THE HONG KONG POLYTECHNIC UNIVERSITY

DEPARTMENT OF BUILDING AND REAL ESTATE

Building & Real Estate Scheme

BSc (Hons) in

Building Engineering & Management

Property Management

Surveying

For Student Intake 2021-2022
Four-year Curriculum

September 2021

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 Building and Real Estate
Faculty of Construction and Environment

September 2021

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Part I
General Information

The BRE Scheme comprises 3 undergraduate programmes of Majors (Discipline Specific Requirements).

- BSc (Hons) in Building Engineering and Management
- BSc (Hons) in Property 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 Property Management is accredited by the Hong Kong Institution of Housing (HKIH), Hong Kong Institution of Surveyors (HKIS) and Royal Institution of Chartered Surveyors (RICS).

- 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 BRE 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 BRE 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 BRE 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 4-year programmes leading to the award of (i) BSc (Hons) in Building Engineering and Management, (ii) BSc (Hons) in Property Management and (iii) BSc (Hons) in Surveying. It is the Departmental policy to maintain commonality in subject teaching within the BRE 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 BRE 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

Competent professional:

Graduates should be able to integrate and to apply in-depth discipline knowledge and specialised skills that are fundamental to functioning effectively as an entry-level professional (*professional competence*); understand the global trends and opportunities related to their professions (*global outlook*); and demonstrate entrepreneurial spirit and skills in their work, including the discovery and use of opportunities, and experimentation with novel ideas (*entrepreneurship*).

Critical thinker:

Graduates should be able to examine and critique the validity of information, arguments, and different viewpoints, and to reach sound judgments on the basis of credible evidence and logical reasoning.

Innovative problem solver:

Graduates should be able to identify and define problems in both professional and day-to-day contexts, and produce innovative solutions to solve problems.

Effective communicator:

Graduates should be able to comprehend and communicate effectively in English, and Chinese where appropriate, orally and in writing, in professional and day-to-day contexts.

Lifelong learner:

Graduates should be able to recognise the need for continual learning and self-improvement, and be able to plan, manage and evaluate their own learning in pursuit of self-determined goals.

Ethical leader:

Graduates should have an understanding of leadership and be prepared to serve as a leader and a team player (*leadership and teamwork*); demonstrate self-leadership and psychosocial competence in pursuing personal and professional development (*intrapersonal competence*); be capable of building and maintaining relationship and resolving conflicts in group work situations (*interpersonal competence*); and demonstrate ethical reasoning in professional and day-to-day contexts (*ethical reasoning*).

Socially responsible global citizen:

Graduates should have the capacity for understanding different cultures and social development needs in the local, national and global contexts (*interest in culture and social development*); and accept their responsibilities as professionals and citizens to society, their own nation and the world (s*ocial, national, and global responsibility*).

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 (BRE)
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:	121 credits (plus 2 training credits for FT)
Commencing:	September 2021
Level of Award:	BSc (Hons) in Building Engineering & Management

1.2 *Contributing Departments / Centres*

Host Department: Building and Real Estate (BRE)

Contributing Departments and Centre:

- English Language Centre (ELC)
- Chinese Language Centre (CLC)
- Department of Civil & Environmental Engineering (CEE)
- Department of Land Surveying & Geo-informatics (LSGI)
- Industrial Centre (IC)

1.2.1 **Programme Planning Committee**

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

BSc (Hons) in Property 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 (BRE)
Title of Major:	**BSc (Hons) in Property Management**
Mode of Attendance:	Full-time (FT)
Mode of Operation:	Credit-Based Programme
Duration:	Full-time four years
Total Credits Requirements:	121 credits (plus 2 training credits for FT)
Commencing:	September 2021
Level of Award:	BSc (Hons) in Property Management

1.2 *Contributing Departments / Centres*

Host Department: Building and Real Estate (BRE)

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
PMT 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 (BRE)
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:	121 credits (plus 2 training credits for FT)
Commencing:	September 2021
Level of Award:	BSc (Hons) in Surveying

1.2 *Contributing Departments / Centres*

Host Department: Building and Real Estate (BRE)

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
Surveying Award Co-ordinator
Surveying Deputy 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 three Majors of full-time honours degree awards, namely:

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

A full-time degree student is required to register on a particular programme for the award upon admission to "a specific programme scheme with a specified target award (Pg. 3, the PolyU's 4-year Undergraduate Degree Structure, 27 May, 2009) and in this case it is the BSc (Hons) in Building Engineering & Management, BSc (Hons) in Property Management or BSc (Hons) in Surveying under the Building and Real Estate Scheme (BRE Scheme)

Upon admission to the 4-year undergraduate degree studies.

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 121 credits including the 30 credits of General University Requirements (GUR) and the 91 credits of Major (Discipline Specific Requirement (DSR) including compulsory (core) and elective subjects. Apart from the above, students of the BSc (Hons) in Building Engineering & Management, BSc (Hons) in Property 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 honours degree award is 4 years.

1.4 *Progression Pattern*

There is a specified progression pattern and curriculum for the programme of Major in BSc (Hons) in Building Engineering & Management or Major in BSc (Hons) in Property Management or Major in BSc (Hons) in Surveying.

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. The prescribed progression pattern for BSc (Hons) in Building Engineering & Management, BSc (Hons) in Property Management and BSc (Hons) in Surveying can be referred to in Section 15 of this volume in details and as follows in summary:

Progression Pattern Summary (2021-2022) ***121 academic credits + 2 training credits (WIE) = 123 credits**
BSc(Hons) in Building Engineering and Management

Stage 1 (Semester 1) (Total Credits = 15)		**Stage 1 (Semester 2) (Total Credits = 16)**		**Stage 1 (Summer Semester)**
GUR	LCR Subject 1 (ELC)	GUR	LCR Subject 3 (ELC)	BRE299 Work-Integrated Education (WIE)* (2)
GUR	LCR Subject 2 (CLC)	APSS1L01	Leadership & Intra-Personal Development – Tomorrow's Leaders	
GUR	CAR Subject 1	AMA1110	Basic Mathematics I	
GUR	CAR Subject 2	BRE258	Industrial Safety I (1)	
BRE1000	BRE Freshman Seminar	BRE2031	Environmental Science	
GUR	Healthy Lifestyle (0)	BRE263	Construction Economics & Finance	
Stage 2 (Semester 1) (Total Credits = 18)		**Stage 2 (Semester 2) (Total Credits = 12)**		**Stage 2 (Summer Semester)**
GUR	CAR Subject 3	GUR	Service-Learning	BRE299 Work-Integrated Education (WIE)* (2)
GUR	CAR Subject 4	AMA290	Engineering Mathematics	
BRE265	Introductory Construction Technology & Materials	BRE262	Project Studio	
BRE349	Building Services I	LSGI2961	Engineering Surveying	
ELC3421	English for Construction & Environmental Professionals			
GUR	Healthy Lifestyle (0)			
CSE20290	Introduction to Geotechnology			
Stage 3 (Semester 1) (Total Credits = 14.25)		**Stage 3 (Semester 2) (Total Credits = 15.25)**		**Stage 3 (Summer Semester) (Total Credits = 0.25)**
CLC3231P	Chinese Communication for Construction & Environment	BRE302	Structure II	BRE365 International Study** (0.25)
BRE204	Structure I	BRE326	Maintenance Technology & Management	
BRE350	Project Management & Procurement	BRE345	Measurement, Documentation & Estimating	
BRE365	International Study** (0.25)	BRE364	Construction Contract Law & Administration	
BRE366	Analytical Skills & Methods (2)	BRE365	International Study** (0.25)	
BRE370	Intermediate Construction Technology & Materials			
		Elective##	Subject 1	

Stage 4 (Semester 1) (Total Credits = 13.75)		**Stage 4 (Semester 2) (Total Credits = 16.5)**		
BRE365	International Study** (0.25)	BRE426	Geotechnical & Foundation Engineering	
BRE4393	Temporary Work Design (1.5)	BRE4281	Construction Engineering Management	
BRE453	Building Services II	BRE4393	Temporary Work Design (1.5)	
BRE461	Environmental Impact & Assessment	BRE462	Advanced Construction Technology	
BRE466	Capstone Project[#] (3)	Elective[##]	Subject 2	
BRE470	Information Technology & Building Information Modelling for Construction	BRE466	Capstone Project[#] (3)	

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

** 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.

BEM students are required to opt **2** elective subjects. . All BRE 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.

Progression Pattern Summary (2021-2022) ***121 academic credits + 2 training credits (WIE) = 123 credits**
BSc(Hons) in Property Management

Stage 1 (Semester 1) (Total Credits = 15)		**Stage 1 (Semester 2) (Total Credits = 18)**		**Stage 1 (Summer Semester)**
GUR	LCR Subject 1 (ELC)	GUR	LCR Subject 3 (ELC)	BRE299 Work-Integrated Education (WIE)* (2)
GUR	LCR Subject 2 (CLC)	APSS1L01	Leadership & Intra-Personal Development – Tomorrow's Leaders	
GUR	CAR Subject 1	AMA1110	Basic Mathematics I	
GUR	CAR Subject 2	BRE258	Industrial Safety I (1)	
BRE1000	BRE Freshman Seminar	BRE2031	Environmental Science	
GUR	Healthy Lifestyle (0)	BRE263	Construction Economics & Finance	
Stage 2 (Semester 1) (Total Credits = 15)		**Stage 2 (Semester 2) (Total Credits = 15)**		**Stage 2 (Summer Semester)**
GUR	CAR Subject 3	GUR	Service-Learning	BRE299 Work-Integrated Education (WIE)* (2)
GUR	CAR Subject 4	CLC3231P	Chinese Communication for Construction & Environment	
BRE265	Introductory Construction Technology & Materials	BRE206	The Legal Context of Construction & Real Estate (CRE)	
BRE349	Building Services I	BRE217	Planning & Development	
ELC3421	English for Construction & Environmental Professionals	BRE262	Project Studio	
GUR	Healthy Lifestyle (0)			
Stage 3 (Semester 1) (Total Credits = 14.25)		**Stage 3 (Semester 2) (Total Credits = 15.25)**		**Stage 3 (Summer Semester) (Total Credits = 0.25)**
BRE315	Property Valuation	BRE326	Maintenance Technology & Management	BRE365 International Study** (0.25)
BRE350	Project Management & Procurement	BRE337	Property Law	
BRE365	International Study** (0.25)	BRE362	Urban Economics & Property Investment	
BRE366	Analytical Skills & Methods (2)	BRE365	International Study** (0.25)	
BRE371	Introduction to Property Management	BRE471	Advanced Property Management	
BRE397	Property Management Accounting			
		Elective##	Subject 1	

Stage 4 (Semester 1)	**(Total Credits = 15.25)**	**Stage 4 (Semester 2)**	**(Total Credits = 15)**	
BRE365	International Study** (0.25)	BRE431	Housing Studies	
BRE427	Applied Property Investment			
BRE4291	Real Estate Marketing	BRE437	Facility Management	
		BRE466	Capstone Project[#] (3)	
BRE463	Business Valuation & Accounts			
BRE465	Asset Management	Elective[##]	Subject 2	
BRE466	Capstone Project[#] (3)	Elective[##]	Subject 3	

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

** 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.

[##] PMT students are required to opt **3** elective subjects. in the Semester All BRE 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 subject to subject offering, the fulfilment of any pre-requisite or co-requisite requirements and time-table constraints.

The PMT students can also opt the following subjects offered by the Department of APSS, in addition to or in lieu of BRE electives:

APSS118	Self Understanding and Communication Skills
APSS4522	Health Policy
APSS4531	Current Management Issues Practices and Issues in Human Services Organizations

Progression Pattern Summary (2021-2022) ***121 academic credits + 2 training credits (WIE) = 123 credits**
BSc (Hons) in Surveying

Stage 1 (Semester 1) (Total Credits = 15)		**Stage 1 (Semester 2) (Total Credits = 16)**		**Stage 1 (Summer Semester)**
GUR	LCR Subject 1 (ELC)	GUR	LCR Subject 3 (ELC)	BRE299 Work-Integrated Education (WIE)* (2)
GUR	LCR Subject 2 (CLC)	APSS1L01	Leadership & Intra-Personal Development – Tomorrow's Leaders	
GUR	CAR Subject 1	BRE2031	Environmental Science	
GUR	CAR Subject 2	BRE263	Construction Economics & Finance	
BRE1000	BRE Freshman Seminar	AMA1110	Basic Mathematics I	
GUR	Healthy Lifestyle (0)	BRE258	Industrial Safety I (1)	
Stage 2 (Semester 1) (Total Credits = 15)		**Stage 2 (Semester 2) (Total Credits = 15)**		**Stage 2 (Summer Semester)**
GUR	CAR Subject 3	GUR	Service-Learning	BRE299 Work-Integrated Education (WIE)*
GUR	CAR Subject 4	CLC3231P	Chinese Communication for Construction & Environment	
BRE265	Introductory Construction Technology & Materials	BRE206	The Legal Context of Construction & Real Estate (CRE)	
BRE349	Building Services I	BRE217	Planning & Development	
ELC3421	English for Construction & Environmental Professionals	BRE269	Integrated Professional Workshop I	
GUR	Healthy Lifestyle (0)			

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

Stage 3 (Semester 1) **(Total Credits for BS and QS Disciplines = 17.25)** **(Total Credits for GP, PD and PFM Disciplines = 17.25)**		**Stage 3 (Semester 2)** **(Total Credits for BS Discipline= 15.25)** **(Total Credits for QS Discipline = 12.25)** **(Total Credits for GP, PD and PFM Disciplines = 15.25)**		**Stage 3 (Summer Semester)** **(Total Credits = 0.25)**
BRE336 BRE350 BRE365 BRE366	Development Control Law Project Management & Procurement International Study** (0.25) Analytical Skills & Methods (2)	BRE326 BRE365 BRE369	Maintenance Technology & Management International Study** (0.25) Integrated Professional Workshop II	BRE365 International Study** (0.25)
BS and QS Discipline-Specific Subjects[#1]		**BS Discipline-Specific Subjects**[#1]		
BRE204 BRE363 BRE370	Structure I Construction Economics Intermediate Construction Technology & Materials	BRE345 BRE364 Elective[##]	Measurement, Documentation & Estimating Construction Contract Law & Administration Subject 1	
		QS Discipline-Specific Subjects[#1]		
		BRE345 BRE364	Measurement, Documentation & Estimating Construction Control Law & Administration	
GP, PD and PFM Discipline-Specific Subjects[#1]				
BRE315 BRE371 BRE397	Property Valuation Introduction to Property Management Property Management Accounting	BRE337 BRE362 Elective[##]	Property Law Urban Economics & Property Investment Subject 1	

#1 **Surveying students are required to opt <u>ONE</u> 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 <u>prior</u> 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.

Stage 4 (Semester 1) **(Total Credits for BS, GP, PD and PFM Disciplines =15.25)** **(Total Credits for QS Discipline =15.25)**		**Stage 4 (Semester 2)** **(Total Credits for BS, GP, PD and PFM Disciplines = 12)** **(Total Credits for QS Discipline = 15)**		
BRE365 BRE466	International Study** (0.25) Capstone Project[#] (3)	BRE469 BRE466	Integrated Professional Workshop III Capstone Project[#] (3)	
BS Discipline-Specific Elective Subjects				
BRE415 BRE453 BRE461 BRE470	Dispute Resolution Building Services II Environmental Impact & Assessment Information Technology & Building Information Modelling for Construction	BRE435 BRE437	Design, Adaptation & Conversion Facility Management	
QS Discipline-Specific Elective Subjects				
BRE415 BRE453 BRE461 BRE470	Dispute Resolution Building Services II Environmental Impact & Assessment Information Technology & Building Information Modelling for Construction	BRE439 BRE440 BRE442	Engineering Contract Procedures Cost & Value Management Forecasting & Competition in the Built Environment	
GP, PD and PFM Discipline-Specific Elective Subjects		**GP and PFM Discipline-Specific Elective Subjects**		
BRE427 BRE4291 BRE465 BRE463	Applied Property Investment Real Estate Marketing Asset Management Business Valuation and Accounts	BRE418 BRE436	Real Estate Development Applied Property Valuation	
		PD Discipline-Specific Elective Subjects		
		BRE418 BRE464	Real Estate Development Urban Planning	

[##] Surveying students are required to opt **1** elective subject **<u>except QS discipline students</u>**. All BRE 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.

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

2. Admission

The Handbook on Academic Regulations and Procedures of the University governs the admission requirements.

2.1 *Admission directly to the Discipline-Specific Major in*

(i) BSc (Hons) in Property Management; and
(ii) BSc (Hons) in Surveying

2.1.1 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

- Level 2 in Liberal Studies

AND

- Level 2 of one other elective subject

* There are 7 levels of performance of every subject of HKDSE with Level 5** being the highest and Level 1 being the lowest.

(b) For those applying on the basis of other qualifications:

Details to be referred to the updated Handbook on Academic Regulations and Procedures of the University and to be considered by the Department case by case.

2.1.2 Major (Programme) - Discipline-Specific Entrance Requirements

(a) For Entry with HKDSE qualifications:

No specific subject or additional requirement(s) is required from the applicants of the Major of BSc (Hons) in Property Management and BSc (Hons) in Surveying.

