



**THE HONG KONG
POLYTECHNIC UNIVERSITY**
香港理工大學

Department of Building and Real Estate

Higher Diploma

in

Building Technology and Management (Engineering)

Building Technology and Management (Surveying)

Programme Code: 32372-ENG & 32372-SUR

DEFINITIVE PROGRAMME DOCUMENT

(For 2018/19 cohort)

September 2018

This Definitive Programme 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 AS Handbook on Academic Regulations and Procedures.

Department of Building and Real Estate
Faculty of Construction and Environment

September 2018

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Subject Portfolio

1. Introduction and General Information

The Higher Diploma in Building Technology and Management (HDBTM) of BRE has been operating since 1974, first as a 3-year full-time programme, and then redesigned as a 2-year curriculum with respect to changes in entrance requirements on qualification over the years. Starting from 2002/2003, the intake of students to the HDBTM has been divided into two distinct programmes: HDBTM in Engineering and HDBTM in Surveying.

The current 2-year full-time programmes using HKDSE result as main entrance requirements have been implemented since 2012/13 academic year. Starting from 2018/19, both HDBTM programmes comprise 63 credits plus 3 training credits.

Programme Title & Programme Code	Higher Diploma in Building Technology (Engineering) 32372-ENG Higher Diploma in Building Technology (Surveying) 32372-SUR
Mode of Study	Full-time
Duration	2 years (normal duration) 4 years (maximum)
Credit Requirements for Graduation	63 Credits + 3 Training Credits
Host Department	Department of Building and Real Estate (BRE)
Contributing Departments	AMA, CBS, ELC, CEE, LSGI, IC

2. The Rationale, Programme Aims and Intended Learning Outcomes

2.1 Motto, Vision & Mission of the University

Our Motto

To learn and to apply, for the benefit of mankind

Our Vision

Be a leading university that advances and transfers knowledge, and provides the best holistic education for the benefit of Hong Kong, the nation and the world.

Our Mission

- To pursue impactful research that benefits the world.
- To nurture critical thinkers, effective communicators, innovative problem solvers and socially responsible global citizens.
- To foster a University community in which all members can excel in their aspirations with a strong sense of belonging and pride.

2.2 Institutional Outcomes of Higher Diploma Programmes of the University

Along with the mission statements of the University, a set of Learning Outcomes for Higher Diploma graduates at institutional level have been developed as below:

Competent Paraprofessional: Graduates should be able to integrate and apply in practice the fundamental knowledge and skills required for functioning effectively as an entry-level paraprofessional.

Critical Thinker: Graduates should be able to examine the validity of information, arguments, and different viewpoints, and reach a sound judgement on the basis of credible evidence and logical reasoning.

Effective Communicator: Graduates should be able to comprehend and communicate effectively in English and Chinese, orally and in writing, in professional and daily contexts.

Practical Problem Solver: Graduates should be able to identify and define problems in professional and daily contexts, and produce workable solutions to the problems.

Lifelong Learner: Graduates should recognize the need for continual learning and self-development, and be able to plan, manage and improve their own learning for self-determined development goals.

Ethical Citizen: Graduates should recognize their leadership potential in their own roles, and should acknowledge their responsibilities as paraprofessionals and citizens to the society and their own nation, and be able to demonstrate ethical reasoning in professional and daily contexts.

The HDBTM programmes has been designed and implemented to align with the institutional outcomes.

2.3 Vision and Mission Statement of the Department of Building and Real Estate

Vision of BRE

To become a world-class academic department in the construction and real estate field.

Mission of BRE

To achieve Academic Excellence in the context of construction and real estate.

2.4 Programme Mission Statement and Rationale

Higher diploma education in building and construction should be intrinsically associated with the industry, for which HDBTM will continue to serve. HDBTM is designed to provide a course of study which is not only academically rigorous but also provides the appropriate technical expertise in the production engineering discipline and surveying discipline, such that graduates are well prepared to play a proactive role within the construction industry.

HDBTM aims to provide fundamental education for students within an academic environment to develop their knowledge, skills, and abilities by application of the methods and practices involved in the evaluation, design, construction, and maintenance of buildings with underpinning studies of technologies, economics, law, management, and technology. The two programmes are designed for the graduates to pursue their career development to become building engineering and surveying paraprofessionals or professionals for Hong Kong, the Mainland, and other international markets.

2.5 Programmes Education Objectives

The Programme Outcomes are evolved from the Programme Mission with its educational objectives whilst the Programme Outcomes direct the design of the programme curriculum and hence the subjects (courses) contained in the programme curriculum. Every subject (course) incorporates both the subject intended learning outcomes (ILOs) and the subject content of which is specifically designed for students learning be it with professional or complementary content. The intended learning outcomes of the different subjects (courses) are designed to achieve the programme outcomes at different levels of the subjects. It is a two-way inter-related activity/process for the curriculum and the programme outcomes.

There are two categories of the programme outcomes namely A, Professional Academic Learning Outcomes with 5 outcomes; and B, Attributes to all-roundedness with 6 outcomes. The former focuses mainly on the discipline specific knowledge of the programme professional-wise and academic-wise whereas the latter focuses on the complimentary soft skills in general which are applicable to both disciplines specific as well as the daily social encounters. Consequently, these two categories of programme outcomes are learned through the various subjects (courses) in the curriculum, which then in turn achieve the programme educational objectives.

There are four educational objectives of the HDBTM programme to embrace both the professional and academic outcomes as well as the incorporation of the soft skills (all-rounded attributes). Such educational objectives are as follows:-

- To equip with appropriate technical expertise in the production of building and facilities.
- To be able to contribute effectively to project management teams.
- To be able to adapt to changing demands in the building engineering profession.
- To continue to develop in the building engineering profession.

