c) a review of action taken on issues identified in the previous year's review; and

(d) a critical examination of programme statistics with analyses of student admissions and performance, an assessment of the continued need for and relevance of the programme, the quality of its output and employment prospects, students' views and reports from Departmental Academic Advisors/External Examiners where appropriate.

The outcome of this process of annual review should be a written report, to be submitted by the Award Co-ordinator, via the Scheme Chairman to the Head of Department for the compilation of the Annual QA Report to the Faculty Dean.

The annual programme report draws on:
(a) statistical data on admissions and examination results;
(b) the views of the students;
(c) the views of the staff teaching on the programme;
(d) the report of the DAA;
(e) any views expressed by the Advisory Committee or employers;
(f) relevant comments made by validating panels; and

The annual programme report contains:
(a) The Programme Committee's (Scheme Committee) report.
(b) Admissions and examinations' statistics.
(c) A summary of proposed changes.
(d) The external examiners' report (if there is external examiner) in full.

Department may take the opportunity of submitting her Annual QA Reports to propose changes to the study programmes or introduce remedial measures for implementation before the commencement of the following academic year. In order not to cause any delay to such initiatives, Faculty Dean should ensure that any items in the Action Plans which require urgent attention be dealt with and decided upon immediately, without waiting for clearance of the entire Report by the Quality Assurance Committee (Academic Departments).

14.3 *Departmental Academic Advisor*

In addition to the information set out below further details are provided in The Hong Kong Polytechnic University document Academic Regulations and Procedures for Credit-Based Programmes (July, 2004), Section C - Departmental Academic Advisor.

The appointment of Departmental Academic Advisor (DAA) is approved by the Vice President (Academic Development) via the submission from the Head of the Department to the Faculty Dean for endorsement.

Duties of DAA

A Departmental Academic Advisor is expected to give advice to the Department on all aspects of the Department's work, including the following:

(i) the identification of strengths and weaknesses, as evidenced by different data sources,
e.g. student feedback, external reviews, programme statistics, and, in particular, learning outcomes assessment results;
(ii) the consideration of strategies to build on strengths, remedy weaknesses, and address issues;
(iii) a review of action taken on strengths/weaknesses/issues identified in the previous review; and

(iv) a critical examination of programme statistics, with analyses of student admissions and performance, an assessment of the continued need for and relevance of the programme, the quality of its output and employment prospects, student.

14.4 ***Programme Validation***

The general objectives of programme validation are to confirm that the standards of the programme are equivalent to those of comparable programmes; and to help the Department and the teaching staff concerned to improve all aspects of the programme.

Programme validation forms an integral part of the University's QA processes, and is intended to ensure that all new study programmes offered will meet the appropriate requirements for an award of the University. Over the years, the framework for programme validation has been evolving, and has been refined/updated according to changing internal and external circumstances.

Under the current framework for programme validation, Faculty Deans/School/College Board Chairmen, who have ultimate responsibility over the academic quality of study programmes in the Faculty/School/College, will decide on the most appropriate validation mechanism for each new study programme, after the APRC has given initial approval to the proposed new programme, and before the programme proposal is submitted to the Senate for formal and final approval for implementation. The procedures have been simplified, so that the previous requirements of setting up a validation panel and having the panel meet with the Programme Planning Committee concerned, are no longer mandatory. Nevertheless, the validation would still involve a formal and open process with review by a combination of internal peers and advice to be sought, as far as practicable, from external experts, including the Departmental Academic Advisor.

Each programme is expected to be reviewed on an annual basis and the review report (including the programme learning outcomes assessment results) will form part of a Department's Annual QA Report to be submitted to the Faculty Dean/School Board Chairman concerned. The process makes provision for the Department, on a systematic basis, to analyse the evidence available on the operation, progress and learning outcomes of the programme, and to amend and refine the programme in the light of that evidence. It also provides a mechanism whereby the Department and Faculty/School board can carry out their respective responsibilities to ascertain the satisfactory operation of the programme on a year-to-year basis.

The annual programme review report will be subsumed in the Annual QA Report which also covers other academic and administrative functions of the academic department concerned. The Annual QA Report should cover the preceding academic year. Based on the Annual QA Report submitted by Departments, Faculty Deans/School Board Chairmen will prepare a Summary QA Report for submission to the Quality Assurance Committee (Academic Department).

Part IV

Subject Portfolio

Level 1 Subjects:

AMA1140	Maintenance for Construction and Environment
AP10001	Introduction to Physics
APSS1L01	Leadership and Intra-Personal Development – Tomorrow's Leaders
CE1001	Construction and Environment Professionals in Society
CE1002	Introduction to AI and Data Analysis for Construction and Environment
COMP1004	Introduction to Artificial Intelligence and Data Analytics
MM1031	Introduction to Innovation and Entrepreneurship

Level 2 Subjects:

AMA290	Engineering Mathematics
BRE2031	Environmental Science
BRE204	Structure I
BRE2061	Legal Context for Building Construction Professional in Society
BRE2171	Planning and Development : Theories and Practices
BRE258	Industrial Safety I
BRE262	Project Studio
BRE263	Construction Economics and Finance
BRE265	Introductory Construction Technology and Materials
BRE2691	Introductory Integrated Professional Workshop I
BRE299	Work-Integrated Education (WIE)
CSE20290	Introduction to Geotechnology
LSGI2961	Engineering Surveying

Level 3 Subjects:

BRE302	Structure II
BRE315	Property Valuation
BRE3261	Building Maintenance Planning and Technology
BRE336	Development Control Law
BRE337	Property Law
BRE345	Measurement, Documentation and Estimating
BRE349	Building Services I
BRE350	Project Management and Procurement
BRE362	Urban Economics and Property Investment
BRE363	Construction Economics
BRE364	Construction Contract Law and Administration
BRE365	International Study
BRE366	Analytical Skills and Methods
BRE368	AI and Data Analytics for Smart Construction
BRE369	Integrated Professional Workshop II
BRE370	Intermediate Construction Technology and Materials
BRE371	Introduction to Property Management
BRE397	Property Management Accounting
ELC3421	English for Construction and Environmental Professionals

Level 4 Subjects:

BRE415	Dispute Resolution
BRE418	Real Estate Development
BRE426	Geotechnical and Foundation Engineering
BRE427	Applied Property Investment
BRE4281	Construction Engineering Management
BRE4291	Real Estate Marketing
BRE431	Housing Studies
BRE435	Design, Adaptation and Conversion
BRE436	Applied Property Valuation
BRE437	Facility Management
BRE439	Engineering Contract Procedures
BRE4393	Temporary Work Design
BRE440	Cost and Value Management
BRE442	Forecasting and Competition in the Built Environment
BRE453	Building Services II
BRE461	Environment Impact and Assessment
BRE462	Advanced Construction Technology
BRE463	Business Valuation and Accounts
BRE464	Urban Planning (Workshops)
BRE465	Asset Management
BRE466	Capstone Project
BRE4661	Integrated Capstone Project
BRE469	Integrated Professional Workshop III
BRE471	Advanced Property Management
BRE472	Information Technology and Building Information Modelling for Construction Management
BRE4999	Company Attachment