(b) For Entry with other Qualifications:

Details to be considered case by case by the Department and the Departmental Programme Committee in lieu with the Updated Handbook of Academic Regulations and Procedures of the University governing the Admission Requirements.

2.1.3 **Other Information for Entry with HKDSE Qualifications**

There is no preferred subject in the selection process. All subjects will be considered.

Highest weighting (i.e. 10) will be given to English.

2.2 ***Admission directly to the Discipline-Specific Major in***

BSc (Hons) in Building Engineering and Management

2.2.1 **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

- Level 2 in Liberal Studies

AND

- Level 2 of one other elective subject

* There are 7 levels of performance of every subject of HKDSE with Level 5** being the highest and Level 1 being the lowest.

(b) For those applying on the basis of other qualifications:

Details to be referred to the updated Handbook on Academic Regulations and Procedures of the University and to be considered by the Department case by case.

2.2.2 **Major (Programme) - Discipline-Specific Entrance Requirements**

(a) For Entry with HKDSE qualifications:

Preferred subject is Physics or Combined Science with Physics component.
Other additional preferred subjects are the extended modules in Mathematics.

(b) For Entry with Other Qualifications

Details to be considered case by case by the Department and the Departmental Programme Committee in lieu with the Updated Handbook on Academic Regulations and Procedures of the University governing the admission requirements.

2.2.3 **Other Information for Entry with HKDSE Qualifications**

Preferred subjects mentioned in 2.2.2 (a) will be considered in the selection process together with all other subjects and the general minimum entrance requirements. Highest weighting (i.e. 10) will be given to English, Mathematics, Physics and preferred subjects.

2.3 ***Admission Procedures***

- Essentially the admissions will follow the JUPAS system adopted by the tertiary education institutions in Hong Kong SAR. In the case of direct applications to the programme of the Major, the Award Co-ordinator/Programme Leader will be responsible for admission to the Major in conjunction with the Enrolment Officer of the Department.

  All applicants will normally be selected on the basis of academic achievement measured by a 'Level' point score. This will be calculated by counting points for each different subject pass according to the level obtained in the Hong Kong Diploma of Secondary Education (HKDSE).

- Applicants nominated under the Outstanding Sportsmen Recommendation Scheme (OSRS); and the JUPAS Sub-system for School Principal's Nominations (SPNS); other HKDSE applications with outstanding extra-curriculum activities/achievement and other Non-JUPAS applicants are to be referred to the section on admission, contained therein in the updated Handbook on Academic Regulations and Procedures.

2.4 ***Alternative Entry Route with Credit Transfer***

Details are to be referred to the Updated Academic Handbook and applications. Applications will be considered case by case subject to the availability of appropriate vacancy in the relevant programme(s) of Major(s) or in the Broad Discipline.

2.5 ***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 prevalent regulations and procedures stipulated by the University from time to time. The University's Academic Regulations and Procedures for the 4-year Undergraduate Degree Majors (Programmes) govern the transfer of study within the University and between institutions

(b) About 5% of the student intake may transfer between programmes of Majors within the BSc (Hons) Scheme in Building and Real Estate (BRE Scheme), subject to the availability of places. Application of transfer should be made on passing stage 1 study only. 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 BRE Scheme.

Part II
Curriculum Design

3. University Framework on Curriculum Design of the PolyU 4-year 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 BRE 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 4-Year Undergraduate Degree Curriculum

The overarching goal of the 4-year undergraduate degree curriculum 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 the two main learning outcomes of 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 and problem-solving abilities, creativity and innovation, communication and language skills, global outlook, leadership and teamwork skills, entrepreneurship, cultural appreciation, social and national responsibility, healthy lifestyle and lifelong learning capability.

Underlying Principles in Designing the 4-Year Undergraduate Degree Structure

The ultimate aim of the new 4-year undergraduate degree structure 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,
- nurture students to be critical thinkers, effective communicators, innovative problem solvers, lifelong learners and ethical leaders, and
- 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 4-Year Undergraduate Degree Curriculum

Outcome-Based Education (OBE)

In line with PolyU's continued commitment to OBE, the provisions of General University Requirements, broad discipline curriculum 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 need.

General University Requirements (GUR)

The 30 credits of GUR will be distributed as follows:-

Areas	**Credits**
▪ Freshman Seminar	3
▪ Language & Communication Requirements (LCR)	9
o English	(6)
o Chinese	(3)
o Leadership and Intra-personal Development	3
▪ Service-Learning	3
▪ Cluster-Area Requirements (CAR)	12
• 3 credits from each of the following 4 cluster areas	
o Human Nature, Relations and Development	(3)
o Community, Organisation and Globalisation	(3)
o History, Cultures and World Views	(3)
o Science, Technology and Environment	(3)
and of which	
• A minimum of 3 credits on subjects designated as "China-related"	
▪ Healthy Lifestyle (non-credit bearing)	Nil
Total GUR credits	30

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

These four aspects are addressed in the four 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) in English (6 credits) and Chinese (3 credits)
(ii) Writing Requirement (W)
(iii) Reading Requirement (R)
(iv) Discipline-specific Language Requirements

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 DSR, according to the needs of their discipline. Requirements in writing and oral communication can further be integrated into students' professional studies and assessed accordingly.

Students will be required to take suitable languages subjects with reference to their HKDSE 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), or whose Chinese standards are at junior secondary level or below, will also be subject to LCR-Chinese requirements. Different Chinese subjects will be designed and offered to suit the language background and standard of these groups of students. They will, however, by default be exempted from the Reading and Writing Requirements in Chinese and the Discipline-Specific Language Requirement in Chinese.

The implementation details of LCR are given under item (a) of the *University Graduation Requirements* attached as Section 3.2 and 3.2.1 of this Programme Requirement Document (PRD).

Cluster-Area Requirements (CAR)

Students have to choose and successfully complete a total of 12 credits from CAR subjects according to their own interests, with 3 credits to be selected from each of the 4 cluster areas.

To develop a deeper understanding of Chinese cultural heritage and contemporary Chinese society, students have to complete at least 6 credits of CAR subjects which are designated as "China-related" from any of the 4 cluster areas.

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 [please also refer to items (e) and (f) of Section 3.2 and Section 3.2.1].

Other GUR Subjects

Students must complete 9 other credits under GUR, including 3 credits each on Leadership and Intra-personal Development, Service-Learning, and Freshman Seminar respectively. In addition, all students must complete a non-credit bearing requirement on Healthy Lifestyle [please refer to items (b), (c), (d), and (g) of Section 3.2 for further details].

Leadership and Intra-Personal Development

All students must successfully complete one 3-credit subject in the area of Leadership and Intra-Personal Development, which is designed to enable students to (1) understand and integrate theories, research and concepts on the qualities (particularly intra-personal and interpersonal qualities) of effective leaders in the Chinese context, (2) develop greater self-awareness and a better understanding of oneself, (3) acquire interpersonal skills essential for functioning as an effective leader, (4) develop self-reflection skills in their learning, and (5) recognise the importance of the active pursuit of knowledge on an intra-personal and interpersonal level and its relationship to leadership qualities.

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.

Freshman Seminars

All Broad Disciplines are required to offer a mandatory 3-credit Freshman Seminar with the following common objectives:-

- Introducing students to their chosen disciplines in their freshman year, and enthusing them about their Major study.
- Cultivating students' creativity and problem-solving abilities, and global outlook.
- Exposing students to the concepts and an understanding of entrepreneurship.
- Engaging students, in their first year of study, in desirable forms of learning at a university setting that emphasises self-regulation, autonomous learning and deep understanding.

All Freshman Seminars should be designed with the following desired features and components:-

a. Content:
   - Inspirational lectures/talks by chair professors, reputable professionals or world-class researchers in the discipline to enthuse students about their major study.
   - Innovative curricular components or activities that foster students' development of PolyU's desired graduate attributes, particularly in the areas of creativity, problem solving, entrepreneurship and global outlook.

b. Learning and teaching:
   - A significant seminar/workshop component in small groups to provide ample opportunities for staff-student and student-student interactions, and;
   - A freshman project that requires students to inquire into a discipline-related issue/problem, and design a product or solution to effectively address it.

c. Assessment:
   - Assessing students' performance using a letter-grading system.

Where appropriate, Broad Disciplines are encouraged to collaborate with academic staff from other Faculties/Schools (e.g. Faculty of Business in the area of entrepreneurship, School of Design in design-related projects) to provide instruction and guidance to students on the relevant topics.

Discipline-Specific Requirements (DSR)

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 in DSR for students to complete 2 subjects (each of minimum 2 credits) which contain the necessary embedded language requirements in English and in Chinese (section 3.2.1 referred for details).

Work Integrated Education (WIE)

All programmes shall include the mandatory requirement for WIE.

Capstone Project

All programmes are required to include in its DSR 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:-

- critical thinking and problem-solving ability,
- creativity and innovation,
- global outlook,
- leadership and teamwork skills,
- entrepreneurship, and;
- ethical, social and national responsibilities.

A summary of the curriculum structure and graduation requirements for 4-year full-time undergraduate programmes (based on a single discipline Major) is given in Section 3.2 and 3.3.

3.2 ***University Graduation Requirements for 4-year Full-time Undergraduate Degree offered from 2012/13 onward***

All candidates qualifying for a 4-year Full-time Undergraduate Degree offered from 2012/13 onward must meet:-

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

The minimum University Graduation Requirements are explained in the sections below. For the graduation requirements of specific programmes of study (Majors 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 4-year 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 mandatory Work-Integrated Education (WIE) component as specified by their programme/major.

4. Satisfy the following requirements in general education:-

(a) Language and Communication Requirements	9 credits
(b) Freshman Seminar	3 credits
(c) Leadership and Intra-Personal Development	3 credits
(d) Service-Learning	3 credits
(e) Cluster Areas Requirement (CAR)	12 credits
(f) China Studies Requirement	(3 of the 12 CAR credits)
(g) Healthy Lifestyle	Non-credit bearing
	Total = 30 credits

(a) Language and Communication Requirements (LCR)

English

All undergraduate students must successfully complete two 3-credit English language subjects as stipulated by the University (Table 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 2 (based on an assessment by ELC) may apply for subject exemption or credit transfer of the LCR subject or subjects concerned.

Table 1: English LCR Subjects (3 credits each)

	Subject		
English language competence level	**Practical English for University Studies (ELC1011)**	**English for University Studies (ELC1012/ELC1013)**	**Any LCR Proficient level elective subject in English (Table 2)**
HKDSE Level 4 and above or equivalent	--	Subject 1	Subject 2
HKDSE Level 3 or equivalent	Subject 1	Subject 2	--

Table 2: 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 4). 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 (Table 7) 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" as listed in Table 4 (based on an assessment made by CLC) may apply for subject exemption or credit transfer of the LCR subject concerned.

Table 4: 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 2 will be pre-assigned to you as Chinese LCR. You are also exempted from the Chinese Reading and Writing Requirements of CAR.

Table 5: Chinese LCR Subjects for non-Chinese speakers or students whose Chinese 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 can be given credit transfer or exemption for the LCR Chinese 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 other subject to make up the credits. For details, please consult your programme offering department.

Writing Requirement

In additional to the LCR in English and Chinese explained above, all students must also, among the Cluster Areas Requirement (CAR) subjects they take (see section (e) below), 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://www2.polyu.edu.hk/as/Polyu/GUR/index.htm

Non-Chinese speakers and those students whose Chinese standards are at junior secondary level or below will by default be exempted from the DSR-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 Chinese LCR.

Note: In addition to the LCR in General Education Requirements, students also have to complete 4 credits of discipline-specific language requirements (2 credits in English and 2 credits in Chinese) as specified in the curriculum requirements of their Major.

(b) Freshman Seminar

All students must successfully complete, normally in their first year of study one 3-credit of Freshman Seminar. The purpose is to (1) introduce students to their chosen discipline and enthuse them about their major study, (2) cultivate students' creativity, problem-solving ability and global outlook, (3) give students an exposure to the concepts of, and an understanding of, entrepreneurship, and (4) engage students, in their first year of study, in desirable forms of university learning that emphasises self-regulation, autonomous learning and deep understanding.

(c) Leadership and Intra-Personal Development

All students must successfully complete one 3-credit subject in the area of Leadership and Intra-Personal Development, which is designed to enable students to (1) understand and integrate theories, research and concepts on the qualities (particularly intra-personal and interpersonal qualities) of effective leaders in the Chinese context, (2) develop greater self-awareness and a better understanding of oneself, (3) acquire interpersonal skills essential for functioning as an effective leader, (4) develop self-reflection skills in their learning, and (5) recognise the importance of the active pursuit of knowledge on an intra-personal and interpersonal level and its relationship to leadership qualities.

A list of designated subjects for meeting the leadership and intra-personal development requirement is available at: www.polyu.edu.hk/ogur/GURSubjects/LIPD.php

(d) 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.

These subjects may take the form of:-

- An open-to-all GUR service-learning subject,
- A GUR service-learning subject targeted for a particular student group (e.g. a Broad Discipline), or
- A customised DSR 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 DSR 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://www2.polyu.edu.hk/as/Polyu/GUR/index.htm

(e) 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 in each of the following four Cluster Areas:-

- Human Nature, Relations and Development
- Community, Organisation and Globalisation
- History, Culture and World Views
- Science, Technology and Environment

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

(f) China Studies Requirement

Of the 12 credits of CAR described in (e) above, students are required to successfully complete a minimum of 3 credits on CAR subjects designated as "China-related". The purpose is to enable students to gain an increased understanding of China (e.g., its history, culture and society, as well as emerging issues or challenges).

A list of approved CAR subjects for meeting the China Studies Requirement is available at: www.polyu.edu.hk/ogur/GURSubjects/LIPD.php

(g) Healthy Lifestyle

Healthy lifestyle is the platform for all-round development. All students are required to successfully complete a non-credit-bearing programme in healthy lifestyle offered by the Student Affairs Office. The programme will cover: (1) fitness evaluation, (2) concepts on health and fitness, (3) sports skills acquisition, and (4) exercise practicum. More details can be found at: http://www.polyu.edu.hk/sao/hlr

3.2.1 Languages Requirements for Writing, Reading, and Embedded in DSR

Writing Requirement (W)

All students are required to pass one subject that includes a requirement for a substantial piece of writing in English and one subject with a requirement for a substantial piece of writing in Chinese among those taken within their CAR programme. These subjects will be given a "W" designation.

In order for a CAR subject to be eligible for "W" designation, it must include an extensive piece of writing (2,500 words for English, 3,000 characters for Chinese).

In order to be eligible for "W" credit for the subject, students will be required to participate in instructional activities (e.g. lecture, small-group tutorials) which will provide them with in-depth training/assistance in the writing assignment. These activities will be organized and conducted by ELC/CLC staff, in consultation with the instructor of the course. This piece of writing, as well as the performance of the students in the related activities, will be graded jointly by the subject instructor and the ELC/CLC staff member and will count for a substantial proportion of the final grade for the subject, with the precise weighting determined by the subject instructor.

Any subject instructor who wishes to provide his/her own instructional activities to fulfil the "W" requirement without participation from ELC/CLC staff must receive prior approval from the office of VP(AD).

Reading Requirement (R)

All students are required to pass one subject that includes a requirement for reading of an extensive text in English and one subject with a requirement for reading of an extensive text in Chinese among those taken within their CAR programme. These subjects will be given an "R" designation.

In order for a CAR subject to be eligible for "R" designation, it must include a reading of an extensive text (100,000 words or 200 pages). If appropriate, the reading requirement can be fulfilled by the reading of a small number (but no more than 4) of manuscripts/texts with the same total word/page count.

In order to be eligible for "R" credit for the subject, students will be required to participate in instructional and assessment activities which will assist students to acquire the appropriate reading skills and to demonstrate their understanding of the extensive text. These activities will be organized and conducted in consultation with ELC/CLC staff. The assessment of the reading assignment will count for a substantial proportion of the final grade for the subject.