2.6 Programmes Intended Learning Outcomes

The Intended Programme Outcomes refer to the intellectual abilities, knowledge, skills and attributes that an all-rounded preferred graduate from HDBTM programme should possess.

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

Category A Professional/academic knowledge and skills

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

A1. To possess the basic knowledge of the engineering principles, processes and methods for the successful completion of construction projects.

Measurement Dimensions

- (1) An ability to possess knowledge of systematical basic engineering principles and construction technology for the successful completion of different types of construction projects.
- (2) An ability to comprehend the basic knowledge of engineering principles and construction technology that provide practical bodies of knowledge for the accepted practices in construction engineering projects.
- (3) An ability to understand and evaluate the basic process(es) of construction activities of a construction project.

- (4) An ability to demonstrate the basic knowledge of engineering practice (technology) in the construction practice areas.

A2. To have a basic knowledge of construction management and operational practices required to support efficient building production.

Measurement Dimensions

- (1) An ability to apply basic engineering management for building construction activities.
- (2) An ability to apply quality, safety and environmental management in building production.
- (3) An ability to apprehend planning and programming techniques for managing building construction activities.

A3. To be able to identify, analyze, and solve engineering problems arising from the construction operation.

Measurement Dimensions

- (1) An ability to identify problems in construction.
- (2) An ability to present the construction problems being identified propose appropriate solutions.
- (3) An ability to apply engineering principles and construction technology to propose solutions for solving the identified technical construction problems.

A4. To be conversant with the specification, design, construction, control, and management that facilitates the successful completion of the production of building projects.

Measurement Dimensions

- (1) An ability to understand the technical content of construction specifications.
- (2) An ability to apprehend the characteristics and limitations of different construction designs, buildability and method statements.
- (3) An ability to apply different construction procurement systems for building construction works.

A5. To appreciate the managerial, legal, social, and ethical responsibilities of a technician engineer employed in building production.

Measurement Dimensions

- (1) An ability to understand the managerial, legal, social and ethical issues with technological considerations for the identified construction problems.
- (2) An ability to appreciate the environmental considerations of the proposed solutions to the identified construction problems.

Category B Attributes for all-roundedness

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

B1. To possess skills to identify, analyze, and solve problems.

Measurement Dimensions

- (1) An ability to identify issues and problems in construction/construction projects.
- (2) An ability to propose solutions for the identified issues/problems in construction/construction projects taking into account of all affecting possibilities.

B2. To have an understanding of professional, social and ethical responsibilities.

Measurement Dimensions

- (1) An ability to apprehend the implications of professional, social and ethical responsibilities while identifying issues and problems.
- (2) An ability to import the considerations of professional, social and ethical responsibilities in proposing solutions/alternatives.
- (3) An ability to show comprehension of the role of building technician engineer in society in identifying issues in construction practice: professional ethics for public safety and the impacts of such construction activities on economic, social, cultural and environmental aspects as well as on sustainability.

B3. To communicate effectively.

Measurement Dimensions

- (1) An ability to communicate clearly coherently and effectively in both verbal and written instructions.
- (2) An ability to comprehend and write clear and systematic report and design/management/process documentation on complex construction engineering activities.
- (3) An ability to make concise and effective presentations to the clients, stakeholders, construction community and the society at large.
- (4) An ability to demonstrate the different means of communication in clear and precise communication e.g. the use of IT, charts, graphs, statistics, diagrams and drawings, computer simulations, power point, video, etc. apart from writing.

B4. To reflect on knowledge gap for life time learning.

Measurement Dimensions

- (1) An ability to show the recognition of needs in life-long learning in the changing technological, environmental and social environment(s).

- (2) An ability to engage in learning development independently.
- (3) An ability to identify contemporary issues in knowledge for further enhancement.

B5. To contribute as an effective team member.

Measurement Dimensions

- (1) An ability to show contributions and harmonious working in a group.
- (2) An ability to demonstrate proactively in thinking as well as in actions within his/her responsible domain(s).
- (3) An ability to function effectively in team/group work.

B6. To identify contemporary issues.

Measurement Dimensions

- (1) An ability to identify the present construction issues at large.
- (2) An ability to analyze and formulate such issues/problems to substantiate conclusions.

2.7 Mapping of Intended Learning Outcomes with Institutional Learning Outcomes

The mapping of the Intended Learning Outcomes (ILO) of the programme with the Institutional Learning Outcomes of the University is presented in the table below:

The approach on measuring the achievement of Intended Learning Outcomes of the programme will be covered in Section 8.

Mapping of Intended Learning Outcomes (ILOs) of the Higher Diploma in Building Technology & Management Programme and Institutional Learning Outcomes of PolyU

ILOs of HDBTM Programme (Category A)	Institutional Learning Outcomes (Higher Diploma Programmes)					
	Competent paraprofessional	Critical thinker	Effective communicator	Practical problem solver	Lifelong learner	Ethical citizen
A1	✓			✓	✓	
A2	✓		✓	✓	✓	✓
A3	✓	✓	✓	✓	✓	
A4	✓	✓		✓	✓	✓
A5	✓	✓	✓	✓	✓	✓
ILOs of HDBTM Programme (Category B)	Competent paraprofessional	Critical thinker	Effective communicator	Practical problem solver	Lifelong learner	Ethical citizen
B1	✓	✓		✓		
B2	✓	✓	✓	✓	✓	✓
B3	✓		✓	✓		
B4	✓	✓		✓	✓	
B5	✓		✓	✓		✓
B6	✓	✓	✓	✓	✓	✓

3. The Curriculum Framework

HDBTM is a two-year full time programme with a mandatory summer term in between the 2 years, and comprises 63 credits plus 3 summer training credits. Within the 63 credits, there are 48 credits of Discipline Specific Requirements (DSR) subjects 15 credits of General University Requirements (GUR) subjects including 9 credits in GUR language subjects and 6 credits in Cluster Area Requirements (CAR) subjects which is in line with the General framework for Higher Diploma programmes offered by the PolyU (The PolyU curriculum framework for Higher Diploma programmes is shown as below as reference).

