THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學

DEPARTMENT OF BUILDING & REAL ESTATE
建築及房地產學系
INTERNATIONAL • COLLABORATIVE • CONSTRUCTION

Programme Requirement Document

Master of Science in

Construction and Real Estate (Programme code: 32111)

Project Management (Programme code: 32113)

For Student Intake 2025-26
September 2025

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Part 4 Appendices

Annex One

Note:

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

Part 1
General Information

1.1. Introduction

This programme requirement document covers the following two Master of Science (MSc) programmes hosted by the Department of Building and Real Estate (BRE):

- MSc in Construction and Real Estate (programme code: 32111)
- MSc in Project Management (programme code: 32113)

These programmes provide a range of taught subjects of a high standard in a common format and are designed to enable graduates to construct a programme of postgraduate studies meeting their needs relating to their individual employment and future careers. Successful completion of an acceptable programme of subjects will lead to the University postgraduate award of the Master of Science degree

1.2. The Aims

Depending on the needs of a student, the common aims of the two MSc programmes are to:

- develop areas of study relevant to the student's current profession or a profession he/she intends to engage in, and to update a student's knowledge in a particular discipline;
- develop areas of study new to the student including areas of study not directly related to the scope of the student's first degree;
- provide an in-depth analytical study of an area already introduced at undergraduate level;
- synthesize and integrate subjects of a number of different yet related disciplines ; and
- develop applied studies or to extend an area of study which cannot be pursued adequately at undergraduate level.

1.3. A Flexible Programme of Study

Students in employment normally take two subjects in a semester. However, the pace of study can be decided by individual students.

Most of the subjects are offered either in the evenings over a 13-week period or in the form of 3 full-day workshops over weekends. Subject to demand and viability, classes may be scheduled during the day for full-time students as an alternative to normal evening lectures and/or weekend workshops. Whilst every effort will be made to offer a range of subjects as extensive as possible, it is possible that some students may not be able to study certain subjects due to unforeseen circumstances. In such circumstances, students may consider alternative subjects with the advice of their Programme Leaders.

1.4. Final Awards

Master of Science Degree is awarded to students who successfully complete the required contents detailed in the programme curriculum of the respective awards. Under exceptional circumstances as detailed in Appendix A, students will be awarded the Postgraduate Diploma in lieu of Master of Science Degree.

1.5. English Language Requirements for Admission

If a student is not a native speaker of English, or his/her Bachelor's degree or equivalent qualification is awarded by institutions where the medium of instruction is not English, he/she is expected to fulfil the following minimum English Language requirements set by the University for admission purpose:

- A Test of English as a Foreign Language (TOEFL) score of 80 for the Internet-based test or 550 for the paper-based test; OR
- An overall Band Score of at least 6 in the International English Language Testing System (IELTS).

1.6. University's Academic Integrity and Ethics (AIE) Requirement

With effect from 2024/25 intake cohort, students of Taught Postgraduate programmes are required to take a 1-credit bearing Academic Integrity and Ethics (AIE) subject selected for their respective programme in the first year of their studies. No credit fee will be charged for the AIE subjects.

AIE subjects are assessed on a "Pass/Fail" basis which will not be included in GPA calculation. Attainment of a "Pass" in an AIE subject is a graduation requirement.

1.7. University's National Education Requirement

With effect from 2022/23 intake cohort, students of Taught Postgraduate programmes are required to take a non-credit bearing 3-hour e-learning module on "Understanding China and the Hong Kong Special Administration Region, P.R.C." in English in their first year of studies on Blackboard (http://learn.polyu.edu.hk). After completion of the online module and self-study of the 20 lecture notes, students may take the assessment (10 multiple-choice questions) which allows for multiple attempts. Attainment of a "Pass" is a graduation requirement.

For more details, please visit Office of Undergraduate Studies' website at https://www.polyu.edu.hk/ous/nationaleducation/en/.