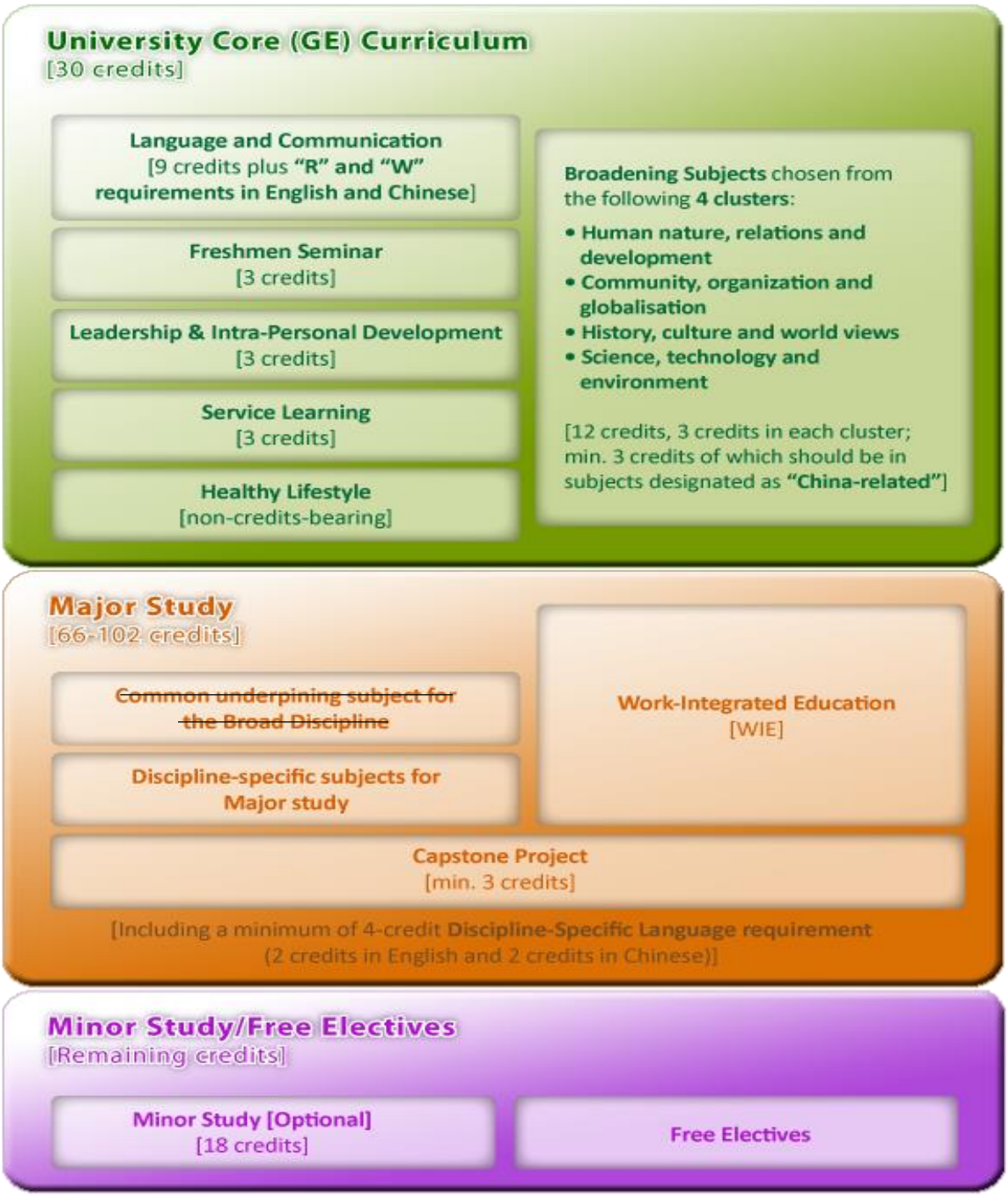
Discipline-Specific Language Requirement

In order to ensure that graduating students are able to operate effectively as entry-level professionals in their chosen discipline, students will be required (in addition to the LCR and Reading and Writing Requirements) to take at least two 2-credit subjects in DSR in which students are required to do a significant assignment (e.g. written report, oral presentations, lecture or seminar) using language in a disciplinary setting. One of these courses would involve English while the other would involve Chinese. These subjects would include a substantial assessed product, in spoken or written form, that would be assessed for the appropriateness and accuracy of the language used.

Such subjects, informed by needs analysis, would be developed collaboratively by the ELC/CLC, and ELC/CLC staff would be involved in teaching and assessment of the language skills in learning the subjects.

Rigorous approval mechanism at the University level would be in place to identify subjects with "W" label and "R" label and also those discipline-specific subjects with embedded language requirements.

3.3 ***Curriculum Structure and Graduation Requirements for 4-year undergraduate programmes (applicable to a single discipline Major, or a Major plus a Minor)***



Note: The minimum credit requirement for graduation is 120.

4. Curriculum Design: General University Requirements

General University Requirements (GUR) Structure

	GUR Requirements	**Credits**
1.	Language and Communication Requirements (LCR) plus "R" (Reading) and "W" (Writing) requirements in English and Chinese for Cluster Areas Requirements (CAR)	9
2.	Healthy Lifestyle	Non-credit bearing
3.	Cluster Areas Requirements • A minimum of 3 credits from each of the 4 cluster areas:- - Human Nature, Relations & Development - Community, Organization & Globalization - History, Culture and World News - Science, Technology and Environment	12 (min. 3 credits of which should be in subjects designated as "China-related") ***Students must also fulfil the Reading and Writing requirements in English and Chinese***
4.	Freshman Seminar	3
5.	Leadership and Intra-personal Development	3
6.	Service-Learning* *Students are required to take 3 credits of "free electives" prior to its full implementation.	3
	Total	***30 credits***

5. Curriculum Design of the Discipline-Specific 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:-

<u>The Construction and Real Estate Industry</u>

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 modem 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 modem, 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 BRE 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, BSc (Hons) in Property 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 Discipline-Specific Major in Property Management

5.1 *Programme Philosophy*

Origins of the Programme

The Department has been offering a variety of property and construction related education for more than 60 years. BSc (Hons) in Property Management was first offered by the Department of BRE in 2005. It was the first and foremost full-time programme related to the profession of property management targeted at JUPAS students and funded by UGC whilst other tertiary institutions in Hong Kong were offering only part-time courses to practitioners then. The 4-year curriculum of Property Management is resonant to the 3-year one with improved demands for sustainable built environment and the complexity of the nature of the profession.

The Property Management Profession

Property management aims primarily to provide owners, tenants and users with a pleasant and comfortable living and/or working environment and to maintain the common area of the buildings properly to ensure safety and general well-being for owners, tenants and the public. The profession was one of the few sectors burgeoning in the past years when the economy was slow. More and more people have joined the profession. As public awareness of the importance of property management continues to increase, the demand for registered professional property managers grows rapidly.

The construction and property sectors have always played pivotal role in Hong Kong economy. The contribution of real estate in total GDP was 4.6% in 2018. Property sales, development, and related activities account for about 40 percent of Hong Kong's economy. With services typically contributing to more than 90% (93% in 2018) of the GDP, Hong Kong is one of the most services-oriented economy in the world. Together with construction sector, the real estate, professional and business services sector constitute the largest components of the services sector. 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, it not the highest, in the world. Moreover, Hong Kong is ranked 3rd most competitive place in the world (Global competitive report 2019), real estate has been perceived as strategic assets and resources for businesses and the role and responsibilities of property managers is becoming even more significant. Property managers play a key role in managing and up keeping the standard of these expensive properties, creating space that promote organisations and users' performance and competitiveness, as well as enhancing the asset value of their managed properties. Property management also has a positive impact on the community and sustainability of the built environment.

Property managers' careers have always been challenging, and it is 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 property managers with complex challenges. To contribute to the well-beings of the community by providing specialized services in enhancing the built environment, property managers of the future need to be educated in the four inter-woven and inseparable subject areas that underpin the body of knowledge of the real estate management profession: technology, management, urban sustainability policy and economics in the context of land, property and construction. It is anticipated graduates be able to serve the society and deliver their professionalism from a holistic perspective.

Philosophy of the Programme

The curriculum aims to provide a broad based, inter-disciplinary and rigorous undergraduate education in the specific context of property management. The course will highlight interaction & inter-dependence with other professional disciplines of the built environment. Students reading for this degree will benefit from attending common classes with surveying and building engineering and management students in all Levels 1 and 2 subjects and some Levels 3 and 4 subjects with the General Practice Surveying Discipline students. Students will take a wider perspective of the profession of property management extending into facilities management and corporate real estate asset management and understand them as part and parcel of the whole professional spectrum of the built environment.

There has been an ever increasing trend of residential estate developments, each with cluster of buildings around club houses and recreational amenities. There is also increasing demand for property management of large scale office, commercial and retail complexes. Managing high-rise and intensively-used buildings in probably the most densely populated place on earth is further challenged by two characteristics unique to Hong Kong: the variety of mixed and non-compatible uses in a large number of older buildings, and the multifarious property management industry structure brought about by a complicated web of legal and institutional intricacies of property ownership[1]. The recent increased diversity of property type and use such as co-working space, co-living space, data centre etc. and the PropTech development and application has made property management an important, challenging, and interesting profession. There are thus demands for professionals who are well versed in the many facets of property management, of which some are perhaps unique to Hong Kong, also learning from world best practices. The curriculum has thus been designed to cater for the need of educating versatile, multi-talented and multi-skilled property managers for the industry.

[1] Walters, M. and Hastings, E.M. (1998) But is fire the issue …? The problems of managing multiple ownership buildings in Hong Kong, *Property Management*, 16:4, 229-35.

The course prepare graduates to be well versed not only in the social-economic & technological context of property and housing management and their practices, but also on strategic issues on property, facilities and corporate asset management. There are both vertical and horizontal integration throughout the entire curriculum. The first two stage (Level 1 and Level 2) will be common to all undergraduate students. It aims to provide students with an introduction to the profession and industry of building, real estate and property management. It will also provide students with the theoretical underpinning in the major disciplines and components of the course. In addition, students will be required to study language and communication subjects and cluster areas subjects, Freshman seminars, Service-learning and Healthy Life Styles to fulfil the General University Requirements.

From the Stage 3 (Level 3) onwards, subjects taught will be ~~more~~ related to the discipline of property management and real estate. Students will continue with the study of the various aspects of property management that they will have started in the first year. Subjects will be more practical and case-based in nature. In their final year (Level 4), students will be required to complete a capstone project to demonstrate their abilities in conducting research relevant to the profession of property management, and to choose 3 optional subjects. In each of the four years, studies are integrated by courses designed to cover the various aspects of property management, namely: sustainable built environment, economics and finance, urban sustainability policy, management, practice of housing and property management, and technology. Further linkages and consolidation of these subjects are provided by Project Studio, International Study and Capstone Project. Indeed a major characteristic of all our PolyU courses have been their practical nature, and this proposed one is, of course, no exception. In each of the latter three years' of study, the studio-based project and capstone project will be the vehicles for students to apply and synthesize what they will have learnt in various subjects to identify and solve practical problems concerning housing and property management. This will also promote students' understanding of the inter-disciplinary and course specific nature of property management and nurture their "soft" skills in team works.

Having been the largest and the longest provider of building and surveying education in Hong Kong, the Department of Building and Real Estate is well poised to launch this course. The programme will draw from the wide range of subjects already on offer, and the large pool of teaching staff well experienced in teaching and research in property management and in nearly all of the professional disciplines related to it: architecture, building, building surveying, quantity surveying, general practice surveying, urban sustainability policy, urban design and urban planning, construction and real estate economics, construction information technology, etc. the programme will capitalize on the strengths of the Department in the experience, resources and reputation of education services in the industry. We have compared our proposed curriculum with those already on offer in Hong Kong, and with the curricula in housing studies in the UK. Ours would be the most rigorous in breadth and depth of the subject contents, variety of subjects and the contact time of the subjects. We are confident that our curriculum will meet the academic requirements of both the university and the professional institutes.

Graduates are 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.

5.2 *Programme Aims*

The PMT Programme aims to provide students with a broad-based and inter-disciplinary education in the context of property and housing management as well as facilities and corporate asset management and to develop them as all-rounders who can understand and work with the interplay between social, economic, political, legal, technological and commercial issues and problems incidental to the property management. Students are equipped with the ability to identify the issues and to solve the operational problems in property management. It is intended to prepare students for a professional career in property management in Hong Kong and the region with the essential knowledge and prerequisite skills for the profession.

5.3 *Programme Outcomes*

Programme outcomes refer to the intellectual abilities, knowledge, skills and attributes that an all-rounded preferred graduate from PMT 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 Competencies**

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

(i) To apply professional and vocational knowledge in property management, including its operational logistics and multi-disciplinary facets.
(ii) To identify and solve problems in property management practices.
(iii) To communicate effectively with social skills as a competent property manager.
(iv) To practise as a professional property manager in compliance with the legal and ethical requirements of the profession.
(v) To appreciate the multi-disciplinary dimensions of property management practices and the interests of the stakeholders in the industry.
(vi) To explore options for the property management practices with creative and critical mind-set.

5.3.2 **Attributes for All-roundedness**

As all undergraduate programmes are under the BRE 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, BSc (Hons) in Property 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 Discipline-Specific 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.

The construction and property sectors have always played pivotal role in Hong Kong economy. The share of construction in total GDP was 4.3% in 2014. Property sales, development and related activities account for about 40 percent of Hong Kong's economy. With services typically contributing to more than 90% (90% in 2014) of the GDP, Hong Kong is the most services-oriented economy in the world. Together with construction sector, the financial, insurance and real estate (FIRE) sector constitute the largest component of the services sector. 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 policyand 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 increasing privatization driven by the Government through various forms of Public Private Partnership including Private Finance Initiative, 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 BRE 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, BSc (Hons) in Property 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 Discipline-Specific Requirements (DSR) of the Major in Building Engineering & Management

The total credits for graduation on BSc (Hons) in Building Engineering & Management is 121 credits (including GUR 30 credits + DSR 91 credits).

The following shows the proposed distribution of the 91-credit Discipline curriculum (no. of credits in brackets):-

[The 30-credit GUR is not shown in this DSR distribution table.]

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 BRE 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.

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

ILOs of BEM Programme (Category A)	Institutional Learning Outcomes						
	Competent professional	Critical thinker	Effective communicator	Innovative problem solver	Lifelong learner	Ethical leader	Socially responsible global citizen
(i)	X	X	X	X		X	X
（ii）	X	X	X	X	X	X	
(iii)	X	X	X	X		X	
(iv)	X	X		X	X	X	X
(v)	X	X		X		X	
(vi)	X	X	X	X	X	X	
(vii)	X			X	X	X	X
(viii)	X	X	X	X	X	X	
ILOs of BEM Programme (Category B)	Competent professional	Critical thinker	Effective communicator	Innovative problem solver	Lifelong learner	Ethical leader	Socially responsible global citizen
(i)	X	X	X	X			
(ii)	X	X	X	X	X	X	X
(iii)	X	X	X	X	X	X	
(iv)	X			X	X		X
(v)	X	X	X	X		X	
(vi)	X	X	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 30-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. 22 subjects are grouped under the four academic disciplines of Technology, Management, urban sustainability policyand 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".

- 3 subjects on English for Construction and Environmental Professionals, Chinese Communication for Construction and Land Use and Industrial Safety respectively totalling 7 credits together with the 2 electives totalling 6 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 30-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.

Proportions of the five major components:

Figure 1: Pie chart showing the proportions of the 5 major components of the Major in Building Engineering and Management Curriculum for the 91-credit Discipline-Specific Requirements (DSR)

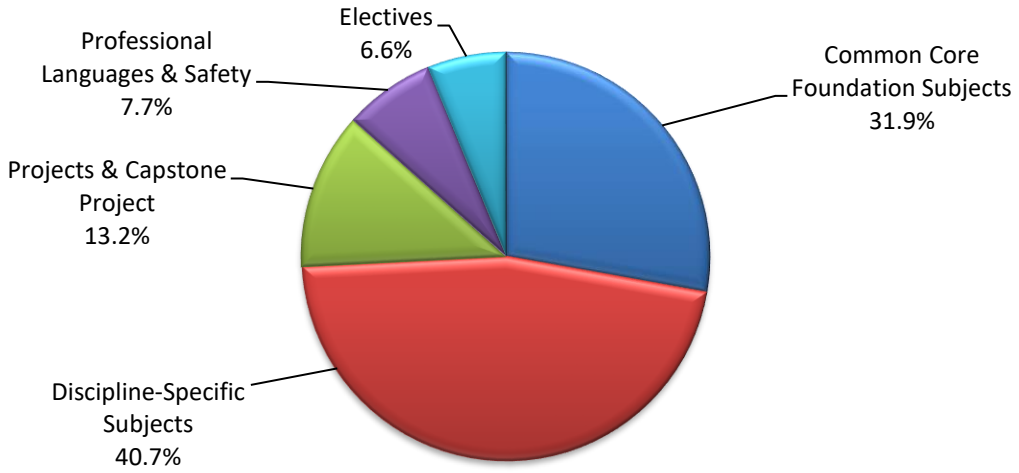
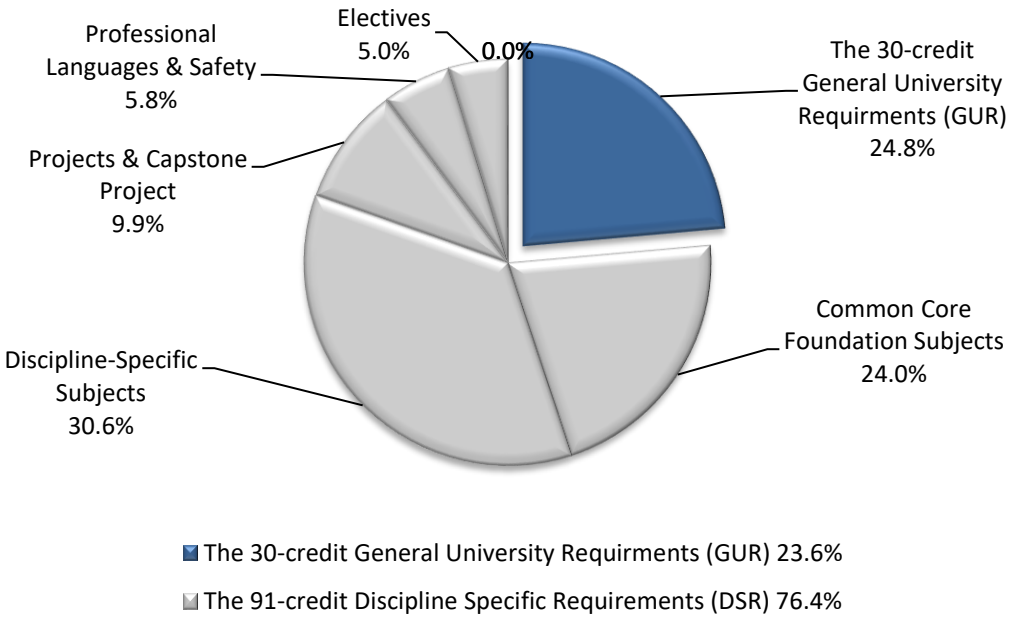


Figure 2: Pie chart showing the proportions of components of the 30-credit General University Requirements (GUR) and the 91-credit Discipline Specific Requirements (DSR) totalling <u>121</u> credits for Graduation of the Major in BSc(Hons) in Building Engineering and Management



6.3 ***Programme Structure & Curriculum***

6.3.1 In Stage 1 to 3 (Level 1 to 3), there are altogether 10 core subjects totally 29 credits grouped under the 3 academic disciplines. These core subjects provide the foundation studies for their respective Stage 3 (Level 3 subjects:-

a. Technology: AMA1110 Basic Mathematics I, 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, BRE326 Maintenance Technology & Management 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.