<i>Minimum</i> credit requirement for graduation		60 credits
General University Requirements	15-18 credits	
Discipline-Specific Requirements	42-57credits	
<i>Maximum</i> credits allowed without incurring a higher tuition fee		75 credits

The General University Requirements for Higher Diploma Programmes (HDGUR) recommends higher diplomas in PolyU to have at least 15 credits of HDGUR or up to 18 credits of HDGUR with the distributions as below. HDBTM complies with the above PolyU required framework by including 9 HDLCR credits and 6 CAR credits in the curriculum (i.e., freshman seminars has not been included in the curriculum and this arrangement aligns with other Higher Diploma offered within the Faculty of Construction and Environment (FCE).

Area	Credits
HD Language and Communication Requirements (HDLCR)	9
[9 credits; 6 credits in English and 3 credits in Chinese]	
Cluster-Area Requirements (CAR)	6
[6 credits; 3 credits should be in subjects designated as "China-related"]	
Freshman Seminars	3
Total GUR credits	18

HDBTM consists of two distinct programmes, namely HDBTM in Engineering and HDBTM in Surveying, share some common subjects in both years while specific subject groups for corresponding disciplines are included to provide students to pick up specific professional discipline to pursue. There is a mechanism to allow students to change discipline in year one. Every application for change of discipline has to be supported with reasons and shall be subject to the approval by the Award Coordinator.

4. Curriculum Structure and Progression Pattern

Curriculum and General Progress Pattern

Progression Pattern (2018/19)					Building Surveying (BS)	Quantity Surveying (QS)	Estate Surveying (GP)
Higher Diploma in Building Technology and Management (32372)							
Stage 1 (Year 1)							
	Semester 1 (13weeks)	Eng.	Sur.	Remarks			
GUR	LCR subject 1	3	3	GUR Subject			
GUR	LCR subject 2	3	3				
GUR	CAR subject 1	3	3				
BRE222	Workshop Practice & Draftsmanship	1.5	1.5	Tailor-made for HDBTM			
AMA1110	Basic Mathematics I	3	3	Common subject with undergraduate programmes			
IC358	Industrial Safety	1	1				
	Sub-total credits	14.5	14.5				
Semester 2 (13 weeks)							
GUR	LCR subject 3	3	3	GUR Subject			
CSE20290	Introduction to Geotechnology	3		Common subject with undergraduate programmes			
BRE206	The Legal Context for Construction & Real Estate		3				
BRE2031	Environmental Science	3	3				
BRE263	Construction Economics & Finance	3	3				
BRE210	Information and Data Analysis	3	3	Tailor-made for HDBTM			
BRE222	Workshop Practice & Draftsmanship	1.5	1.5	Tailor-made for HDBTM			
	Sub-total credits	16.5	16.5				
	Stage 1 Total Credits	31	31				
Summer Semester (7 weeks)							
BRE274	Workshop Training and Building Information Modelling	3	3	Training Credits			

Stage 2 (Year 2)							
	Semester 1 (13 weeks)	Eng.	Sur.				
GUR	CAR Subject 2	3	3	GUR Subject			
BRE261	Construction Technology & Materials I	3	3	Common subject with undergraduate programmes			
BRE349	Building Services I	3	3				
BRE315	Property Valuation		3				√
ELC3421	English for Construction and Environmental Professionals	3	3				
BRE271	Measurement & Estimating	3	3	Tailor-made for HDBTM			
	Sub-total credits	15	15/18				
Semester 2 (13 weeks)							
BRE262	Project Studio	3	3	Common subject with undergraduate programmes			
LSGI2961	Engineering Surveying	3					
BRE217	Planning & Development		3				
BRE337	Property Law		3			√	
BRE272	Project Supervision & Contract Administration	3	3	Tailor-made for HDBTM			
BRE273	Construction and Maintenance Technology	3	3		√	√	
BRE275	Individual & Integrated Project	5	5		√	√	
	Sub-total credits	17	14/17				
	Stage 2 Total Credits	32	32				
	Total Programme Credits	63	63				
	Training Credits	3	3				
Total Credits for Specific Surveying Discipline					6	6	6
					BS	QS	GP

5. Entrance Requirements

5.1 The HDBTM programmes admit students via the JUPAS and non-JUPAS routes. The minimum entrance requirements of HDBTM for JUPAS applicants are in line with the general PolyU requirement for higher diploma programmes. There are no specific preferred subjects for HDBTM and the other entrance requirements are in line with the admission policies of BRE and FCE (English has been set as preferred subjects by the University for all undergraduate and sub-degree programmes). For non-JUPAS applications, normally the study history of applicants will be assessed on a case-by-case basis.

5.2 The General Entrance Requirements for Higher Diploma offered by the University are as below:

For JUPAS applicants

Candidates applying with Hong Kong Diploma Secondary Education (HKDSE) or equivalent. Level 2 in 5 HKDSE subjects including English Language and Chinese Language

Relevant Applied Learning subjects that can be considered for meeting the University entrance requirement and admission score calculation for HDBTM:

Building Technology

For non-JUPAS applicants

For those who are applying on the basis of A-Level qualifications:

- E in one A-Level subject or E in two AS-Level subjects;
- AND
- Satisfy the English Language Requirement set by the University.