1.8. Credits Requirement for Graduation

Master of Science (MSc)

- Acquire **a total of 31 credits** through completion of **taught subjects (21 credits)** plus a **9- credit dissertation, and a 1-credit bearing subject on Academic Integrity and Ethics**. The subject requirements specified for the relevant award must be fulfilled and the dissertation topic shall be pertinent to the area prescribed by BRE; **OR**
- Acquire **a total of 31 credits** through completion of **taught subjects (21 credits)** plus **2 to 3 other core subjects** (which are worth 9 credits in total to replace the dissertation), **and a 1-credit bearing subject on Academic Integrity and Ethics**. The subject requirements specified for the relevant award must be fulfilled and the dissertation-replacement subjects must be relevant subjects prescribed by BRE.

MSc students should indicate their intention in writing to graduate with the exit award of Postgraduate Diploma before end of examination period.

Postgraduate Diploma (PgD)

Acquire 22 credits through completion of taught subjects and a 1-credit bearing subject on Academic Integrity and Ethics. The subject requirements specified for the relevant award must be fulfilled.

1.9. Duration

The normal duration of the programme is two and a half academic years for students of part-time mode and one academic year for students of full-time mode with effective from intake cohort 2020/21.

Provisions are in place for students to apply for extension of their study period from the relevant

authority if there is a justified need. The authorities for approving requests for extension of study period are as follows:

Approval Authority	Duration of Extension of Study Period
Head of Department of BRE	Up to one year for full-time programmes Up to two years for part-time programmes
Faculty Board Chairman of Faculty of Construction and Environment	Beyond one year and up to two years for full-time programmes Beyond two years and up to four years for part-time programmes

1.10. Regulations

For full details of the regulations governing the two MSc programmes in Construction and Real Estate and Project Management, students can refer to Appendix A. Dissertation Handbook which contains detailed guidance on the process of completing a dissertation is enclosed in Appendix B.

1.11. Class and Examination Timetables

Timetable information is updated from time to time. Please check the latest version on eStudent (*PolyU homepage> myPolyU> eStudent)*.

1.12. Student Counselling

The Programme Leaders are available to answer questions and provide advice. Their contact numbers and email addresses are given in the following section.

1.13. Programme Management

Chairman, BRE Taught Postgraduate Programme Committee : Prof Daniel Chan, Associate Professor
Tel: 2766 4387 Email: daniel.w.m.chan@polyu.edu.hk

Secretary, BRE Taught Postgraduate Programme Committee : Miss Queenie Wong, Executive Officer
Tel: 3400 8122 Email: queenie.wong@polyu.edu.hk

Programme Leaders : Prof Minhyun Lee, Assistant Professor
(MSc in Construction and Real Estate)
Tel: 2766 4260 Email: minhyun.lee@polyu.edu.hk

: Prof Ying Fan, Assistant Professor
(MSc in Project Management)
Tel: 2766 5831 Email: y-ing.fan@polyu.edu.hk

Programme Officers : Ms Kaman Mak
(MSc in Construction and Real Estate)
Tel: 3400 8121 Email: ka-man.mak@polyu.edu.hk

: To be confirmed
(MSc in Project Management)

BRE General Office: ZS725, 7/F, South Tower, Block Z, The Hong Kong Polytechnic University
Opening hours: 9:00 a.m. – 1:00 p.m. and 2:00 p.m. – 5:35 p.m.
(closed on Saturdays, Sundays and Public Holidays)
Website: polyu.edu.hk/bre/

1.14. Reimbursable Courses for Continuing Education Fund (CEF)

A number of subjects have been included in the list of reimbursable courses for CEF. Students may refer to individual programme curriculums or http://www.wfsfaa.gov.hk/cef/ for details.