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, BRE470 Information Technology and Building Modelling for Construction, 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 1 Programme Structure and Curriculum of the Major in Building Engineering and Management (BEM) [Discipline-Specific Requirement (DSR)]

Stage 4 (30 Credits)	BRE426 Geotechnical and Foundation Engineering (3)					
	BRE461 Environmental Impact and Assessment (3)					
	BRE453 Building Services II (3)					
	BRE470 Information Technology & Building Information Modelling for Construction (3)					
	BRE4393 Temporary Work Design (3)					
	BRE462 Advanced Construction Technology (3)			BRE4281 Construction Engineering Management (3)	BRE466 Capstone Project (6)	
Stage 3 (30 Credits)	BRE326 Maintenance Technology and Management (3)					Elective Subject 1 (3) *
	BRE370 Intermediate Construction Technology & Materials (3)					
	BRE302 Structure II (3)		BRE364# Construction Contract Law & Administration (3)		BRE366# Analytical Skills and Methods (2)	
	BRE204# Structure I (3)	BRE345 Measurement, Documentation and Estimating (3)		BRE350# Project Management & Procurement (3)	BRE365 International Study (1)	CLC3231P Chinese Communication for Construction and Environment (3)
Stage 2 (21 Credits)	BRE349# Building Services I (3)					
	LSGI2961# Engineering Surveying (3)					
	CSE290 Introduction to Geotechnology (3)					
	BRE261# Construction Technology and Materials I (3)					
	AMA290 Engineering Mathematics (3)				BRE262 Project Studio (3)	ELC3421 English for Construction & Environmental Professionals (3)
Stage 1 (10 Credits)	AMA1110# Basic Mathematics I (3)	BRE263# Construction Economics and Finance (3)				IC358 Industrial Safety I (1)
	BRE2031# Environmental Science (3)					
91 Credits	**Technology**	**Real Estate Economics**	**Law**	**Management**	**Projects and Capstone Project**	**Professional Languages, Safety, and Electives**
	51 Credits	6 Credits	3 Credits	6 Credits	12 Credits	13 Credits

* BEM students are required to opt 2 elective subjects (E).
All BRE 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 BRE Department (exclusive of subjects offered by APSS), subject to the fulfilment of any pre-requisites and co-requisites requirements and time-table constraints.

\# 10 common core subjects, provide the foundation subjects with a total of 29 credits.

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 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	AMA1110	AMA290	CSE20290	LSGI2961						
A1	To possess knowledge of building engineering principles, processes and methods for the successful completion of all types of construction projects	IA	I	IA					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															
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					IA	IA						
A6	To evaluate alternative strategic options		IR							I						

	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	AMA1110	AMA290	CSE20290	LSGI2961						
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			IA	IA	IA						
B2	To have an understanding of professional, social and ethical responsibilities				IA											
B3	To communicate effectively	IA	I	IA	IA	IA		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										
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	BRE350	BRE370	BRE364	BRE365	BRE366	CLC3231P	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		RA				IR					
A2	To use the techniques, skills and engineering principles for different types of construction	IRA		IA	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			RA	I	RA	RA									
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		RA								
A6	To evaluate alternative strategic options	R	IA		RA	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	BRE326	BRE345	BRE349	BRE350	BRE370	BRE364	BRE365	BRE366	CLC3231P	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	A	IR	RA	RA	A			IR					
B2	To have an understanding of professional, social and ethical responsibilities	I					I		IA									
B3	To communicate effectively		I	IA	RA	A		RA	RA	A	IRA	IRA	IRA					
B4	To reflect on knowledge gap for life time learning							R	I	IRA								
B5	To contribute as team member and to lead effectively	R	I		RA	A	R		RA									
B6	To identify contemporary issues		I		I		IRA	R	R	A			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	BRE470									
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		IR									
A2	To use the techniques, skills and engineering principles for different types of construction	IRA	R		RA	RA	RA	A	RA									
A3	To apply construction management knowledge and skills in personnel, financial and operational practices and communication aspects required for efficient building production		RA				R		A									
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	R									
A6	To evaluate alternative strategic options			RA		RA	R	RA										
A7	To select appropriate construction materials, practices and methods in compliance with sustainable development			IRA		RA	RA	R										

	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	BRE470									
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	IA									
B2	To have an understanding of professional, social and ethical responsibilities				R	RA												
B3	To communicate effectively		RA	A			RA	A	A									
B4	To reflect on knowledge gap for life time learning		R				R	IRA	I									
B5	To contribute as team member and to lead effectively	RA				R	R		A									
B6	To identify contemporary issues		R		R	R	RA	A	R									

*(E) = Elective

6. Intended Learning Outcomes (ILOs), Programme Structure and Curriculum Mapping of the Discipline-Specific Requirements (DSR) of the Major in Property Management

The total credits for graduation on BSc (Hons) in Property Management is 121 credits (including GUR 30 credits + DSR 91 credits).

The following shows the proposed distribution of the 91-credit Discipline curriculum (no. of credits in brackets):-

[The 30-credit GUR is not shown in this DSR distribution table.]

6.1 *Intended Learning Outcome of PMT 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 apply professional and vocational knowledge in property management, including its operational logistics and multi-disciplinary facets.
(ii) To identify and solve problems in property management practices.
(iii) To communicate effectively with social skills as a competent property manager.
(iv) To practice as a professional property manager in compliance with the legal and ethical requirements of the profession.
(v) To appreciate the multidisciplinary dimensions of property management practices and the interests of the stakeholders in the industry.
(vi) To explore options for the property management practices with creative and critical mind-set.

B. Attributes for All-roundedness

As all undergraduate programmes are under the BRE 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.

Relationship between the programme intended learning outcomes (PILOs) of the PMT and the Institutional learning outcomes of PolyU

ILOs of PMT Programme (Category A)	Institutional Learning Outcomes						
	Competent professional	Critical thinker	Effective communicator	Innovative problem solver	Lifelong learner	Ethical leader	Socially responsible global citizen
(i)	X	X		X		X	
（ii）	X	X		X	X		
(iii)	X	X	X	X			
(iv)	X	X		X	X	X	X
(v)	X	X	X	X		X	X
(vi)	X	X	X	X	X		
ILOs of PMT Programme (Category B)	Competent professional	Critical thinker	Effective communicator	Innovative problem solver	Lifelong learner	Ethical leader	Socially responsible global citizen
(i)	X	X	X	X			
(ii)	X	X	X	X	X	X	X
(iii)	X	X	X	X	X	X	
(iv)	X			X	X		X
(v)	X	X	X	X		X	
(vi)	X	X	X	X		X	X

6.2 ***Components of the Property Management Discipline-Specific Curriculum (exclusive of the 30-credit General University Requirements)***

The 91-credit Discipline-Specific Curriculum of the Major in Property Management comprises four essential components, evenly distributed into four years of study:

Compulsory (Core) Subjects

- 21 Core subjects totalling 63 credits grouped under the four academic disciplines of Technology, Real Estate, Economics, Urban Sustainability Policyand Management.

- 1 Project Studio, 1 International Study and 1 Capstone Project together with Analytical Skills & Methods totalling 12 credits grouped under the category of Projects & Capstone Project.

- 3 subjects on English for Construction and Environmental Professionals, Chinese Communication for Construction and Land Use and Industrial Safety respectively totalling 7 credits together with 3 electives totalling 9 credits grouped under the last column of Professional Languages, Safety and Electives.

Electives

In the final stage of the programme, the BSc (Hons) in Property Management students will choose three electives from a list of specialist electives offered by the Department. Students are given guidance in the choice of specialist subjects so that a coherent package is identified and they are encouraged to make their selections relevant to a prospective career and life-long learning development. The Department reserves the right of not offering all the electives or varying the electives each year.

3 Elective subjects totalling 9 credits grouped under “Professional Languages, Safety & Electives” are sourced under the academic disciplines of Technology, Real Estate, Economics, Urban Sustainability Policyand Management.

Projects and Capstone Project

The challenges as well as the opportunities presented to the property management profession are many and varied. Other than assignments and readings, students will be required to synthesis what they will have learnt by tackling practical problems. Stage 2 will start off with a 3-credit Project Studio. Students will be introduced the inter-disciplinary and inter-sectoral nature of the property and construction industry in general, and the property management profession in particular. That will move into a 6-credit Capstone Project and International Study in the Stage 3. Students will be required to identify and solve problems in a professional context. It would involve the application of knowledge and skills of the property management discipline. In addition, students will be required to organize, manage and undertake an international study either in form of an international tour or a comparative study report, whereby they will either travel to a city or a few cities overseas to compare and contrast their property and construction sectors with Hong Kong or a comparative study on property management between Hong Kong and other city/cities. The practical studies will culminate in their Capstone Project whereby students will be required to identify and resolve practice oriented cases or a research type project.

In addition to Project Studio and International Study, all students are required to take the 16-credit Capstone Project together with the 2-credit Analytical Skills & Methods. Students will be prepared with 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 present their studies/findings of their Capstone Project. 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 property management profession and of particular concern to the local and its neighbouring environments.

Professional English & Chinese and Safety Subjects

Last but not least are the professional English & Chinese and safety subjects that collectively make up 7.2% of the Discipline-Specific Curriculum of the Major in Property Management. It is the Faculty and Discipline-Specific Requirements that students take the English and Chinese subjects to enhance their communication skills in English and Chinese for their 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 30-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.

Proportions of the five major components:

Figure 1: Pie chart showing the proportions of the 5 major components of the Major in Property Management Curriculum for the 91-credit Discipline-Specific Requirements (DSR)

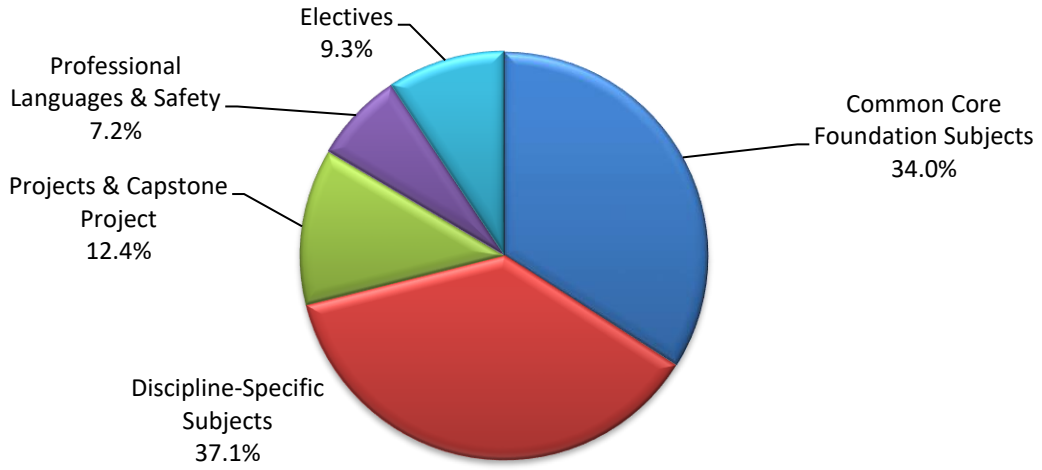
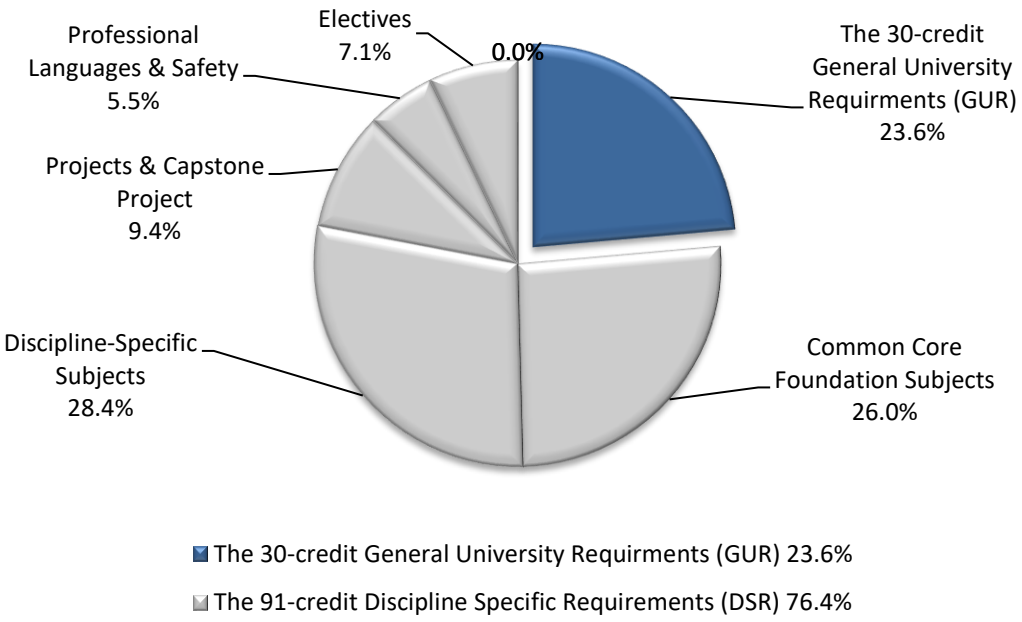


Figure 2: Pie chart showing the proportions of components of the 30-credit General University Requirements (GUR) and the 91-credit Discipline Specific Requirements (DSR) totalling <u>121</u> credits for Graduation of the Major in BSc(Hons) in Property Management



6.3 ***Programme Structure & Curriculum***

6.3.1 In Stage 1 to 2 (Level 1 to 3), there are altogether 8 core subjects totalling 24 credits grouped under the 4 academic disciplines. These core subjects provide the foundation studies for their respective Stage 3 (Level 3) subjects:

a. Technology: AMA1110 Basic Mathematics I, BRE2031 Environmental Science, BRE265 Introductory Construction Technology & Materials and BRE349 Building Services I are foundation subjects for BRE326 Maintenance Technology and Management.

b. Real Estate Economics: BRE263 Construction Economics & Finance is the foundation subject for BRE362 Urban Economics & Property Investment and BRE397 Property Management Accounting. and BRE217 Planning & Development introduces the urban planning and land development processes. It provides the contextual study for the land, property and construction professions. It is further enhanced by BRE431 Housing Studies.

c. Urban Sustainability Policy: BRE206 The Legal Context of CRE is the foundation subject for all the Urban Sustainability Policy subjects offered later, for example BRE336 Development Control Law and BRE337 Property Law.

d. Management: BRE350 Project Management & Procurement, BRE341 Property Management I, BRE471 Advanced Property Management and BRE437 Facility Management.

6.3.2 In Stage 3 (Level 3), students will explore specific knowledge areas related to property management. In order to broaden their horizons, a variety of property and construction related subjects are offered such as property management and property investment.

6.3.3 In Stage 4 (Level 4), students will focus and further be enhanced on real estate & property economics and management with such core subjects like BRE4291 Real Estate Marketing, BRE427 Applied Property Investment, BRE465 Asset Management, BRE463 Business Valuation & Accounts. Moreover, students will choose 3 elective subjects. Each elective subject will reinforce the professional knowledge in property management.