For those who are applying on the basis of other qualifications:

Applicants seeking admission on the basis of other qualifications will be considered on a case-by-case basis.

6. Programme Operation and Management

Subject Delivery

- 6.1 Subjects are normally offered once a year in a pre-determined semester. Most of the subjects listed in the programme will be offered in the daytime. Usually, there will be no summer term teaching (except BRE274 operated by IC for all students in the summer of year 1 and GUR subjects enrolled by individual students)

Subject Registration and Withdrawal

- 6.2 In addition to programme registration, students need to register for the subjects at specified periods prior to the commencement of the semester. Students may apply for withdrawal of their registration on a subject after the add/drop period if they have a genuine need to do so. The application should be made to the relevant programme offering Department and will require the approval of both the subject lecturer and the Programme Leader concerned. Application submitted after the commencement of the examination period will not be considered. For approved applications of subject withdrawal, the tuition fee paid for the subject will be forfeited and the withdrawal status of the subject will be shown in the examination result notification and transcript of studies but will not be counted towards the calculation of GPA.

Study Load

- 6.3 For students following the progression pattern specified for their programme, they have to take the number of credits and subjects, as specified in this document, for each semester. Students cannot drop those subjects assigned by the Department unless prior approval has been granted by the subject lecturer in charge and the Department.
- 6.4 The normal study load is 15 credits in a semester. The maximum study load to be taken by a student in a semester is 21 credits, and special approval by the award coordinator is necessary should a student plan 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.
- 6.5 To help improving the academic performance of students on academic probation, these students will be required to take a reduced study load in the following semester (Summer Term excluded). The maximum number of credits to be taken by the students under probation has been set at 15 credits.
- 6.6 Students are not generally allowed to take zero subject in any semester, including the mandatory summer term as required by some programmes, unless they have obtained prior approval from the Award Coordinator; otherwise, they will be classified as having unofficially withdrawn from their programme of study. Students who have been approved for zero subject enrolment (i.e. taking zero subject in a semester) are allowed to retain their student status and continue to use campus and library facilities. Any semesters in which students are allowed zero subjects enrollment will be counted towards the maximum period of registration. Students will be responsible for ensuring that they complete their programme of study within the maximum period of registration.

Subject Exemption

- 6.7 Students may be exempted from taking any specified subjects, including mandatory General University Requirements (GUR) subjects, if they have successfully completed similar subjects previously in another programme or have demonstrated the level of proficiency/ability to the satisfaction of the subject offering Department. Subject exemption is normally decided by the subject offering Department. However, for applications which are submitted by students who have completed an approved student exchange programme, the subject exemption is to be decided by the programme offering Department in consultation with the subject offering Departments. If students are exempted from taking a specified subject, the credits associated with the exempted subject will not be counted towards meeting the award requirements (except for exemptions granted at admission stage). It will therefore be necessary for the students to consult the programme offering Department and take another subject in order to satisfy the credit requirement for the award.

Credit Transfer

- 6.8 Students may be given credits for recognized previous studies including mandatory General University Requirements (GUR) subjects; and the credits will be counted towards meeting the requirements for award. Transferred credits may be counted towards more than one award. The granting of credit transfer is a matter of academic judgment.
- 6.9 Credit transfer may be done with or without the grade being carried over; the former should normally be used when the credits were gained from PolyU. Credit transfer with the grade being carried over may be granted for subjects taken from outside the University, if deemed appropriate, and with due consideration to the academic equivalence of the subjects concerned and the comparability of the grading systems adopted by the University and the other approved institutions. Subject credit transfer is normally decided by the subject offering Department. However, for applications which are submitted by students who have completed an approved student exchange programme, the decision will be made by the programme offering Department in consultation with the subject offering Departments.
- 6.10 The validity period of credits previously earned is up to 8 years after the year of attainment.
- 6.11 Normally, not more than 50% of the credit requirement for award may be transferable from approved institutions outside the University. For transfer of credits from programmes offered by PolyU, normally not more than 67% of the credit requirement for award can be transferred. In cases where both types of credits are being transferred (i.e. from programmes offered by PolyU and from approved institutions outside the University), not more than 50% of the credit requirement for award may be transferred.
- 6.12 If a student is waived from a particular stage of study on the basis of advanced qualifications held at the time of admission, the student concerned will be required to complete fewer credits for award. For these students, the 'deducted' credits at the admission stage will be counted towards the maximum limit for credit transfer when students apply for further credit transfer after their admission.

- 6.13 All credit transfers approved will take effect only in the semester for which they are approved. A student who applies for transfer of credits during the re-enrolment or the add/drop period of a particular semester will only be eligible for graduation at the end of that semester, even if the granting of credit transfer will immediately enable the student to satisfy the credit requirement for the award.
- 6.14 For credit transfer of retaken subjects, the grade attained in the last attempt should be taken in the case of credit transfer with grade being carried over. Students applying for credit transfer for a subject taken in other institutions are required to declare that the subject grade used for claiming credit transfer was attained in the last attempt of the subject in their previous studies. If a student fails in the last attempt of a retaken subject, no credit transfer should be granted, despite the fact that the student may have attained a pass grade for the subject in the earlier attempts.
- 6.15 Students should not be granted credit transfer for a subject, which they have attempted and failed in their current study.

Deferment of Study

- 6.16 Students may apply for deferment of study if they have a genuine need to do so such as illness or posting to work outside Hong Kong. Approval from the Department is required. The deferment period will not count towards the maximum period of registration.