Part 2
Programme Curriculum

2.1. MSc in Construction and Real Estate

[MSc Stream Code: RFM (Full-time); RPM (Part-time)]
[PgD (exit award) Stream Code: RFP (Full-time); RPP (Part-time)]

Programme Aims

This self-financed taught postgraduate programme is designed to provide a learning opportunity for practicing architects, engineers, surveyors, project managers, construction managers, property managers, town planners, and other real estate related professionals at various levels of responsibility, to broaden and deepen their knowledge in the construction and real estate sectors.

Besides, it serves as a bridging programme for those industrial practitioners currently involved in the construction or real estate sector to meet the academic requirements for chartered professional membership of the Royal Institution of Chartered Surveyors (RICS) while their bachelor's degree programmes are not accredited and recognized.

In this credit-based programme, students will have flexibility in tailoring a set of subject topics to meet their own career and personal development needs. We provide:

- Up-to-date knowledge in the construction and real estate sectors based upon contemporary research findings;
- Specific specialist skills that are required in the construction and real estate sectors, and beyond the first degree level; and
- The opportunity for students to study construction and real estate practices in the Chinese Mainland.

Programme's Intended Learning Outcomes against Institutional Learning Outcomes

Graduate Attributes	Institutional Learning Outcomes	Programme's Intended Learning Outcomes
Socially responsible leaders with a strong sense of national pride and a global outlook:	Demonstrate a critical awareness of current issues in local, national and global contexts, be able to deal with complex issues and make responsible decisions, and lead with integrity and pride for the benefit of society and a sustainable future.	Demonstrate a critical awareness of current issues in local, national and global contexts, be able to deal with complex issues and make responsible decisions, and lead with integrity and pride for the benefit of society and a sustainable future.
Future-ready professionals who possess technical acumen:	Be able to critically apply advanced discipline knowledge and scholastic skills in a broad range of professional contexts, make critical use of changing and emerging technologies for work, and deal with complex interdisciplinary issues.	Be able to critically apply advanced knowledge and scholastic skills in a broad range of construction and real estate discipline, make critical use of changing and emerging technologies for work, and deal with complex interdisciplinary issues in the construction and real estate industry.
Critical thinkers and creative problem solvers:	Be able to critically evaluate complex information and arguments, make sound judgement in the absence of complete data, identify and analyse problems in complex situations and formulate creative strategic solutions.	Be able to critically evaluate complex information and arguments, make sound judgement in the absence of complete data, identify and analyse problems in complex situations and formulate creative strategic solutions.

Effective communicators and collaborators:	Be able to communicate effectively with a broad range of audiences, and foster effective and harmonious collaboration in an intercultural and/or interdisciplinary team.	Be able to communicate effectively with a broad range of audiences, and foster effective and harmonious collaboration in an intercultural and/or interdisciplinary team.
Adaptable and resilient lifelong learners:	Engage in continual professional development, reflect on their goals and purposes, refine their learning approaches, adapt to unfamiliar learning situations, and persevere through setbacks.	Engage in continual professional development, reflect on their goals and purposes, refine their learning approaches, adapt to unfamiliar learning situations, and persevere through setbacks.
Specialist skills development:	N/A	Be equipped with specific multi-disciplinary skills necessary in real estate development, urban planning and economics, asset management, property management and maintenance management in order to meet desired needs within realistic constraints.

Programme Structure and Contents

This programme is launched based on the mixed mode of delivery allowing students to pursue their studies in either the full-time mode or the part-time mode. Students are required to attend classes during the daytime and evening if they choose the full-time mode of study. Students can select from a wide range of subjects including elective subjects chosen from core subjects, recommended electives, and other relevant subjects offered by the BRE Department or other sister Departments within the Faculty of Construction and Environment.

In general, each subject will involve one 3-hour weekday evening class per week over a 13-week semester except those subjects specified otherwise. Designated subjects will be offered to full-time students during the daytime on weekdays.