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

Table 1 Programme Structure and Curriculum of the Major in Property Management (PMT) [Discipline-Specific Requirement (DSR)]

Stage 4 (30 Credits)						
		BRE427 Applied Property Investment (3)				
		BRE4291 Real Estate Marketing (3)		BRE431 Housing Studies (3)		Elective Subject 3 (3) *
		BRE463 Business Valuation and Accounts (3)		BRE437 Facility Management (3)		Elective Subject 2 (3) *
		BRE465 Asset Management (3)			BRE466 Capstone Project (6)	
Stage 3 (30 Credits)						Elective Subject 1 (3) *
		BRE397 Property Management Accounting (3)		BRE471 Advanced Property Management (3)		
	BRE326 Maintenance Technology and Management (3)	BRE362 Urban Economics and Property Investment (3)		BRE350 Project Management & Procurement (3)	BRE366 Analytical Skills and Methods (2)	
		BRE315 Property Valuation (3)	BRE337 Property Law (3)	BRE371 Introduction to Property Management (3)	BRE365 International Study (1)	
Stage 2 (21 Credits)	BRE261 Construction Technology and Materials I (3)					
	BRE349 Building Service I (3)	BRE217 Planning and Development (3)				ELC3421 English for Construction & Environmental Professionals (3)
			BRE206 Legal Context for CRE (3)		BRE262 Project Studio (3)	CLC3231P Chinese Communication for Construction and Environment (3)
Stage 1 (18 Credits)	AMA1110 Basic Mathematics I (3)	BRE263 Construction Economics and Finance (3)				IC358 Industrial Safety I (1)
	BRE 2031 Environmental Science (3)					
91 Credits	**Technology**	**Real Estate Economics**	**Law**	**Management**	**Projects and Capstone Project**	**Professional Languages, Safety, and Electives**
	15 Credits	27 Credits	6 Credits	15 Credits	12 Credits	16 Credits

* PMT students are required to opt 3 elective subjects (E).
All BRE Level 3 and Level 4 core subjects (Year 4, Semester 2) of a particular Major or discipline are offered as electives to students of another Major or discipline within the BRE Department, subject to the fulfilment of any pre-requisites and co-requisites requirements and to time-table constraints. In addition, three elective subjects (E) may be available in alternate year as determined by APSS Department;

PMT students can opt for the following subject offered by APSS in addition to or in lieu of BRE electives:

- APSS265 Self Understanding and Communication Skills
- APSS4522 Health Policy
- APSS4531 Current Management Practices and Issues in Human Service Organizations

6.4 *Curriculum Mapping: BSc (Hons) in Property 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 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	BRE206	BRE217	BRE265	BRE262	BRE263									
A1	To apply professional and vocational knowledge in property management, including its operational logistics and multi-disciplinary facets			I	IA											
A2	To identify and solve problems in property management practices	I	I		IA	I										
A3	To communicate effectively with social skills as a competent property manager		IR													
A4	To practise as a professional property manager in compliance with the legal and ethical requirements of the profession		A		IA											
A5	To appreciate the multi-disciplinary dimensions of property management practices and the interests of the stakeholders in the industry	IA		I	I	IA	IA									
A6	To explore options for the property management practices with creative and critical mind-set		I		I											

	All-rounded Attributes	BRE2031	BRE206	BRE217	BRE265	BRE262	BRE263									
B1	To possess skills to identify, analyse and solve problems	IA	A	I		I										
B2	To have an understanding of professional, social and ethical responsibilities		I			IA										
B3	To communicate effectively	IA	A	R	IA	IA	IA									
B4	To reflect on knowledge gap for life time learning		I		I	IA										
B5	To contribute as team member and to lead effectively	IA			IA	I	IA									
B6	To identify contemporary issues				I	IA										

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	BRE315	BRE326	BRE337	BRE371	BRE349	BRE350	BRE362	BRE365	BRE366	BRE397	ELC3421	IC3358	CLC3231P				
A1	To apply professional and vocational knowledge in property management, including its operational logistics and multi-disciplinary facets	I	IA	I		I	IR	IA	RA	RA	IRA		IR					
A2	To identify and solve problems in property management practices	R	IA	R	I	IRA	IRA		RA	A	IR							
A3	To communicate effectively with social skills as a competent property manager			R	I		IRA				R		IRA					
A4	To practise as a professional property manager in compliance with the legal and ethical requirements of the profession	A	I	A	I						R							
A5	To appreciate the multi-disciplinary dimensions of property management practices and the interests of the stakeholders in the industry		I	R			IR	RA	RA	R	R							
A6	To explore options for the property management practices with creative and critical mind-set			I				IA	IA	RA								

	All-rounded Attributes	BRE315	BRE326	BRE337	BRE371	BRE349	BRE350	BRE362	BRE365	BRE366	BRE397	ELC3421	IBRE258	CLC3231P				
B1	To possess skills to identify, analyse and solve problems		I	A	R	RA	A	RA	RA	A	IRA		IR					
B2	To have an understanding of professional, social and ethical responsibilities	R		R					IA		R							
B3	To communicate effectively	R	I	R	I	RA	A	RA	RA	A	R	IRA	IRA	IRA				
B4	To reflect on knowledge gap for life time learning			I					I	IRA								
B5	To contribute as team member and to lead effectively		I			RA	A		RA		R							
B6	To identify contemporary issues		I			I		IA	R	A	IR		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	BRE427	BRE4291	BRE431	BRE471	BRE437	BRE463	BRE464 (E)*	BRE465	BRE466	BRE470 (E)*							
A1	To apply professional and vocational knowledge in property management, including its operational logistics and multi-disciplinary facets				A		A	RA		RA								
A2	To identify and solve problems in property management practices				A		R	A	A	A	RA							
A3	To communicate effectively with social skills as a competent property manager		R	I	R		R	RA										
A4	To practise as a professional property manager in compliance with the legal and ethical requirements of the profession		A				R	R										
A5	To appreciate the multi-disciplinary dimensions of property management practices and the interests of the stakeholders in the industry			RA		I	A	RA	A	R	IA							
A6	To explore options for the property management practices with creative and critical mind-set					I	A	RA		RA	RA							

	All-rounded Attributes	BRE427	BRE4291	BRE431	BRE471	BRE437	BRE463	BRE464 (E)*	BRE465	BRE466	BRE470 (E)*							
B1	To possess skills to identify, analyse and solve problems		A	RA	A	A	A	RA	A	A	IA							
B2	To have an understanding of professional, social and ethical responsibilities	R	R				A	RA	IR									
B3	To communicate effectively	R	R	R	R	R	A	RA	RA	A	A							
B4	To reflect on knowledge gap for life time learning						R	R	R	IRA								
B5	To contribute as team member and to lead effectively						A	RA	R		A							
B6	To identify contemporary issues						R	RA	IR	A	R							

*(E) = Elective

6. Intended Learning Outcomes (ILOs); Programme Structure and Curriculum Mapping of the Discipline-Specific Requirements (DSR) of the Major in Surveying

The total credits for graduation on BSc (Hons) in Surveying is 121 credits (including GUR 30 credits + DSR 91 credits).

The following shows the proposed distribution of the 91-credit Discipline curriculum (no. of credits in brackets):

[The 30-credit GUR is not shown in this DSR 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 BRE 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.

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

ILOs of PMT Programme (Category A)	Institutional Learning Outcomes						
	Competent professional	Critical thinker	Effective communicator	Innovative problem solver	Lifelong learner	Ethical leader	Socially responsible global citizen
(i)	X	X		X		X	
（ii）	X	X		X			
(iii)	X	X		X	X	X	
(iv)	X	X		X		X	X
(v)	X	X	X	X			
(vi)	X	X	X	X	X		
(vii)	X	X	X				
(viii)	X	X	X	X	X	X	X
ILOs of PMT Programme (Category B)	Competent professional	Critical thinker	Effective communicator	Innovative problem solver	Lifelong learner	Ethical leader	Socially responsible global citizen
(i)	X	X	X	X			
(ii)	X	X	X	X	X	X	X
(iii)	X	X	X	X	X	X	
(iv)	X			X	X		X
(v)	X	X	X	X		X	
(vi)	X	X	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 30-credit general University Requirements (GUR):

Compulsory Core Foundation Subjects

- 10 Core subjects totalling 30 credits grouped 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 18 credits grouped under the category of "Projects & Capstone Project".

Professional Languages and Safety Subjects

3 subjects on Faculty English, Faculty Chinese and Industrial Safety totalling 7 credits together with the 3 electives totally 9 credits grouped 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 30-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

11 Discipline-specific elective subjects totalling 33 credits grouped 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

Electives

Students shall take one elective subject of 3 credits. All Level 3 and Level 4 subjects of a particular stream (Major or discipline-specific) offered by the BRE Department (except those from APSS) are offered as electives to students of different Surveying Disciplines: BS, GP, PD, PFM and QS in the Semester 2 of Year 3 and 4, subject to the fulfilment of any pre-requisite or co-requisite requirements and time-table constraints. Additional elective subjects (Table 1) may be available to students in alternative year.

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 4-year generic degree.

Proportions of the five major components:

Figure 1: Pie chart showing the proportions of the 5 major components of the Major in Surveying Curriculum for the 91-credit Discipline-Specific Requirements (DSR)

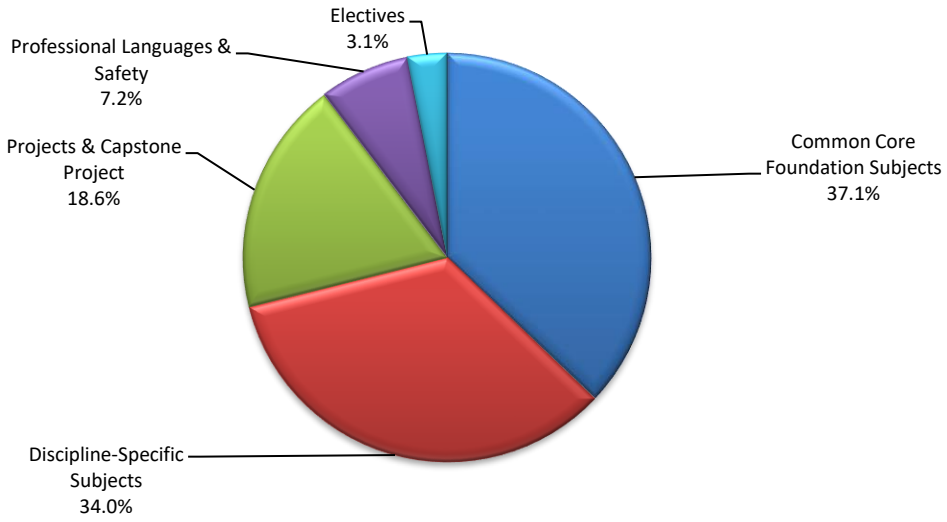
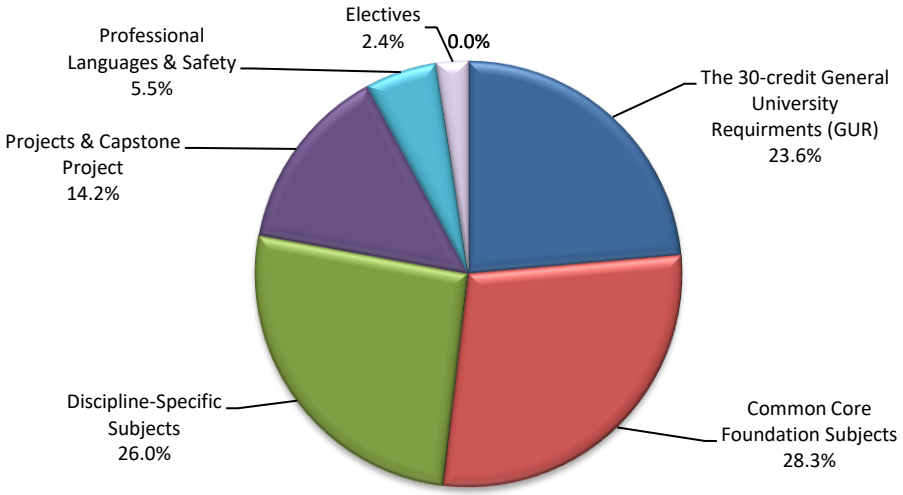


Figure 2: Pie chart showing the proportions of components of the 30-credit General University Requirements (GUR) and the 91-credit Discipline Specific Requirements (DSR) totalling <u>121</u> credits for Graduation of the Major in BSc (Hons) in Surveying



6.3 ***Programme Structure & Curriculum***

6.3.1 In Stage 1, there are 3 core subjects totalling 9 credits grouped under the 3 of the 4 academic disciplines. The core subjects provide the commencement of the foundation studies for their respective level 2 subjects, site visits and WIE later on:-

6.3.2 In Stage 1 to 3, together with the English for Construction and Environmental Professionals, Chinese Communication for Construction and Land Use and BRE349 Building Services I, 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, BRE204 Structure I, BRE370 Intermediate Construction Technology & Materials and all Level 4 discipline-specific elective subjects grouped under the academic discipline of Technology.

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.

   BRE217 Planning and Development introduces the urban planning and land development processes. It provides the contextual study for the land, property and construction professions.

c. Urban Sustainability Policy: BRE206 Legal Context of CRE 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.

There are thus altogether ten Level 2 and 3 subjects totalling 27 credits grouped into 5 academic disciplines. The core subjects have been selected and designed to provide students the foundation knowledge they will need to go through their chosen discipline specific professional studies and trainings in the senior years.

6.3.3 In Stage 3, the core subjects of Technology: BRE326 Maintenance Technology & Management, Urban Sustainability Policy: BRE336 Development Control Law and 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). Students will choose, outset of 11 discipline-specific elective subjects. Each set of 11 subjects corresponds to one of the four surveying disciplines. Table 6 shows the surveying discipline and the professional area that each of the discipline-specific elective subjects specializes in Tables 2, 3 and 4 show the matching of the subjects and the areas of experience required by the Hong Kong Institute of Surveyors in the five disciplines. We have made reference to the following publications of the Institute for the areas of experience:

a. The Hong Kong Institute of Surveyors (2013) *Rules and Guide to the Assessment of Professional Competence*. Building Surveying Division, March.

b. The Hong Kong Institute of Surveyors (2012) *Rules and Guide to the Assessment of Professional Competence*. General Practice Division, June.

c. The Hong Kong Institute of Surveyors (2005) *Rules and Guide to the Assessment of Professional Competence*. Property and Facility Management Division, September.

d. The Hong Kong Institute of Surveyors (2006) *Rules and Guide to the Assessment of Professional Competence*. Planning and Development Division, March.

e. The Hong Kong Institute of Surveyors (2012) *Rules and Guide to the Assessment of Professional Competence*. Quantity Surveying Division, May.

A large tick (✓) means that more than 80% of the content of the core subject or discipline-specific elective subject deals with the particular area of experience. A small tick (✓) means that about one-third to 80% of context of the core subject addresses the particular area of experience.

The 6-credit BRE466 Capstone Project spans across 2 Semesters from Semester 1 to Semester 2 of Stage 4 of studies. It is underpinned by BRE366 Analytical Skills and Methods for both qualitative and quantitative research studies.

6.3.4 In Stage 3 & 4, students are required to choose elective subjects of each surveying discipline from all level 3 and 4 subjects offered by Department of BRE only, subject to the fulfilment of pre-requisite or co-requisite requirements and time-table constraints.

Table 1 Progamme Structure and Curriculum of the Major in Surveying (SUV)# [Discipline-Specific Requirements (DSR)]

Discipline-Specific Elective Subjects (18 Credits)	Stage 4 (30 Credits)	BRE427 [GP/PD/PFM] Applied Property Investment (3)					
		BRE4291 [GP/PD/PFM] Real Estate Marketing (3)					
		BRE418 [GP/PD/PFM] Real Estate Development (3)					
		BRE436 [GP/PFM] Applied Property Valuation (3)					
		BRE464 [PD] Urban Planning (3)		BRE461 [BS/QS] Environmental Impact and Assessment (3)			
		BRE463 [GP/PD/PFM] Business Valuation and Accounts (3)		BRE470 [BS/QS] Information Technology and Building Information Modelling for Construction (3)			
		BRE440 [QS] Cost and Value Management (3)	BRE415 [BS/QS] Dispute Resolution (3)	BRE435 [BS] Design, Adaptation & Conversion (3)	BRE465 [GP/PD/PFM] Asset Management (3)	BRE469 Integrated Professional Workshop III (3)	
		BRE442[QS] Forecasting and Competition in the Built Environment (3)	BRE439 [QS] Engineering Contract Procedure (3)	BRE453 [BS/QS] Building Service II (3)	BRE437 [BS] Facility Management (3)	BRE466 Capstone Project (6)	
Core Subjects (67 Credits)	Stage 3 (30 Credits)	BRE362[GP/PD/PFM] Urban Economics and Property Investment (3)					[BS/PD/PFM/GP] Elective subject 1 (3) *
		BRE345 [BS/QS] Measurement, Documentation and Estimating (3)					
		BRE315 [GP/PD/PFM] Property Valuation (3)	BRE337[GP/PD/PFM] Property Law (3)	BRE204 [BS/QS] Structure I(3)		BRE369 Integrated Professional Workshop II (3)	
		BRE397 [GP/PD/PFM] Property Management Accounting (3)	BRE364 [BS/QS] Construction Contract Law & Administration (3)	BRE326 Maintenance Technology and Management (3)	BRE350 Project Management & Procurement (3)	BRE366 Analytical Skills and Methods (2)	
		BRE363 [BS/QS] Construction Economics (3)	BRE336 Development Control Law (3)	BRE370[BS/QS] Intermediate Construction Technology & Materials (3)	BRE371[GP/PD/PFM] Introduction to Property Management (3)	BRE365 International Study (1)	
	Stage 2 (21 Credits)			BRE261 Construction Technology and Materials I (3)			
				BRE349 Building Service I (3)		BRE269 Integrated Professional Workshop I (3)	ELC3421 English for Construction & Environmental Professionals (3)
		BRE217 Planning and Development (3)	BRE206 Legal Context for CRE (3)				CLC3231P Chinese Communication for Construction and Environment (3)
	Stage 1 (10 Credits)	BRE263 Construction Economics and Finance (3)		AMA1110 Basic Mathematics I (3)			IC358 Industrial Safety I (1)
				BRE 2031 Environmental Science (3)			
91 Credits		**Real Estate Economics**	**Law**	**Technology**	**Management**	**Projects and Capstone Project**	**Professional Languages, Safety, and Electives**
		BS/QS 6 Credits + QS 6 Credits + GP/PD/PFM 18 Credits + GP/PFM 6 Credits + PD 6 Credits	BS/QS 6 Credits + QS 6 Credits + GP/PD/PFM 3 Credits + 6 Credits	BS/QS 15 Credits + BS 3 Credits + 15 Credits	GP/PD/PFM 6 Credits + BS 3 Credits + 3 Credits	18 Credits	10 Credits

* Surveying students are required to opt 1 elective subject (E).
All BRE Level 3 and Level 4 core subjects (Year 4, Semster 2) of a particular Major or discipline are offered as electives to students of another Major or discipline within the BRE Department (exclusive to the subjects offered by APSS), subject to the fulfilment of any pre-requisites or co-requisites requirements and to time-table constraints.