Registration Period

- 6.17 Subjects within the programme will be offered often enough to enable students entering the programme with the minimum admission requirements and undertaking the normal study pattern to complete the award requirements within the normal duration of 2 years. However, a student is allowed to register on the programme up to a maximum of 4 years.

Compulsory Graduation

- 6.18 As soon as students have satisfied the criteria for graduation in the programme, they will be required to graduate. This requirement has been stipulated in order to ensure the most efficient use of the University's resources.

Departmental Undergraduate Programme Committee

- 6.19 The Head of Department can decide on the composition of the Departmental Undergraduate Programme Committee. The Departmental Undergraduate Programme Committee will meet at least twice a year, and additional meeting may be convened at the request of the Chairman or of one-third of its membership or of the Chairman of the Senate. It will exercise the overall academic and operational responsibility for the programme and its development within defined policies, procedures and regulations.

- 6.20 The Committee will be specifically responsible for the following:
- i. the effective conduct, organization and development of the programme;
 - ii. stimulation of the development of teaching methods and programme materials, through Heads of Departments, Theme Group Leaders, and the Educational Development Centre, as appropriate;
 - iii. review of academic regulations, admission policy, assessment and examination methods;
 - iv. formal submissions to appropriate professional bodies, normally via the Head of the host Department and in accord with the University's established procedures;
 - v. continuing critical review of the rationale, aims, intended learning outcomes (ILOs) and the alignment of teaching, learning and assessment with the ILOs, programme learning outcomes assessment and its results, and the improvement and development of the programme(s);
 - vi. definition and maintenance of the academic standard of the programmes;
 - vii. ensuring that the views of students and other key stakeholders on the programme are known and taken into account;
 - viii. evaluation of the operation, health and progress of the programme as defined in the University's programme review procedures.

Programme Management Committee

- 6.21 The programme management and operation of HDBTM shall follow the PolyU's and "*Academic Regulations for 2-year Higher Diploma Programmes*" and "*Guidelines and Regulations for Programme Planning, Validation and Management*". The Departmental Programme Committee for the HDBTM will exercise the overall academic and operational responsibility for the programme and its/their development within defined policies, procedures and regulations. The composition of the Programme Committee shall comprise of the Award Coordinator (as Chairman), Deputy Award Coordinator and Programme Counsellor(s). The Departmental Programme Committee(s) will meet at least twice a year. Extra meeting(s) will be convened at the request of the Chairman or of one-third of its membership or of the Chairman of the Senate. The Award Coordinator will be a standing member of the Departmental Undergraduate Programme Committee (covering Bachelor's degree and sub-degree programmes).

Student / Staff Consultative Group

- 6.22 The importance of assessing students' opinions on the organization and operation of the programme on a continual basis is recognized and formal arrangements for this purpose are in place. The Group should comprises students and staff. Student membership should include all years of study under the normal progression pattern and other major student groupings (if any), and that staff membership be in the programme management team. A member of staff may chair the Group. The Group is to discuss any matters directly related to the programme, and to report or make recommendations, as deemed necessary, to the Departmental Undergraduate Programme Committee. Meetings are usually held once per semester.

6.23 It is important that students do not perceive meetings of this Group as the only or main channel for dealing with student problems and complaints accumulated since the last meeting. Such matters would be dealt with when they occurred, through the Award Coordinator or other appropriate staff. This would allow meetings of the Group to be used for constructive discussion of the programme in general, of the demands of the programme on students, and of possible improvements to the programme curriculum and operation.

7. Examination and Assessment

General Assessment Regulations (GAR)

- 7.1 These General Assessment Regulations shall govern the HDBTM programmes. Specific assessment regulations are set out here, having been developed within the framework of the GAR.

Students' progress by credit accumulation, i.e. credits earned by passing individual subjects can be accumulated and counted towards the final award.

Assessment Methods

- 7.2 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 can be referred to at the website of the Department (www.bre.polyu.edu.hk) and 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 commencement of semesters on the assessment modes, standards and criteria.
- 7.3 Along with the adoption of criterion-referenced assessment and outcome-based approach, rubrics are developed to assess student performance with a scoring scale. Students work is evaluated against the pre-set scoring standards/criteria. The performance of students in respective aspects can be thus assessed according to the specified criteria and intended learning outcomes of the subjects.
- 7.4 In general, the student performance in each subject is assessed by a combination of coursework and examination. Weightings are allocated to coursework and examination of a subject respectively. Coursework may include assignments, case studies, seminar/tutorial presentation, role-playing, fieldwork, 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 (if adopted) 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.

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

- (a) Coursework only: To pass a subject by this method, 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 this method a student must attain a minimum Grade 'D' in coursework and a minimum Grade 'D' in the examination.
- (c) Continuous Assessment: Project-based subject 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.

Grading

7.6 Assessment grades shall be awarded on a criterion-referenced basis. A student's overall performance in a subject (including GUR subjects) shall be graded as follows:

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

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

- 7.7 At the end of a semester, a Grade Point Average (GPA) will be computed as follows, and based on the grade point of all the subjects. 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 point of time:

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

where n = number of all subjects (inclusive of failed subjects) taken by the student up to and including the latest semester/term, but for subjects which have been retaken, only the grade obtained in the final attempt will be included in the GPA calculation

- 7.8 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 have been approved without any grade assigned
 - (v) Subjects from which a student have been allowed to withdraw (i.e. those with the grade 'W')
- 7.9 Subject which has been given an "S" subject grade, i.e. absent from examination, will be included in the GPA calculation and will be counted as "zero" grade point. GPA is an indicator of overall performance and is capped at 4.0.