Students who study part-time are expected to take up two subjects (each carrying 3 credits normally) per semester (excluding summer term) in a normal study period of two and a half academic years. Full-time students are strongly recommended to take 7 taught subjects and BRE591 – MSc Dissertation (9 credits) in a normal study period of one academic year. Students should complete the Dissertation within a normal period of 3 semesters including summer term.

Students should be reminded that each subject may not be offered in every academic year due to the requirement of minimum viable number of registered students.

Award Requirements

<u>For the MSc (31 credits required)</u>
Students shall complete 7 subjects (3 credits each) with at least 4 core subjects including the compulsory core subject *Research Methods for Construction and Real Estate* (BRE587), PLUS a *MSc Dissertation* (BRE591) (9 credits) that is relevant to construction and/or real estate.

Alternatively, students shall complete 10 subjects (3 credits each) with at least 7 core subjects including the compulsory core subject *Research Methods for Construction and Real Estate* (BRE587) AND the dissertation replacement subject *Professional Workshop and Project* (BRE505) (3 credits).

Students also must complete a 1-credit bearing subject on Academic Integrity and Ethics and a non-credit bearing e-learning module on National Education, which are University's requirements.

For the PgD (exit award) (22 credits required)
Students shall complete 7 subjects with at least 4 core subjects including the compulsory core subject *Research Methods for Construction and Real Estate* (BRE587).

BRE587 is a pre-requisite subject of BRE505 (Professional Workshop and Project) if students opt for the non-dissertation route. Students opting for the dissertation route are allowed to take BRE587 either in parallel to or in advance of the Dissertation.

Students also must complete a 1-credit bearing subject on Academic Integrity and Ethics and a non-credit bearing e-learning module on National Education, which are University's requirements.

Core Subjects (3 credits each)

Students wishing to specialize in one of the following three study disciplines are advised to select at least THREE core subjects from the relevant discipline.

1. Construction Discipline

Students wishing to specialize in 'Construction' Discipline are advised to study the following subjects.

Compulsory core subject
BRE587^ Research Methods for Construction and Real Estate

Core subjects (at least 3 subjects + Dissertation)
BRE506# Principles of Project Management
BRE511 Information Management for Construction and Real Estate
BRE527 Construction Practice in China
BRE533# Value Management in Construction and Property
BRE5751#^ Strategic Management
BRE581# International Construction Projects

Recommended electives
BRE545 Dispute Management and Law for International Projects
BRE562# Project Appraisal

Dissertation replacement subjects
As an alternative, Professional Workshop and Project (BRE505) and two core subjects listed above may be taken in lieu of the Dissertation.

2. Planning and Development Discipline

Students wishing to specialize in 'Planning and Development' Discipline are advised to study the following subjects.

Compulsory core subjects
BRE587^ Research Methods for Construction and Real Estate

Core subjects (at least 3 subjects + Dissertation)
BRE524^ Urban Planning and Urban Design
BRE530 Economics for Urban Studies
BRE572# Real Estate Development
BRE582#^ Development Finance and Investment

Recommended electives
BRE562# Project Appraisal

Dissertation replacement subjects
As an alternative, Professional Workshop and Project (BRE505) and two of the following subjects may be taken in lieu of the Dissertation.
BRE506# Principles of Project Management
BRE541 Property Law
BRE565# Real Estate Asset Management
BRE5751#^ Strategic Management

3. Commercial Property Discipline

Students wishing to specialize in 'Commercial Property' Discipline are advised to study the following subjects.
Compulsory core subjects
BRE587^ Research Methods for Construction and Real Estate

Core subjects (at least 3 subjects + Dissertation)
BRE525 Property Management
BRE532 Maintenance Management and Operation
BRE541 Property Law
BRE565# Real Estate Asset Management
BRE5751#^ Strategic Management

Recommended electives
BRE562# Project Appraisal

Dissertation replacement subjects
As an alternative, Professional Workshop and Project (BRE505) and two of the following subjects may be taken in lieu of the Dissertation.
BRE524^ Urban Planning and Urban Design
BRE530 Economics for Urban Studies
BRE582#^ Development Finance and Investment