\# 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
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 & Landloard & 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 2 Subjects***

		Subject Codes														
	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							
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									
A7	To analyse and interpret data of the industry		IA				I									

	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							
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	BRE315 (DSE)	BRE326	BRE336	BRE337 (DSE)	BRE371 (DSE)	BRE345 (DSE)	BRE349	BRE350	BRE370 (DSE)	BRE362 (DSE)	BRE363 (DSE)	BRE364 (DSE)	BRE365	BRE366	BRE397 (DSE)	BRE369	CLC3231P	ELC3421	BRE258
A1	To comprehend and identify issues and problems concerning land, property and construction at project level	IRA	IA	IRA	I		IA	IA	RA	RA	RA	RA	RA	RA	RA	RA	RA			IR
A2	To comprehend and identify issues and problems concerning land, property and construction at corporate level			I	I	I				RA	IA	RA		RA	RA	R	RA			
A3	To comprehend and identify issues and problems concerning land, property and construction at industry level		IA	IRA	A					RA	IA	RA		IA	RA	R	IR			
A4	To comprehend and identify issues and problems concerning land, property and construction at macro socio-economic and political level		I	I	R	I				I	RA	R		IA	RA		IR			
A5	To advise clients through rendering surveying services	A	I	I	I		I	I	RA	R		RA	IA			R	IR			IRA
A6	To identify, formulate and solve problems related to the surveying profession and real estate industry	A	IA	IRA	R			IA		RA		RA		RA	A	R	IR			
A7	To analyse and interpret data of the industry	A					IR	IA			IA	RA		IA	R		IR			

	Programme Outcomes List programme outcomes in this column in the same order as in the outcomes section for easy referencing	BRE315 (DSE)	BRE326	BRE336	BRE337 (DSE)	BRE371 (DSE)	BRE345 (DSE)	BRE349	BRE350	BRE370 (DSE)	BRE362 (DSE)	BRE363 (DSE)	BRE364 (DSE)	BRE365	BRE366	BRE397 (DSE)	BRE369	CLC3231P	ELC3421	BRE258
A8	To formulate and implement strategies, policies and solutions for sustainable development and construction		I	RA	I					I	IA	R		RA			I			I
	All-rounded Attributes																			
B1	To possess skills to identify, analyse and solve problems		I	R	A	R	IA	RA	A	IR	RA	RA	RA	RA	A	IRA	RA			IR
B2	To have an understanding of professional, social and ethical responsibilities	R		RA	R					I		RA		IA		R	RA			I
B3	To communicate effectively	R	I	RA	R	I	IA	RA	A		RA	RA	RA	RA	A	R	RA	IRA	IRA	IRA
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					RA	A			R		RA		R	I			
B6	To identify contemporary issues		I	RA				I		IRA	IA	RA	R	R	A	IR	I			I

(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 (E)*	BRE463 (DSE)	BRE464 (DSE)	BRE465 (DSE)	BRE466	BRE469	BRE470
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	IR
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
A7	To analyse and interpret data of the industry	A	A			RA					R	RA	RA		RA		A	R	A		RA	

	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	BRE470
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	IRA	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

7. Programme Curriculum of 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.

Level		Explanation
1	=	Standing comparable to Year 1 of a 4-year degree Major
2	=	Standard comparable to Year 2 of a 4-year degree Major
3	=	Standard comparable to Year 3 of a 4-year degree Major
4	=	Standard comparable to the final year of a 4-year degree Major
5-6	=	Standard at postgraduate level

The University adopts a university-wide standard for subject level weighting for calculating the award GPA, and to use the weighting of 2 for Level 1 and 2 subjects; and a weighting of 3 for Level 3 and 4 subjects.

The Programme Curriculum and Examination Schedule for each academic level are detailed in Figure 7.1 - 7.4.

Subjects are referred by subject codes. The alphabets refer to the responsible departments whilst the three-digit reference numbers, the first digit (i.e. 1, 2, 3 or 4) indicates the level of the subjects.

The **typical progression patterns of BSc (Hons) in Building Engineering & Management** shown in 13.1 – 13.4 illustrate the semesters in which these subjects are recommended to be taken, if the programme of the Major is to be completed in the minimum time.

'Electives' are those subjects which are optional. These give students some choices in composing their study programme.

NOTE

***Programme Curriculum displays the Discipline-specific Requirements (DSR) for the Major in Building Engineering & Management only (Fig. 7.1 to Fig. 7.4).**

Details of the 30-credit General University Requirements (GUR) can be referred to their respective websites provided by the University (Section 3.2).

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

Programme Curriculum displays the 97-credit Discipline-Specific Requirements (DSR) for the Major in Building Engineering & Management only. 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/ Seminar**	**Lab. (Pract.)/ Project Work/ Guided Study**				**Subject Weighting**	**Credit Value**	**CW/CA**	**Exam.**
AMA1110	Basic Mathematics I	2.0	1.0	-	13	39	AMA	2.0	3	50%	50%
BRE1000	BRE Freshmen Seminar	0.7	2.1	0.8	13	46	CE	2.0	3	100%	-
BRE2031	Environmental Science	2.0	0.5	0.5(Lab)	13	39	BRE	2.0	3	40%	60%
BRE263	Construction Economics & Finance	2.0	1.0	-	13	39	BRE	2.0	3	40%	60%
BRE258	Industrial Safety I	-	0.5	0.5	13	24	IC	3.0	1	100%	-
BRE299	Work-Integrated Education (WIE)	Minimum duration of 4 weeks continuously (in Summer Semester of either Stage 1 or Stage 2)					BRE/ Employers / IC	2.0	2 training credits	100%	-

NOTE: 1. Students must complete and pass the 30-credit University Requirements (GUR) and all the subjects listed in Level 1, Level 2 and Level 3 in Stage 1 prior to their graduation.

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

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 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/ Seminar**	**Lab. (Pract.)/ Project Work/ Guided Study**				**Subject Weighting**	**Credit Value**	**CW/CA**	**Exam.**
AMA290	Engineering Mathematics	2.0	1.0	-	13	39	AMA	2.0	3	40%	60%
BRE265	Introductory Construction Technology & Materials	2.0	1.0	2.0 (Lab.)	13	39	BRE	2.0	3	40%	60%
BRE262	Project Studio	2.0	1.0	2.0	-	-	BRE	2.0	3	100%	-
BRE349	Building Services I	2.0	1.0	-	13	39	BRE	3.0	3	40%	60%
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	LSGI	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

7.3 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.
CLC3231P	Chinese Communication for Construction and Land Use	-	3.0	-	13	39	CLC	3.0	3	100%	-
BRE204	Structure I	2.0	0.8	0.2	13	39	BRE	2.0	3	30%	70%
BRE302	Structure II	2.0	0.8	0.2	13	39	BRE	3.0	3	50%	50%
BRE326	Maintenance Technology & Management	2.0	1.0	-	13	39	BRE	3.0	3	30%	70%
BRE345	Measurement, Documentation & Estimating	2.0	1.0	-	13	39	BRE	3.0	3	60%	40%
BRE350	Project Management & Procurement	2.0	1.0	-	13	39	BRE	3.0	3	40%	60%
BRE364	Construction Contract Law & Administration	2.0	1.0	-	13	39	BRE	3.0	3	40%	60%
BRE365	International Study**	-	0.9	-	13	13	BRE	3.0	1	100%	-
BRE366	Analytical Skills & Methods	1.2	0.8	-	13	26	BRE	3.0	2	100%	-
BRE370	Intermediate Construction Technology & Materials	2.0	1.0	-	13	39	BRE	3.0	3	40%	60%

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

7.4 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**	**BRE**	**3.0**	**6**	**100%**	
BRE426	Geotechnical & Foundation Engineering	2.0	0.7	0.3	13	39	BRE	3.0	3	30%	70%
BRE4281	Construction Engineering Management	2.0	1.0	-	13	39	BRE	3.0	3	50%	50%
BRE4393	Temporary Work Design	1.0	40 (PW)	-	13	65	BRE	3.0	3	100%	-
BRE453	Building Services II	2.0	1.0	-	13	39	BRE	3.0	3	40%	60%
BRE461	Environmental Impact & Assessment	2.0	1.0	-	13	39	BRE	3.0	3	60%	40%
BRE462	Advanced Construction Technology	2.0	1.0	-	13	39	BRE	3.0	3	60%	40%
BRE470	Information Technology and Building Information Modelling for Construction	2.0	1.0	-	13	39	BRE	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 BRE 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 Property 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.

Level		Explanation
1	=	Standing comparable to Year 1 of a 4-year degree Major
2	=	Standard comparable to Year 2 of a 4-year degree Major
3	=	Standard comparable to Year 3 of a 4-year degree Major
4	=	Standard comparable to the final year of a 4-year degree Major
5-6	=	Standard at postgraduate level

The University adopts a university-wide standard for subject level weighting for calculating the award GPA, and to use the weighting of 2 for Level 1 and 2 subjects; and a weighting of 3 for Level 3 and 4 subjects.

The Programme Curriculum and Examination Schedule for each academic level are detailed in Figure 7.1 - 7.4.

Subjects are referred by subject codes. The alphabets refer to the responsible departments whilst the three-digit reference numbers, the first digit (i.e. 1, 2, 3 or 4) indicates the level of the subjects.

The **typical progression patterns of BSc (Hons) in Property Management** shown in 13.1 – 13.4 illustrate the semesters in which these subjects are recommended to be taken, if the programme of the Major is to be completed in the minimum time.

'Electives' are those subjects which are optional. These give students some choices in composing their study programme.

NOTE

***Programme Curriculum displays the Discipline-specific Requirements (DSR) for the Major in Property Management only (Fig. 7.1 to Fig. 7.4).**

Details of the 30-credit General University Requirements (GUR) can be referred to their respective websites provided by the University (Section 3.2).

7.1 *Programme Curriculum of Major* in Property Management for Stage 1*

Programme Curriculum displays the 97-credit Discipline-Specific Requirements (DSR) for the Major in Property Management only. 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/ Seminar**	**Lab. (Pract.)/ Project Work/ Guided Study**				**Subject Weighting**	**Credit Value**	**CW/CA**	**Exam.**
AMA1110	Basic Mathematics I	2.0	1.0	-	13	39	AMA	2.0	3	50%	50%
BRE1000	BRE Freshmen Seminar	0.7	2.1	0.8	13	39	CE	2.0	3	100%	-
BRE2031	Environmental Science	2.0	0.5	0.5 (Lab.)	13	39	BRE	2.0	3	40%	60%
BRE263	Construction Economics & Finance	2.0	1.0	-	13	39	BRE	2.0	3	40%	60%
BRE258	Industrial Safety I	-	0.5	≙0.5	13	39	IC	3.0	1	100%	-
BRE299	Work-Integrated Education (WIE)	Minimum duration of 4 weeks continuously (in Summer Semester of either Stage 1 or Stage 2)					BRE/ Employers	2.0	2 training credits	100%	-

NOTE: 1. Students must complete and pass the 30-credit University Requirements (GUR) and all the subjects listed in Level 1, Level 2 and Level 3 in Stage 1 prior to their graduation.

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

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 Property Management 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/ Seminar**	**Lab. (Pract.)/ Project Work/ Guided Study**				**Subject Weighting**	**Credit Value**	**CW/CA**	**Exam.**
CLC3231P	Chinese Communication for Construction and Environment	-	-	-	13	39	CLC	3.0	3	100%	-
BRE206	The Legal Context of Construction & Real Estate	2.0	1.0	-	13	39	BRE	2.0	3	30%	70%
BRE217	Planning & Development	2.0	1.0	-	13	39	BRE	2.0	3	50%	50%
BRE265	Introductory Construction Technology & Materials	2.0	0.5	0.5 (Lab.)	13	39	BRE	2.0	3	40%	60%
BRE262	Project Studio	2.0	1.0	2.0	13	39	BRE	2.0	3	100%	-
BRE349	Building Services I	2.0	1.0	-	13	39	BRE	3.0	3	40%	60%
ELC3421	English for Construction and Environmental Professionals	-	3.0	-	13	39	ELC	3.0	3	100%	-

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

7.3 *Programme Curriculum of Major* in Property 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.**
BRE315	Property Valuation	2.0	1.0	-	13	39	BRE	3.0	3	50%	50%
BRE326	Maintenance Technology & Management	2.0	1.0	-	13	39	BRE	3.0	3	30%	70%
BRE337	Property Law	2.0	1.0	-	13	39	BRE	3.0	3	30%	70%
BRE350	Project Management & Procurement	2.0	1.0	-	13	39	BRE	3.0	3	40%	60%
BRE362	Urban Economics & Property Investment	2.0	1.0	-	13	39	BRE	3.0	3	50%	50%
BRE365	International Study**	-	0.9	-	13	15	BRE	3.0	1	100%	-
BRE366	Analytical Skills & Methods	1.2	0.8	-	13	26	BRE	3.0	2	100%	-
BRE371	Introduction to Property Management	2.0	1.0	-	13	39	BRE	3.0	3	30%	70%
BRE397	Property Management Accounting	2.0	1.0	-	13	39	BRE	3.0	3	50%	50%
BRE471	Advanced Property Management	2.0	1.0	-	13	39	BRE	3.0	3	30%	70%
Elective[#]	subject 1				13	39	BRE	3.0	3		

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

7.4 *Programme Curriculum of Major* in Property 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**	**BRE**	**3.0**	**6**	**100%**	
BRE427	Applied Property Investment	2.0	1.0	-	13	39	BRE	3.0	3	30%	70%
BRE4291	Real Estate Marketing	2.0	1.0	-	13	39	BRE	3.0	3	50%	50%
BRE431	Housing Studies	2.0	1.0	-	13	39	BRE	3.0	3	50%	50%
BRE437	Facility Management	2.0	1.0	-	13	39	BRE	3.0	3	50%	50%
BRE463	Business Valuation & Accounts	2.0	1.0	-	13	39	BRE	3.0	3	50%	50%
BRE465	Asset Management	2.0	1.0	-	13	39	BRE	3.0	3	50%	50%
BRE470(E)	Information Technology and Building Information Modelling for Construction	2.0	1.0	-	13	39	BRE	3.0	3	50%	50%
Elective[#]	subject 2										
Elective[#]	subject 3										

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.

[#] All BRE Level 3 and Level 4 subjects of a particular Major or discipline are offered in the semester 2 as electives to students in their year 3 and another Major or discipline within the Department, subject to the fulfilment of any pre-requisite or co-requisite requirements and time-table constraints. The following elective subject (E) may be available to students as determined by the Department:

BRE470 (E) Information Technology and Building Information Modelling for Construction

In addition, PMT students can also opt the following subjects offered by the Department of APSS, in addition to or in lieu of BRE electives:

APSS265 Self Understanding and Communication Skills
APSS4531 Current Management Practices and Issues in Human Service Organizations
APSS4522 Health Policy

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.

Level		Explanation
1	=	Standing comparable to year 1 of a 4-year degree Major
2	=	Standard comparable to Year 2 of a 4-year degree Major
3	=	Standard comparable to Year 3of a 4-year degree Major
4	=	Standard comparable to the final year of a 4-year degree Major
5-6	=	Standard at postgraduate level

The University adopts a university-wide standard for subject level weighting for calculating the award GPA, and to use the weighting of 2 for Level 1 and 2 subjects; and a weighting of 3 for Level 3 and 4 subjects.

The Programme Curriculum and Examination Schedule for each academic level are detailed in Figure 6.1-6.4.

Subjects are referred by subject codes. The alphabets refer to the responsible departments whilst the three-digit reference numbers, the first digit (i.e. 1, 2, 3 or 4) indicates the level of the subjects.

The **typical progression patterns of BSc (Hons) in Surveying** shown in 13.1 - 13.4 illustrate the semesters in which these subjects are recommended to be taken, if the programme of the Major is to be completed in the minimum time.
'Electives' are those subjects which are optional. These give students some choices in composing their study programme.