Types of GPA

- 7.10 GPA will be calculated for each Semester including the Summer Term. This Semester GPA will be used to determine students' eligibility to progress to the next Semester alongside with the 'cumulative GPA'. However, the Semester GPA calculated for the Summer Term will not be used for this purpose, unless the Summer Term study is mandatory for all students of the programme concerned and constitutes part of the graduation requirements.
- 7.11 The GPA calculated after the second Semester of the students' study is therefore a 'cumulative' GPA of all the subjects taken so far by students, and without applying any level weighting.
- 7.12 Along with the 'cumulative' GPA, a weighted GPA will also be calculated, to give an indication to the Board of Examiners on the award classification, which a student will likely get if he makes steady progress on his/her academic studies. GUR subjects will be included in the calculation of weighted GPA for all programmes.
- 7.13 When a student has satisfied the requirements for award, an award GPA will be calculated to determine his/her award classification. GUR subjects will be included in the calculation of award GPA for all programmes.

Progression/Academic Probation/Deregistration

- 7.14 The Board of Examiners shall, at the end of each semester (except for Summer Term unless there are students who are eligible to graduate after completion of Summer Term subjects or the Summer Term study is mandatory for the programme), determine whether each student is:
- i. eligible for progression towards an award; or
 - ii. eligible for an award; or
 - iii. required to be de-registered from the programme.
- 7.15 When a student has a Grade Point Average (GPA) lower than 2.0, he/she will be put on academic probation in the following semester. Once when a student is able to pull his/her GPA up to 2.0 or above at the end of the semester, the status of “academic probation” will be lifted. The status of “academic probation” will be reflected in the examination result notification but not in transcript of studies.
- 7.16 A student will have ‘progressing’ status unless he/she falls within any one of the following categories which may be regarded as grounds for de-registration from the programme:
- i. the student has exceeded the maximum period of registration for the programme; or
 - ii. the student’s GPA is lower than 2.0 for two consecutive semesters and his/her Semester GPA in the second semester is also lower than 2.0; or
 - iii. the student’s GPA is lower than 2.0 for three consecutive semesters.
- 7.17 When a student falls within the categories as stipulated above, the Board of Examiners shall de-register the student from the programme without exception.
- 7.18 A student may be deregistered from the programme enrolled before the time frame specified in (ii) or (iii) above if the academic performance of the concerned student is poor to the extent that the Board of Examiners considers that there is little chance for the concerned student to attain a GPA of 2.0 at the end of the programme.
- 7.19 If the student is not satisfied with the de-registration decision of the Board of Examiners, he/she can lodge an appeal. All such appeal cases will be referred directly to Academic Appeals Committee (AAC) for final decision. Views of Faculties/Schools/Department will be sought and made available to AAC for reference.

University Graduation Requirements

- 7.20 With effect from 2018/19, a student in HDBTM is eligible for award if he/she satisfies all the conditions listed below:
- i. Complete successfully an accumulation of 63 credits + 3 IC training credits for HD in Industrial and Systems Engineering as defined in the definitive programme document;
 - ii. Satisfy 15 credits General University Requirements for Higher Diploma programme (HDGUR), in which 3 credits for Cluster Area Requirement (CAR) should fulfill the “China-related” requirements;

- iii. Earn a cumulative GPA of 2.00 or above at graduation;
- iv. Satisfy any other requirements as specified in the definitive programme document and as specified by the University.

7.21 There are subjects which are designed to fulfill the credit requirement of different types of subject. Students passing these subjects will be regarded as having fulfilled the credit requirements of the particular types of subject concerned. Nevertheless, the subject passed will only be counted once in fulfilling the credit requirements of the award, and the students will be required to take another subject in order to meet the total credit requirement of the programme concerned.

7.22 Remedial and underpinning subjects are designed for new students who are in need of additional preparations in a particular subject area, and only identified students of a programme are required to take these subjects. These subjects should therefore be counted outside the regular credit requirement for award.

Guidelines on Award Classification

7.23 To assist the Board of Examiners in arriving at award classification decisions, a weighted GPA will be computed for each student upon completion of the programme.

Weighted GPA will be computed as follows:-

$$\text{Weighted GPA} = \frac{\sum \text{Subject Grade Point} \times \text{Subject Credit Value} \times W_1}{\sum_n \text{Subject Credit Value} \times W_1}$$

where

W_1 = weighting to be assigned according to the level of the subject

N = number of all subjects (inclusive of failed subjects) taken by the student up to and including the latest semester/term, but for subjects which have been retaken, only the grade point obtained in the final attempt will be included in the GPA calculation.

7.24 The weighting of each level is a measure of the relevance of the level to the classification of the award. Same as GPA, weighted GPA is capped at 4.0.

7.25 The contribution of each subject towards the weighted GPA depends on the product of the credits assigned and the level weighting. The weighted GPA will be used as one of the factors to be considered by the Board of Examiners in the determination of the award classifications. The weighting of subjects in Level 1 and 2 are 0.2 and Level 3 and 4 are 0.3.

7.26 Any subjects passed after the graduation requirement has been met will not be taken into account of in the grade point calculation for award classification.

Classification of Awards

7.27 The following are guidelines for Board of Examiners' reference in determining award classifications:

Classification	Guidelines
Distinction	The student's performance/attainment is outstanding , and identifies him/her as exceptionally able in the field covered by the programme in question.
Credit	The student has reached a standard of performance which is more than satisfactory but less than outstanding .
Pass	The student has attained the 'essential minimum' required for graduation as a standard ranging from just adequate to satisfactory .

7.28 Students who have committed academic dishonesty will be subject to the penalty of the lowering of award classification by one level. The minimum of downgraded overall result will be kept at a Pass. In rare circumstances where both the Student Discipline Committee and Board of Examiners of a department consider that there are strong justifications showing the offence be less serious, the requirement for lowering the award classification can be waived.