 # Subjects are offered in the form of 3 full-day weekend (Saturday and/or Sundays) workshops.
^ Weekdays daytime classes are offered to full-time students

University's Academic Integrity and Ethics Requirement (1 credit) to be fulfilled in the first year of study

EEE5T03 Engineering Ethics and Academic Integrity
(Offered by the Department of Electrical and Electronic Engineering)

University's National Education Requirement (non-credit bearing) to be fulfilled in the first year of study

The e-learning module on "Understanding China and the Hong Kong Special Administration Region, P.R.C." on Blackboard (http://learn.polyu.edu.hk).

Entrance Requirements

- A Bachelor's degree with Honours; OR
- A Bachelor's degree in a construction or real estate related discipline; OR
- Corporate membership of a relevant professional institution.

Professional Recognition

The MSc programme is accredited by the Royal Institution of Chartered Surveyors (RICS) as meeting their academic requirements, subject to regular review. MSc graduates may apply for the full membership of RICS based on their appropriate period of relevant working experience in the construction and/or real estate sectors.

Continuing Education Fund (CEF)

CEF Course Code	CEF Course Title	Notes
31Z139764	Construction Practice in China (BRE527) (Module from Master of Science in Construction and Real Estate)	This course has been included in the list of reimbursable courses under Continuing Education Fund.* The mother course Master of Science in Construction and Real Estate of this module is recognised under the Qualifications Framework (QF Level [6]).
31Z139748	Strategic Management (BRE5751) (Module from Master of Science in Construction and Real Estate)	

*Currently up to August 2026 and renewal will be sought.

Guidance note on the reimbursement procedures will be provided to students via email at the beginning of the academic year.

2.2. MSc in Project Management

[MSc Stream Code: PFM (Full-time); PPM (Part-time)]
[PgD (exit award) Stream Code: PFP (Full-time); PPP (Part-time)]

Programme Aims

This postgraduate programme targets relevant professionals who already have Bachelor's degrees in relevant disciplines in or around Hong Kong. Primarily, it is an opportunity for practising architects, construction managers, engineers, surveyors, technologists, and other related professionals to broaden and deepen their knowledge in project management.

Many businesses need professionals who are skillful in project management and capable of innovating and providing creative solutions for complex problems. Over time, this programme aims at producing more highly-skilled project management professionals to operate throughout the region, including China and Hong Kong SAR.

Programme's Intended Learning Outcomes against Institutional Learning Outcomes

Graduates Attribute	Institutional Learning Outcomes	Programme's Intended Learning Outcomes
Socially responsible leaders with a strong sense of national pride and a global outlook:	Demonstrate a critical awareness of current issues in local, national and global contexts, be able to deal with complex issues and make responsible decisions, and lead with integrity and pride for the benefit of society and a sustainable future.	Graduates will demonstrate awareness of contemporary local, national, and global issues in project management, and be able to deal with complex project issues and lead project teams ethically and responsibly with consideration for societal impact and sustainability.
Future-ready professionals who possess technical acumen:	Be able to critically apply advanced discipline knowledge and scholastic skills in a broad range of professional contexts, make critical use of changing and emerging technologies for work, and deal with complex interdisciplinary issues.	Graduates will possess in-depth knowledge and skills in project management and be able to apply their knowledge and contribute to professional leadership.
Critical thinkers and creative problem solvers:	Be able to critically evaluate complex information and arguments, make sound judgement in the absence of complete data, identify and analyse problems in complex situations and formulate creative strategic solutions.	Graduates will be able to think holistically and analytically in dealing with complex problems and situations pertinent to their professional practice. They will be versatile problem solvers with good mastery of critical and creative thinking skills, who can generate practical and innovative solutions.
Effective communicators and collaborators:	Be able to communicate effectively with a broad range of audiences, and foster effective and harmonious collaboration in an intercultural and/or interdisciplinary team.	Graduates will be able to communicate project information effectively to stakeholders, and collaborate successfully within diverse, interdisciplinary, and intercultural project teams.
Adaptable and resilient lifelong learners:	Engage in continual professional development, reflect on their goals and purposes, refine their learning approaches, adapt to unfamiliar	Graduates will have an enhanced capability for continual professional development through inquiry and reflection on professional practice.