NOTE

***Programme Curriculum displays the Discipline-specific Requirements (DSR) for the Major in Surveying only (Fig. 7.1 to Fig. 7.4).**

Details of the 30-credit General University Requirements (GUR) can be referred to their respective websites provided by the University (Section 3.2).

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

**** Programme Curriculum displays the 97-credit Discipline-Specific Requirements (DSR) 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.**
AMA1110	Basic Mathematics I	2.0	1.0	-	13	39	AMA	2.0	3	50%	50%
BRE1000	BRE Freshmen Seminar	0.7	2.1	0.8	13	39	CE	2.0	3	100%	-
BRE2031	Environmental Science	2.0	0.5	0.5 (Lab.)	13	39	BRE	2.0	3	40%	60%
BRE263	Construction Economics & Finance	2.0	1.0	-	13	39	BRE	2.0	3	40%	60%
BRE258	Industrial Safety I	-	0.5	=0.5	13	39	IC	3.0	1	100%	-
BRE299	Work-Integrated Education (WIE)	Minimum 4 weeks continuously (in semester of either stage 1 or stage 2)					BRE/ Employer	2.0	2 training credits	100%	-

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%	-
CLC3231P	Chinese Communication for Construction and Environment	-	-	-	13	39	CLC	3.0	3	100%	-
BRE206	The Legal Context of CRE	2.0	1.0	-	13	39	BRE	2.0	3	30%	70%
BRE217	Planning & Development	2.0	1.0	-	13	39	BRE	2.0	3	50%	50%
BRE265	Introductory Construction Technology & Materials	2.0	0.5	0.5 (Lab)	13	39	BRE	2.0	3	40%	60%
BRE269	Integrated Professional Workshop I	-	-	-	13	39	BRE	2.0	3	100%	-
BRE349	Building Services I	2.0	1.0	-	13	39	BRE	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.**
BRE326	Maintenance Technology & Management	2.0	1.0	0.5 (Lab)	13	39	BRE	3.0	3	30%	70%
BRE336	Development Control Law	2.0	1.0	-	13	39	BRE	3.0	3	50%	50%
BRE350	Project Management & Procurement	2.0	1.0	-	13	39	BRE	3.0	3	40%	60%
BRE365	International Study***	-	0.9	-	13	15	BRE	3.0	1	100%	-
BRE366	Analytical Skills & Methods	1.2	0.8	-	13	26	BRE	3.0	2	100%	-
BRE369	Integrated Professional Workshop II	-	-	-	13	39	BRE	3.0	3	100%	-
**BS/QS Discipline-specific Elective subjects											
BRE204	Structure I	2.0	1.0	-	13	39	BRE	2.0	3		
BRE345	Measurement , Documentation & Estimating	2.0	1.0	-	13	39	BRE	3.0	3	60%	40%
BRE363	Construction Economics	2.0	1.0	-	13	39	BRE	3.0	3	40%	60%
BRE364	Construction Contract Law & Administration	2.0	1.0		13	39	BRE	3.0	3	40%	60%
BRE370	Intermediate Construction Technology & Materials	2.0	1.0		13	39	BRE	3.0	3	40%	60%
**GP/PD /FPM Discipline-specific Elective subjects											
BRE315	Property Valuation	2.0	1.0	-	13	39	BRE	3.0	3	50%	50%
BRE337	Property Law	2.0	1.0	-	13	39	BRE	3.0	3	30%	70%
BRE362	Urban Economics & Property Investment	2.0	1.0	-	13	39	BRE	3.0	3	50%	50%
BRE371	Introduction to Property Management	2.0	1.0	-	13	39	BRE	3.0	3	30%	70%
BRE397	Property Management Accounting	2.0	1.0	-	13	39	BRE	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**	**BRE**	**3.0**	**6**	**100%**	
BRE469	Integrated Professional Workshop III	-	-	-	13	39	BRE	3.0	3	100%	-
BS and QS Discipline-Specific Elective Subjects											
BRE415	Dispute Resolution	2.0	1.0	-	13	39	BRE	3.0	3	100%	-
BRE453	Building Services II	2.0	1.0	-	13	39	BRE	3.0	3	40%	60%
BRE461	Environmental Impact & Assessment	2.0	1.0	-	13	39	BRE	3.0	3	60%	40%
BRE470	Information Technology and Building Information Modelling for Construction	2.0	1.0	-	13	39	BRE	3.0	3	50%	50%
BS Discipline-Specific Elective Subjects											
BRE435	Design, Adaptation & Conversion	2.0	1.0	-	13	39	BRE	3.0	3	60%	40%
BRE437	Facility Management	2.0	1.0	-	13	39	BRE	3.0	3		
QS Discipline-Specific Elective Subjects											
BRE439	Engineering Contract Procedure	2.0	1.0	-	13	39	BRE	3.0	3	50%	50%
BRE440	Cost & Value Management	2.0	1.0	-	13	39	BRE	3.0	3	50%	50%
BRE442	Forecasting & competition in the Built Environment	2.0	1.0	-	13	39	BRE	3.0	3	40%	60%
GP, PD and PFM Discipline-Specific Elective Subjects											
BRE427	Applied Property Investment	2.0	1.0	-	13	39	BRE	3.0	3	30%	70%
BRE4291	Real Estate Marketing	2.0	1.0	-	13	39	BRE	3.0	3	50%	50%
BRE463	Business Valuation and Accounts	2.0	1.0	-	13	39	BRE	3.0	3	50%	50%
BRE465	Asset Management	2.0	1.0	-	13	39	BRE	3.0	3	50%	50%
GP and PFM Discipline-Specific Elective Subjects											
BRE418	Real Estate Development	2.0	1.0	-	13	39	BRE	3.0	3	50%	50%
BRE436	Applied Property Valuation	2.0	1.0	-	13	39	BRE	3.0	3	50%	50%
PD Discipline-Specific Elective Subjects											
BRE418	Real Estate Development	2.0	1.0	-	13	39	BRE	3.0	3	50%	50%
BRE464	Urban Planning	2.0	1.0	-	13	39	BRE	3.0	3	100%	-
BS, GP, PD. FPM and QS											

Elective 1##)	##	All BRE Level 3 and Level 4 subjects of a particular Major or discipline are offered as electives in the Semester 2 of year 2 and year 3to students of another Major or discipline within the BRE
Elective 2##)		Department (exclusive of the subjects offered by APSS), subject to the fulfilment of any pre-requisite or co-requisite requirements and timetable constraints.
Elective 3##)		In addition, an elective subject (E) may be available to students in alternative year as determined by the Department.

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

Minor in Real Estate Investment

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 (4-year 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) BSc (Hons) in Property Management (32405-PMT)
Effective Year:	For students admitted frm 2012-13 onwards
Professional Recognition:	Not applicable

Subject Code	**Subject Title**	**Subject Offering**	**Level**	**Credit Value**	**Subject Nature (Compulsory Elective)**
BRE217	Planning and Development	BRE	2	3	Compulsory
BRE265*	Introductory Construction Technology & Materials	BRE	2	3	Compulsory
BRE263*	Construction Economics & Finance	BRE	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.)	BRE	3	3	Compulsory
BRE362	Urban Economics and Property Investment	BRE	3	3	Elective
BRE371	Introduction to Property Management	BRE	3	3	Elective
BRE397	Property Management Accounting	BRE	3	3	Elective
BRE427	Applied Property Investment	BRE	4	3	Elective
BRE431	Housing Studies	BRE	4	3	Elective
BRE418	Real Estate Development	BRE	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 BRE 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 BRE 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 CDO/FMO 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.

The Department actively supports web-based learning/teaching, and communication through WebCT and SMILE learning platforms. In particularly, SMILE is in fact designed and promoted by this Department (BRE). Subject management including examination and grading system can be performed effectively through the SMILE platform.

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.

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. Such subjects are usually 100% continuous assessment, for example integrated projects, design projects, professional studies and dissertation. Innovative, originality, research techniques, group effort, individual contribution or work, communication and presentation skills (oral and written), independence in working and co-operation with teams can be thus assessed according to the specified criteria and intended learning outcomes of the subjects.

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: Project-based subjects 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 B1-6 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 skillfully 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.

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.

'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.

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 U). Retaking of subjects is with the condition that the maximum study load of 21 credits per semester is not exceeded. Special approval by HoD is necessary if a student plans to take beyond 21 credits in one semester. For such cases, students should be reminded that the study load approved should not be taken as grounds for academic appeal.

The number of retakes of a subject should be restricted to two, i.e. a maximum of three attempts for each subject is allowed.[1]

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 would 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 Scheme Board of Examiners must be made within 7 working days after the public announcement of the examination results. A student should make the appeal to the Head of the BRE 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 B7 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 in the assessment result notification 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 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 all requirements as defined in the programme requirement document and as specified by the University; and

(iv) 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:

Honours 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.

Part III

Programme Management

12. Programme Operation and Management

12.1 *Scheme/Programme Board of Examiners*

The membership of the Scheme Board of Examiners (BoE) will be proposed by the Scheme Committee Chairman and ratified by the Chairman of the Faculty Board (FB). 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, following the Subject Assessment Review Panel (SARP). The BoE is responsible to the Senate for making decisions concerning:-

(a) Classification of awards
(b) De-registration cases; and
(c) Cases with extenuating circumstance

The Scheme BoE will not attempt to change the grades for any student in any subject or condone failures. Decisions of the BoE, except those on award and de-registration cases which are straight forward, will be ratified by the FB. Any decisions by the Scheme BoE outside the general assessment regulations of the University require the support of the FB and ratification of VP(EDU). Decisions by BoE outside the programme regulations but within the general assessment regulations of the University fall within the authority of the FB.

12.2 ***Subject Assessment Review Panel (SARP)*** The Subject Assessment Review Panel (SARP) is responsible for monitoring the academic standard and quality of subjects and ratifying subject grades. It meets at the end of each semester, normally in January and June. The Panel reviews the distribution of grades within a subject and finalises the grades before submission to the Board of Examiners.

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 ***Scheme Committee***

Composition

The Composition of each Scheme Committee (SC) 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 Programme Leaders (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

Terms of Reference

The SC will exercise the overall academic and operational responsibility for the Scheme and its development within defined policies, procedures and regulations including the following:-

(i) Proposing student intake quotas for the awards within the Scheme for recommendation to the Head of the Department;

(ii) The effective conduct, organization and development of the Scheme, including

- ensuring the appointment of tutors as required by the Scheme (subject, year, admissions, placement, etc.), in consultation with the Head of Department;
- ensuring that the Scheme is staffed and resourced to agreed levels through recommendations to, and negotiations with, Heads of contributing departments;
- ensuring the mechanics of operation is organized and effective;
- the coordination of teaching and other inputs;

- the nomination of proposed external examiner(s), where necessary and as required by the professional bodies, for the approval of the FB; and

- the implementation of policies for monitoring student progress, student counselling, placement, etc.

(iii) stimulation and development of teaching methods and materials through Heads of Department, subject leaders, as appropriate;

(iv) review of academic regulations, admissions policy, assessment and examination methods;

(v) the submission of proposals and responses to appropriate professional bodies and external validating bodies via the Head of the department and in accordance with the University's established procedures;

(vi) the continuing critical review of the rational, aims and 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 Scheme;

(vii) the review and evaluation of the academic standard and the operation, health and progress of the Scheme taking into account the views of students on the Scheme;

(viii) proposing the introduction of new subjects for approval by the Head of the Department and seek endorsement of relevant subject offering Department before incorporation into the Scheme;

(ix) proposing new awards at the advice of Head of the Department and with the agreement of the relevant subject offering department;

(x) the determination and review of Scheme regulations and the submission of any proposals for change in regulations or policy to FB or to LTC via FB, as appropriate;

(xi) recommending to FB any changes to subjects or curriculum for the awards within the Scheme, or any other matter relating to the Scheme as a whole; and

(xii) providing an annual review of the Scheme as part of the Annual QA exercise for the consideration of FB.

12.4 ***The Chairperson of the Scheme Committee***

The Chairperson of the SC is nominated by the Head of the Department and appointed by FB. The Chairperson is responsible for the day-to-day management as well as overall management of 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 Scheme, the Programme Leaders within the Scheme;
(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;
(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 Award Co-ordinator is responsible to the Scheme Committee Chairperson for the day-to-day management of the award. The Programme Leader is responsible for activities in relation to:-

(i) admission and registration of students;
(ii) student progress and assessment;
(iii) student counselling including arranging counselling for student choice of subjects relevant to their award;
(iv) resource management, special staffing requests, etc.;
(v) providing the Faculty officers with the offering pattern of subjects for the award and necessary information for timetabling;
(vi) liaison with Scheme Committee Chairperson, other Award Coordinators of the Scheme, relevant subject leaders and Faculty officers as required;
(vii) academic and monitoring aspects of the operation and development of the award including review and validation;
(viii) overseeing the academic welfare and progress of students studying for the award and be responsible to students' views about the award; and
(ix) preparation and production of handbooks and other materials for distribution to students of the Scheme jointly with other Award Coordinators.

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

A Programme Management Committee is responsible to monitor and control day-to-day running of the programme. The committee comprises Award Co-ordinator, Deputy Award Co-ordinator and Programme 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 level (stage) of individual award (programme), meets twice a year to discuss issues of concern.

12.8 ***Staff/Student Consultative Group***

The Staff/Student Liaison Group, made up of two student representatives from each level (stage) of the programme, the Programme co-ordinators, and the Scheme Chairperson meets twice a year to discuss any issues such as student workload, teaching methods and the relevance of the materials taught.

12.9 ***Academic Advisors***

In order to ensure that students will receive academic advice properly throughout their studies and be provided with accurate information about programmes, academic regulations and procedures, Departments should designate the academic staff to be the Academic Advisor.

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, giving academic advice to students related to their studies, assisting students in solving problems encountered in their studies, and referring students to other helping resources for further information.

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 BRE 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. For example, subject code BRE201 consists of the letter prefix "BRE" identifying the department as a subject offered by the Department of Building & Real Estate, "2" indicating that it is a level 2 subject, and "01" as the coding of that particular subject. The level codes are as follows:-

Level code		Explanation
1	=	Standard comparable to Stage 1 of a 4-year honours degree programme
2	=	Standard comparable to Stage 2 of a 4-year honours degree programme
3	=	Standard comparable to Stage 3 of a 4-year honours degree programme
4	=	Standard comparable to Stage 4 of a 4-year honours degree programme
5	=	Master's level
6	=	Doctoral level

Although the level codes 2 to 4 are for undergraduate degrees, other awards may also use subjects with level codes 2 to 4 if the level of the subject is considered to be appropriate for the level of award. Therefore, level 2 subjects, level 3 subjects and level 4 subjects may be included in different years of the programme.

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 analysze 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:-

(a) Departmental mission, strategic plan and organization.
(b) Departmental staffing and resources.
(c) Departmental Quality Assurance System.
(d) Academic programmes (including self-financed programmes).
(e) Teaching and Learning.
(f) Research, consultancy, other scholarly activities and services to the professional community.

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 would meet the appropriate requirements for an award of the University.

Under the current framework for programme validation, Faculty Deans/School Board Chairmen, who have the ultimate responsibility over the academic quality of study programmes in the Faculty/School, will decide on the most appropriate validation mechanism for each new study programme, after the Academic Planning Committee (APC) has given initial approval to the proposed new programme, and before the programme submission is submitted to Senate for formal and final approval for implementation.

Study programmes are subject to specific review after they have been approved for implementation.

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).

15. Typical Programme of the Discipline-Specific Requirements of the Major

It is anticipated that the majority of students are likely to complete the Major together with the General University Requirements (GUR) in four-year time scale, the following typical progression patterns of the Full-time **BSc (Hons) in Building Engineering and Management** are provided for reference.

15.1 Stage 1

	Semester 1 (13 weeks)	**Credit Value**
General University Requirements (GUR)	Language and Communication Requirements (LCR) subject1	3
GUR	LCR subject 2	3
BRE1000 (Freshman Seminars)	BRE Freshmen Seminar	3
GUR	Cluster Areas Requirements (CAR) subject 1	3
GUR	Cluster Areas Requirements (CAR) subject 2	3
GUR	Healthy Lifestyle	-
	Semester 2 (13 weeks)	
GUR	LCR subject 3	3
GUR	Leadership and Intra-personal Development	3
AMA1110	Basic Mathematics I	3
BRE2031	Environmental Science	3
BRE263	Construction Economics & Finance	3
BRE258	Industrial Safety I	1
	Total	**31 credits**
	Summer Semester (7 weeks)	
BRE299	Work-Integrated Education (WIE)*	2 training credits

* Work-Integrated Education (WIE) 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 can take either BRE299 for WIE of which the latter WIE is arranged/ organized and assessed by the Industrial Centre (IC).