7.29 The following are guidelines for Boards of Examiners' reference in determining award classifications:

Award classification	Guidelines	Award GPA
Distinction	The student's performance/attainment is outstanding, and identifies him as exceptionally able in the field covered by the programme in question.	3.7 ⁺ - 4
Credit	The student has reached a standard of performance/attainment which is more than satisfactory but less than outstanding.	3.2 ⁺ - 3.7 ⁻
Pass	The student has attained the 'essential minimum' required for graduation at a standard ranging from just adequate to just satisfactory.	2.0 – 3.2 ⁻

- 7.30 The validity period of credits earned is eight years from the year of attainment, i.e. the year in which the subject is completed. Credits earned from previous studies should remain valid at the time when the student applies for credit transfer.

Retaking of subjects

- 7.31 Students may retake any subject for the purpose of improving their grade without having to seek approval, but they must retake a compulsory subject which they have failed, i.e. obtained an F grade. However, students who have passed a General University Requirements (GUR) subject are not allowed to re-take the same GUR subject for the purpose of improving their grade. Retaking of subjects is with the condition that the maximum study load of 21 credits per semester is not exceeded. Students wishing to retake passed subjects will be accorded a lower priority than those who are required to retake (due to failure in a compulsory subject) and can only do so if places are available.
- 7.32 The number of retakes of a failed subject is not restricted. Only the grade obtained in the final attempt of retaking (even if the retake grade is lower than the original grade for originally passed subject) will be included in the calculation of the Grade Point Average (GPA). If students have passed a subject but failed after retake, credits accumulated for passing the subject in a previous attempt will remain valid for satisfying the credit requirement for award. (The grades obtained in previous attempts will only be reflected in transcript of studies.)
- 7.33 In cases where a student takes another subject to replace a failed elective subject, the fail grade will be taken into account in the calculation of the GPA, despite the passing of the replacement subject. Likewise, students who fail a Cluster Area Requirement (CAR) subject may need to take another subject from the same Cluster Area in order to fulfill this part of the GUR, since the original CAR subject may not be offered; in such cases, the fail grade for the first CAR subject will be taken into account in the calculation of the GPA, despite the passing of the second CAR subject.

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

Absence from an Assessment Component

- 7.34 If a student is unable to complete all the assessment components of a subject, due to illness or other circumstances which are beyond his/her control and considered by the subject offering department as legitimate, the Department will determine whether the student will have to complete a late assessment and, if so, by what means. This late assessment shall take place at the earliest opportunity, and before the commencement of the following academic year (except that for Summer Term, which may take place within 3 weeks after the finalization of Summer Term results). If the late assessment cannot be completed before the commencement of the following academic year, the Faculty Board Chairman shall decide on an appropriate time for completion of the late assessment.

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

Assessment to be Completed

- 7.36 For cases where students fail marginally in one of the components within a subject, the BoE can defer making a final decision until the students concerned have completed the necessary remedial work to the satisfaction of the subject examiner(s). The remedial work must not take the form of re-examination.

Other Particular Circumstances

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

Aegrotat Award

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

Recording of Disciplinary Actions in Student Records

- 7.40 With effect from Semester One of 2015/16, disciplinary actions against students' misconducts will be recorded in students' records.
- 7.41 Students who are found guilty of academic dishonesty will be subject to the penalty of having the subject result concerned disqualified and be given a failure grade with a remark denoting 'Disqualification of result due to academic dishonesty'. The remark will be shown in the students' record as well as the assessment result notification and transcript of studies, until their leaving the University.

- 7.42 Students who have committed disciplinary offences (covering both academic and non-academic related matters) will be put on 'disciplinary probation'. The status of 'disciplinary probation' will be shown in the students' record as well as the assessment result notification, transcript of studies and testimonial during the probation period, until their leaving the University. The disciplinary probation is normally one year unless otherwise decided by the Student Discipline Committee.
- 7.43 The University reserves the right to withhold the issuance of any certificate of study to a student who has unsettled matters with the University, or subject to disciplinary action.

8. Curriculum Mapping on Programme Learning Outcomes

8.1 Mapping of Curriculum with Programme Learning Outcomes

The matrix or curriculum map in the following tables give a holistic view of the degree to which each intended learning outcome will be taught and measured/assessed in the programme.

The level of attainment of learning outcomes has been classified into three levels, namely

- Introduced (I)
- Reinforced (R)
- Assessed (A)

These indicators (I, R, A) are employed in the tables below to demonstrate the attainment of the programme outcome through subjects (Disciplinary Specific Subjects only) in the HDBTM curriculum.

Disciplinary Specific Subjects in the HDBTM Curriculum

Subjects offered by the Department of Building and Real Estate

<u>Subject Code</u>	<u>Subject Title</u>
BRE2031	Environmental Science
BRE206	The Legal Context for Construction and Real Estate
BRE210	Information and Data Analysis
BRE217	Planning and Development
BRE222	Workshop Practice and Draftsmanship
BRE261	Construction Technology and Materials I
BRE262	Project Studio
BRE263	Construction Economics and Finance
BRE271	Measurement and Estimation
BRE272	Project Supervision and Contract Administration
BRE273	Construction and Maintenance Technology
BRE274	Work Training and Building Information Modelling
BRE275	Individual and Integrated Project
BRE315	Property Valuation
BRE337	Property Law
BRE349	Building Services I

Subjects offered by Servicing Departments

<u>Subject Code</u>	<u>Subject Title</u>
AMA1110	Basic Mathematics I
CSE20290	Introduction to Geotechnology
LSGI2961	Engineering Surveying
IC358	Industrial Safety I
ELC3421	English for Construction and Environment
Professionals	