	learning situations, and persevere through setbacks.	
Project-based skills:	N/A	Graduates will possess knowledge on time, cost, quality, safety and environmental control of projects which they are expected to handle.
Organisational skills:	N/A	Graduates will acquire skills of managing people and other resources in a project organisation which is related, inter alia, to real estate and infrastructure development.

Award Requirements

For the MSc (31 credits required)
Students shall complete 10 subjects (including 5 compulsory core subjects and at least 2 other core subjects) OR, alternatively, 7 subjects (including 5 compulsory core subjects) plus a *MSc Dissertation* (BRE591, which is a 9-credit core subject).

For the PgD (exit award) (22 credits required)
Students shall complete 7 subjects (including 5 compulsory core subjects) and a 1-credit bearing subject on Academic Integrity and Ethics. No dissertation is required.

Students also must complete a 1-credit bearing subject on Academic Integrity and Ethics and a non-credit bearing e-learning module on National Education, which are University's requirements, for both MSc and PgD awards.

Programme Structure and Contents

This programme will be delivered by mixed mode, which allows students to opt for either full-time or part-time study (note: switching between full-time and part-time studies requires prior approval of the Programme Leader). Full-time students are recommended to take 7 taught subjects and a dissertation within a normal duration of one academic year (including a summer term). Part-time students are expected to take two taught subjects (each carrying 3 credits normally) per semester (excluding summer term) within a normal duration of two and a half academic years.

Core Subjects

BRE506	Principles of Project Management
BRE533	Value Management in Construction and Property
BRE572#	Real Estate Development
BRE5731#	Managing People in Projects
BRE574#	Construction Process Management
BRE5751#	Strategic Management
BRE562	Project Appraisal
BRE581	International Construction Projects
BRE582	Development Finance & Investment
BRE586	Construction Information Technology
BRE587#@	Research Methods for Construction and Real Estate

 # Compulsory core subjects

@ Students opting for dissertation (normal period is 3 semesters including a summer term) are required to take BRE587 either in parallel or in advance. Students opting not to take the dissertation are still required to take BRE587 which is a compulsory core subject.

Each core subject as listed above adopts the guided learning approach consisting of 3 full-day weekend (Saturdays and/or Sundays) workshops, with study materials (in hard or soft copy form as determined by the subject leader) provided for students to progress learning between workshops during each semester. Full-time students shall attend daytime classes on a weekday basis when designated subject(s) is/are on offer, whereas for other core subjects they attend weekend classes with part-time students.

For elective subjects (subject to a maximum of 9 credits), students may choose from a pool of subjects offered by the BRE Department or other sister Departments within the Faculty of Construction and Environment. Some of these subjects may be timetabled in the evenings of weekdays on a 13-week basis.

For applicants whose educational backgrounds are not construction-related, they will be recommended to take BRE550 (*Statutory Framework for Construction Practice*) or CSE565 *(Construction Technology)*, or an equivalent designated by the Programme Leader, as an elective subject forming part of the 30-credit (for MSc)/21-credit (for PgD) requirement for graduation. BRE550 and CSE565 may be offered in alternate years in weekday evenings on a 13-week basis, or not at all, depending on the subject offer pattern of the host Department.

Students are reminded that the majority of subjects are normally offered once in each academic year (subject to a minimum viable number requirement), whilst some subjects are offered in alternate years, and are therefore advised to check and plan subject registration carefully. Quotas may also be imposed for certain subjects. Taught subjects are not offered during summer term unless otherwise notified.