15.2 **Stage 2**

	Semester 1 (13 weeks)	**Credit Value**
GUR	CAR subject 3	3
GUR	CAR subject 4	3
BRE265	Introductory Construction Technology & Materials	3
ELC3421	English for Construction and Environmental Professionals	3
BRE349	Building Services I	3
CSE20290	Introduction to Geotechnology	3
GUR	Healthy Lifestyle	-
	Semester 2 (13 weeks)	
GUR	Service-Learning	3
AMA290	Engineering Mathematics	3
BRE262	Project Studio	3
LSGI2961	Engineering Surveying	3
	Total	**30 credits**
	Summer Semester (7 weeks)	
BRE299	Work-Integrated Education (WIE)*	2 training credits

* Work-Integrated Education (WIE) 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 can take BRE299 in Industrial Centre (IC) and assessed by the Industrial Centre (IC)

15.3 **Stage 3**

	Semester 1 (13 weeks)	**Credit Value**
CLC3231P	Chinese Communication for Construction and Environment	3
BRE204	Structure I	3
BRE350	Project Management & Procurement	3
BRE365	International Study**	1
BRE366	Analytical Skills & Methods	2
BRE370	Intermediate Construction Technology & Materials	3
	Semester 2 (13 weeks)	
BRE302	Structure II	3
BRE326	Maintenance Technology & Management	3
BRE345	Measurement, Documentation & Estimating	3
BRE364	Construction Contract Law & Administration	3
BRE365	International Study**	-
	Elective 1[##]	3
	Total	**30 credits**
	Summer Semester (7 weeks)	
BRE365	International Study**	-

** 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.

15.4 **Stage 4**

	Semester 1 (13 weeks)	**Credit Value**
BRE365	International Study**	
BRE4393	Temporary Work Design	3
BRE453	Building Services II	3
BRE461	Environmental Impact & Assessment	3
BRE466	Capstone Project[#]	3
BRE470	Information Technology & Building Information Modelling for Construction	3
	Semester 2 (13 weeks)	
BRE426	Geotechnical & Foundation Engineering	3
BRE4281	Construction Engineering Management	3
BRE462	Advanced Construction Technology	3
BRE466	Capstone Project[#]	3
	Elective 2[##]	3
	Total	**30 credits**

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

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

15. Typical Programme of the Discipline-Specific Requirements of the Major

It is anticipated that the majority of students are likely to complete the Major together with the General University Requirements (GUR) in four-year time scale, the following typical progression patterns of the Full-time **BSc (Hons) in Property Management** are provided for reference.

15.1 Stage 1

	Semester 1 (13 weeks)	**Credit Value**
General University Requirements (GUR)	Language and Communication Requirements (LCR) subject	3
GUR	LCR subject 2	3
BRE1000 (Freshman Seminar)	Construction for Better Living	3
GUR	Cluster Areas Requirements (CAR) subject 1	3
GUR	Cluster Areas Requirements (CAR) subject 2	3
GUR	Healthy Lifestyle	-
	Semester 2 (13 weeks)	
GUR	LCR subject 3	3
GUR	Leadership and Intra-personal Development	3
AMA1110	Basic Mathematics I	3
BRE2031	Environmental Science	3
BRE263	Construction Economics & Finance	3
BRE258	Industrial Safety I	1
	Total	**31 credits**
	Summer Semester (7 weeks)	
BRE299	Work-Integrated Education (WIE)*	2 training credits

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

15.2 **Stage 2**

	Semester 1 (13 weeks)	**Credit Value**
GUR	CAR subject 3	3
GUR	CAR subject 4	3
BRE265	Introductory Construction Technology & Materials I	3
ELC3421	English for Construction and Environmental Professionals	3
BRE349	Building Services I	3
GUR	Healthy Lifestyle	-
	Semester 2 (13weeks)	
GUR	Service-Learning	3
CLC3231P	Chinese Communication for Construction and Environment	3
BRE206	The Legal Context of Construction & Real Estate	3
BRE217	Planning & Development	3
BRE262	Project Studio	3
	Total	**30 credits**
	Summer Semester (7 weeks)	
BRE299	Work-Integrated Education (WIE)*	

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

15.3 **Stage 3**

	Semester 1 (13 weeks)	**Credit Value**
BRE315	Property Valuation	3
BRE350	Project Management & Procurement	3
BRE365	International Study**	1
BRE366	Analytical Skills & Methods	2
BRE371	Introduction to Property Management	3
BRE397	Property Management Accounting	3
	Semester 2 (13 weeks)	
BRE326	Maintenance Technology & Management	3
BRE337	Property Law	3
BRE362	Urban Economics & Property Investment	3
BRE365	International Study* *	-
BRE471	Advanced Property Management	3
	Elective 1[##]	3
	Total	**30 credits**
	Summer Semester (7 weeks)	
BRE365	International Study**	-

** 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.

15.4 **Stage 4**

	Semester 1 (13 weeks)	**Credit Value**
BRE365	International Study**	-
BRE427	Applied Property Investment	3
BRE4291	Real Estate Marketing	3
BRE463	Business Valuation & Accounts	3
BRE465	Asset Management	3
BRE466	Capstone Project[#]	3
	Semester 2 (13 weeks)	
BRE431	Housing Studies	3
BRE437	Facility Management	3
BRE466	Capstone Project[#]	3
	Elective 2[##]	3
	Elective 3[##]	3
	Total	**30 credits**

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

[##] PMT students are required to take opt **3** elective subjects. All BRE Level 3 and Level 4 subjects of a particular Major or discipline are offered as electives to students of another Major or discipline within the Department, subject to the fulfilment of any pre-requisite or co-requisite requirements and time-table constraints. The following elective subject (E) may be available to students as determined by the Department:

BRE470 (E) Information Technology and Building Information modelling for Construction

In addition, PMT students can also opt the following subjects offered by the Department of APSS, in addition to or in lieu of BRE electives:

APSS118 Self Under Study and Communication
APSS4522 Health Policy
APSS4531 Current Management Practices and Issues in Human Service Organizations

15. Typical Programme of the Discipline-specific Requirements of the Major

It is anticipated that the majority of students are likely to complete the Major together with the General University Requirement (GUR) in four-year time scale, the following typical patterns of the Full-time **BSc (Hons) in Surveying** are provided for reference.

15.1 Stage 1

	Semester 1 (13 weeks)	**Credit Value**
General University Requirements (GUR)	Language and Communication Requirements (LCR) subject 1	3
GUR	(LCR) subject 2	3
BRE1000 (Freshman Seminar)	Construction for Better Living	3
GUR		
GUR	Cluster Areas Requirements (CAR) subject 1	3
GUR	Cluster Areas Requirements (CAR) subject	3
	Healthy Lifestyle	-
	Semester 2 (13 weeks)	
GUR	LCR subject 3	3
GUR	Leadership and Intra-personal Development	3
AMA1110	Basic Mathematics I	3
BRE258	Industrial Safety I	1
BRE2031		3
BRE263	Environmental Science	3
	Construction Economics & Finance	
	Total	**31**
	Summer Semester (7 weeks)	
BRE299	Work-Integrated Education (WIE)* (4-week work training)	2 training credits

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

15.2 **Stage 2**

	Semester 1 (13 weeks)	**Credit Value**
GUR	CAR subject 3	3
GUR	CAR subject 4	3
ELC3421	English for Construction and Environmental Professionals	3
BRE2031	Environmental Science	3
BRE265	Introductory Construction Technology &	3
BRE263	Materials	3
BRE349	Construction Economics & Finance	3
GUR	Building Services I Healthy Lifestyle	-
	Semester 2 (13 weeks)	
GUR	Service-Learning	3
CLC3231P	Chinese Communication for Construction and Environment	3
BRE206	The Legal Context of Construction & Real Estate (CRE)	3
BRE217	Planning & Development	3
BRE269	Integrated Professional Workshop I	3
	Total	**36**
	Summer Semester (7 weeks)	
BRE299	Work-Integrated Education (WIE)* (4-week work training)	2 training credits

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

15.3 **Stage 3**

		Semester 1 (13 weeks)	**Credit Value**
BRE336 BRE350 BRE365 BRE366		Development Control Law Project Management & Procurement International Study** Analytical Skills & Methods	3 3 1 2
		Semester 2 (13 weeks)	
BRE326 BRE365 BRE369		Maintenance Technology & Management International Study** Integrated Professional Workshop II	3 - 3
Building Surveying (BS) / Quantity Surveying (QS) Disciplines		**Semester 1 (13 weeks)**	
	BRE204 BRE370 BRE363	Structure I Intermediate Construction Technology & Materials Construction Economics	3 3 3
		Semester 2 (13 weeks)	
	BRE345 BRE364	Measurement, Documentation & Estimating Construction Contract Law & Administration Elective subject 1## (BS discipline)	3 3 3
General Practice (GP)/ Planning & Development (PD)/ Planning & Facility Management Disciplines		**Semester 1 (13 weeks)**	
	BRE315 BRE371 BRE397	Project Valuation Introduction to Property Management Property Management Accounting	3 3 3
		Semester 2 (13 weeks)	
	BRE337 BRE362	Property Law Urban Economics & Property Investment Elective subject 1##	3 3 3
		Total (for each discipline)	**30 or 33 credits**
		Summer Semester (7 weeks)	
	BRE365	International Study**	-

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

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

15.4 **Stage 4**

		Semester 1 (13 weeks)	**Credit Value**
BRE365		International Study**	-
BRE466		Capstone Project[#]	6
		Semester 2 (13 weeks)	
BRE469		Integrated Professional Workshop III	3
BS Discipline-Specific subjects		**Semester 1 (13 weeks)**	
	BRE415 BRE453 BRE461 BRE470	Dispute Resolution Building Services II Environmental Impact and Assessment Information Technology & Building Information Modelling for Construction	3 3 3 3
		Semester 2 (13 weeks)	
	BRE435 BRE437	Design, Adaptation & Conversion Facility Management	3 3
QS Discipline-Specific subjects		**Semester 1 (13weeks)**	
	BRE415 BRE453 BRE461	Dispute Resolution Building Services II Environmental Impact and Assessment	3 3 3
		Semester 2 (13 weeks)	
	BRE439 BRE440 BRE442	Engineering Contract Procedures Cost & Value Management Forecasting & Competition in the Built Environment	3 3 3
GP & PD Disciplines-Specific subjects		**Semester 1 (13 weeks)**	
	BRE427 BRE4291 BRE463 BRE465	Applied Property Investment Real Estate Marketing Business Valuation and Accounting Asset Management	3 3 3 3
GP/ PFM Discipline-Specific		**Semester 2 (13 weeks)**	
	BRE418 BRE436	Real Estate Development Applied Property Valuation	3 3
PD Discipline-Specific	BRE418 BRE464	Real Estate Development Urban Planning	3 3
		Total (for each discipline)	**24 or 27 credits**

[#] BRE466 Capstone Project is a **6-credit** core subject spanning across from Semester 1 to Semester 2 of Stage 4 (final year).

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

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

Table 1

Appendix I

Compulsory Core Foundation Subjects	Accreditation Subject Areas Specified by Divisions	Building Surveying								
		Building Contraction & 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	√	√		√	√	√			
BRE326	Maintenance Technology & Management	√	√		√		√			
Management										
CE123	Managing the Built Environment					√				
BRE350	Project Management and Procurement					√	√			
Law										
BRE206	Legal Context for CRE						√	√	√	
BRE336	Development Control Law					√	√	√		
Real Estate & Economics										
CE114	Land Use and Sustainable Environment									
BRE217	Planning and Development					√		√		
BRE263	Construction Economics and Finance					√	√		√	
Research & Capstone Project										
BRE366	Analytical Skills and Methods									√
BRE466	Capstone Project									√
Integrated Studies / Professional Workshops										
CE1000	Construction for Better Living					√				
BRE365	International Study					√				
BRE299	Work-Integrated Education					√				
BRE269, BRE369, BRE469	Integrated Professional Workshop I / II / III *									
	Integrated project					√				
	Guided studies with seminars & workshops	√							√	

Notes

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

* Revised new subjects

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

Table 2

Appendix II

Compulsory Core Foundation Subjects	Accreditation Subject Areas Specified by Divisions	General Practice Surveying								
		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	√	√							
	gement	√								
Man										
CE123	Managing the Built Environment		√							
BRE350	Project Management and Procurement		√							
Law										
BRE206	Legal Context for CRE		√	√	√					
				√		√				
Rea	**Eco**									
CE114	Land Use and Sustainable Environment						√	√		
BRE217	Planning and Development					√	√	√	√	
BRE263	Construction Economics and Finance					√			√	√
Research & Capstone Project										
BRE366	Analytical Skills and Methods									
BRE466	Capstone Project									
Integrated Studies / Professional Workshops										
CE1000	Construction for Better Living					√				
BRE365	International Study					√				
BRE299	Work-Integrated Education					√				
BRE269, BRE369, BRE469	Integrated Professional Workshop I / II / III *									
	Integrated project					√				
	Guided studies with seminars & workshops		√	√		√			√	

Notes

The above table aims to demonstrate the fulfillment 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

Appendix III

Compulsory Core Foundation Subjects	Accreditation Subject Areas Specified by Divisions	Planning & Development										
		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												
CE123	Managing the Built Environment			√								
BRE350	Project Management and Procurement			√								
Law												
BRE206	Legal Context for CRE				√	√						
BRE336	Development Control Law			√	√			√				
Real Estate & Economics												
CE114	Land Use and Sustainable Environment						√			√		√
BRE217	Planning and Development			√	√		√	√	√	√		√
BRE263	Construction Economics and Finance			√		√		√	√		√	
Research & Capstone Project												
BRE366	Analytical Skills and Methods											
BRE466	Capstone Project											
Integrated Studies / Professional Workshops												
CE1000	Construction for Better Living						√					
BRE365	International Study						√					
BRE299	Work-Integrated Education						√					
BRE269, BRE369, BRE469	Integrated Professional Workshop I / II / III *											
	Integrated project						√					
	Guided studies with seminars & workshops							√	√			√

Notes

The above table aims to demonstrate the fulfillment 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

Compulsory Core Foundation Subjects	Accreditation Subject Areas Specified by Divisions	Property & Facilities Management				
		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						
CE123	Managing the Built Environment	√	√		√	
BRE350	Project Management and Procurement		√	√	√	√
Law						
BRE206	Legal Context for CRE	√	√	√		√
BRE336	Development Control Law				√	√
Real Estate & Economics						
CE114	Land Use and Sustainable Environment					
BRE217	Planning and Development				√	
BRE263	Construction Economics and Finance	√		√	√	√
Research & Capstone Project						
BRE366	Analytical Skills and Methods					
BRE466	Capstone Project					
Integrated Studies / Professional Workshops						
CE1000	Construction for Better Living			√		
BRE365	International Study			√		
BRE299	Work-Integrated Education			√		
BRE269, BRE369, BRE469	Integrated Professional Workshop I / II / III *					
	Integrated project			√		
	Guided studies with seminars & workshops		√			√

Notes

The above table aims to demonstrate the fulfillment 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

Appendix IV

Compulsory Core Foundation Subjects	Accreditation Subject Areas Specified by Divisions	Quantity Surveying				
		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						
CE123	Managing the Built Environment					
BRE350	Project Management and Procurement	√	√	√	√	
Law						
BRE206	Legal Context for CRE				√	
BRE336	Development Control Law		√			
Real Estate & Economics						
CE114	Land Use and Sustainable Environment					
BRE217	Planning and Development		√			
BRE263	Construction Economics and Finance	√				
Research & Capstone Project						
BRE366	Analytical Skills and Methods	√				
BRE466	Capstone Project	√				
Integrated Studies / Professional Workshops						
CE1000	Construction for Better Living			√		
BRE365	International Study			√		
BRE299	Work-Integrated Education			√		
BRE269, BRE369, BRE469	Integrated Professional Workshop I / II / III *					
	Integrated project			√		
	Guided studies with seminars & workshops	√	√		√	√

Notes

The above table aims to demonstrate the fulfillment 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.

Part IV
Subject Portfolio

Level 2 Subjects:

BRE2031	Environmental Science
BRE204	Structure I
BRE206	The Legal Context of Construction and Real Estate
BRE217	Planning and Development
BRE265	Introductory Construction Technology and Materials
BRE262	Project Studio
BRE263	Construction Economics and Finance
BRE269	Integrated Professional Workshop I
BRE299	Work-Integrated Education (WIE)

Level 3 Subjects:

BRE302	Structure II
BRE315	Property Valuation
BRE326	Maintenance Technology & Management
BRE336	Development Control Law
BRE337	Property Law
BRE345	Measurement, Documentation & 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
BRE369	Integrated Professional Workshop II
BRE370	Intermediate Construction Technology & Materials
BRE371	Introduction to Property Management
BRE397	Property Management Accounting

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 & Competition in the Built Environment
BRE453	Building Services II
BRE461	Environmental Impact and Assessment
BRE462	Advanced Construction Technology
BRE463	Business Valuation and Accounts
BRE464	Urban Planning (Workshops)
BRE465	Asset Management
BRE466	Capstone Project
BRE469	Integrated Professional Workshop III
BRE470	Information Technology and Building Information Modelling for Construction
BRE471	Advanced Property Management

Service Teaching:

AMA1110	Basic Mathematics I – Calculus and Probability & Statistics
APSS118	Self Under Study and Communication
AMA290	Engineering Mathematics
APSS4522	Health Policy
APSS4531	Current Management Issues Practices and Issues in Human Service Organizations
CLC3231P	Chinese Communication for Construction and Environment
BRE1000	BRE Freshmen Seminar
CSE20290	Introduction to Geotechnology
ELC3421	English for Construction and Environmental Professionals
BRE258	Industrial Safety I
LSGI2961	Engineering Surveying