Subjects offered by the Department of Building and Real Estate

	Programme Outcomes (Professional /Academic Knowledge and Skills)	BRE2031 Environmental Science	BRE206 The Legal Context for CRE	BRE210 Information & Data Analysis	BRE217 Planning & Development	BRE222 Workshop Practice & Draftsmanship	BRE261 Construction Technology & Materials I	BRE262 Project Studio	BRE263 Construction Economics & Finance	BRE271 Measurement & Estimation	BRE272 Project Supervision & Contract Admin	BRE273 Const. & Maintenance Tech.	BRE274 Work Training & BIM	BRE275 Individual & Integ. Project	BRE 315 Property Valuation	BRE337 Property Law	BRE349 Building Services I
A(i)	To possess the basic knowledge of building engineering principles, processes and methods for the successful completion of all types of construction projects.	I A				I	I A					R A					R A
A(ii)	To have a basic knowledge of construction management and operational practices required to support efficient building production.	I A		I R	I A		I A			I A	I R	R A		R A	I	I	
A(iii)	To be able to identify, analyse, and solve building engineering problems arising from construction operation.		A	A				I A			A		R A	R A			R A
A(iv)	To be conversant with the specification, design, construction, control, and management that facilitates the successful completion of the production of building projects.	I	I A		I	I A	I		I A	I A					I	I	I A
A(v)	To appreciate the managerial, legal, social, and ethical responsibilities of a technician engineer employed in building production.		I A		I A		I A			I	I R A		R A		I R A	I R A	

	Programme Outcomes <i>(All-rounded Attributes)</i>	BRE2031 Environmental Science	BRE206 The Legal Context for CRE	BRE210 Information & Data Analysis	BRE217 Planning & Development	BRE222 Workshop Practice & Draftsmanship	BRE261 Construction Technology & Materials I	BRE262 Project Studio	BRE263 Construction Economics & Finance	BRE271 Measurement & Estimation	BRE272 Project Supervision & Contract Admin.	BRE273 Const. & Maintenance Tech.	BRE274 Work Training & BIM	BRE275 Individual & Integ. Project	BRE315 Property Valuation	BRE337 Property Law	BRE349 Building Services I
B(i)	To possess skills to identify, analyse and solve problems.	I A	I	I				I		I A	I A	I A		I R A	R A	R A	R A
B(ii)	To have an understanding of professional, social and ethical responsibilities.		I		I A			I A			R	R	I A		I	I	
B(iii)	To communicate effectively.	I A			I A	I A	I A	I A	I A	I A							R A
B(iv)	To reflect on knowledge gap for life time learning.		I A	I	I	I A		I A					R A	R A	I	I	I
B(v)	To contribute as team member effectively.	I A				I	I A	I	I A					R A	R A	R A	R A
B(vi)	To identify contemporary issues.		I		I A	I A		I A			A	A	R A		I	I	I

Subjects offered by Servicing Departments

	Programme Outcomes (Professional /Academic Knowledge and Skills)	AMA1110 Basic Mathematics I	CSE20290 Introduction to Geotechnology	LSGI2961 Engineering Surveying	IC358 Industrial Safety I	ELC3421 English for Construction & Environment							
A(i)	To possess the basic knowledge of building engineering principles, processes and methods for the successful completion of all types of construction projects.		I A	I A	I R								
A(ii)	To have a basic knowledge of construction management and operational practices required to support efficient building production.	I	I A	I A	I R A								
A(iii)	To be able to identify, analyse, and solve building engineering problems arising from construction operation.												
A(iv)	To be conversant with the specification, design, construction, control, and management that facilitates the successful completion of the production of building projects.												
A(v)	To appreciate the managerial, legal, social, and ethical responsibilities of a technician engineer employed in building production.		I A	I A		I							

	Programme Outcomes <i>(All-rounded Attributes)</i>	AMA110 Basic Mathematics I	CSE20290 Introduction to Geotechnology	LSGI2961 Engineering Surveying	IC358 Industrial Safety I	ELC3421 English for Construction & Environment							
B(i)	To possess skills to identify, analyse and solve problems.	I	I A	I A	I R								
B(ii)	To have an understanding of professional, social and ethical responsibilities.												
B(iii)	To communicate effectively.			I	I R A	I R A							
B(iv)	To reflect on knowledge gap for life time learning.												
B(v)	To contribute as team member.												
B(vi)	To identify contemporary issues.			I	I								

8.2 Measurement of Attainment of Intended Learning Outcomes

The programme-desired outcomes direct the design of the curriculum so as to achieve the programme outcomes. Any revision of the programme outcomes may affect the programme curriculum and vice versa at times dependent on any major changes in the curriculum.

The Programme (Learning Outcome Assessment Plan (LOAP) employs the P-LOAP forms to assess and report the learning outcome assessment results for the programme in the Annual Operation Plan (AOP) annually. The P-LOAP is to assess the curriculum in achieving the programme desired learning outcomes via the curriculum (subjects/courses). If any serious issues or mis-match found from the LOAP/AOP, both the curriculum and programme outcomes would need to be revisited for ratification and revision.

This process if necessary is usually undertaken by the Departmental Teaching and Learning Committee, Award Coordinator and the programme management team. Views and consent will be sought from subject leaders and subject lecturers' through feedback report(s) on revising the programme curriculum and/or subject outcomes. Departmental Learning and teaching Committee will receive such report and the P-LOAP forms for quality control.

Selected subjects in the curriculum will be used for the assessment of the attainment of intended learning outcomes of the programme.