University's Academic Integrity and Ethics Requirement (1 credit) to be fulfilled in the first year of study

EEE5T03 Engineering Ethics and Academic Integrity
(Offered by the Department of Electrical and Electronic Engineering)

University's National Education Requirement (non-credit bearing) to be fulfilled in the first year of study

The e-learning module on "Understanding China and the Hong Kong Special Administration Region, P.R.C." on Blackboard (http://learn.polyu.edu.hk).

Entrance Requirements

A Bachelor's degree in a relevant discipline or the equivalent (including recognised professional qualifications).

Professional Recognition

The MSc programme is recognised by the Royal Institution of Chartered Surveyors, the Chartered Institute of Building, and the Hong Kong Institute of Project Management as fulfilling their academic requirements leading to professional assessments for their corporate memberships. The recognition status is subjected to regular reviews by the respective professional institutions.

Continuing Education Fund (CEF)

CEF Course Code	CEF Course Title	Notes
31Z139586	Managing People in Projects (BRE5731) (Module from Master of Science in Project Management)	This course has been included in the list of reimbursable courses under Continuing Education Fund.* The mother course Master of Science in Project Management of this module is recognised under the Qualifications Framework (QF Level [6]).
31Z139594	Strategic Management (BRE5751) (Module from Master of Science in Project Management)	

*Currently up to August 2026 and renewal will be sought.

Guidance note on the reimbursement procedures will be provided to students via email at the beginning of the academic year.

Part 3
Subject Description Form

List of Compulsory Core and Core Subjects

Subjects offered by the Department of Building and Real Estate

BRE505	Professional Workshop and Project
BRE506	Principles of Project Management
BRE511	Information Management for Construction and Real Estate
BRE524	Urban Planning and Urban Design
BRE525	Property Management
BRE527	Construction Practice in China
BRE530	Economics for Urban Studies
BRE532	Maintenance Management and Operation
BRE533	Value Management in Construction and Property
BRE541	Property Law
BRE550	Statutory Framework for Construction Practice
BRE562	Project Appraisal
BRE565	Real Estate Asset Management
BRE572	Real Estate Development
BRE574	Construction Process Management
BRE581	International Construction Projects
BRE582	Development Finance and Investment
BRE586	Construction Information Technology
BRE587	Research Methods for Construction and Real Estate
BRE5731	Managing People in Projects
BRE5751	Strategic Management

Subject offered by the Department of Civil and Environmental Engineering

CSE565	Construction Technology

Subject offered by the Department of Electrical and Electronic Engineering

EEE5T03	Engineering Ethics and Academic Integrity

Notes:

For subjects not listed above offered by BRE / other Departments / other Faculties which may be taken as free elective subjects, their synopsis can be found via the "*Subject Search*" function in the eStudent.

Subject Description Form

Subject Code	BRE505
Subject Title	Professional Workshop and Project
Credit Value	3
Level	5
Pre-requisite	BRE501/BRE585 Research and Consultancy Techniques for Construction and Real Estate or BRE587 Research Methods for Construction and Real Estate
Objectives	a. The primary objective of the subject is to strengthen students' capacity for independent, analytical study in the area of construction and real estate sectors in a professional context. b. In conjunction with the core subjects in construction and real estate studies, it forms an integrating component in the course. c. It is also used as a vehicle for students to engage in a critical assessment of their own work.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. select and pursue in depth, a non-trivial topic relevant to professional practice in the field of construction or real estate; b. complete a substantial piece of work autonomously, with guidance from a supervisor but without detailed day-to-day supervision; c. formulate a set of questions in a way that renders them amenable to rigorous investigation; d. discriminate and identify in the available written material which is useful to the topic under investigation; e. identify and make use of methods of investigation appropriate to the subject; f. draw conclusions that are based on the work undertaken and relevant to construction management and assess the limitations of those conclusions; g. write up a comprehensive report and present an individual project in an appropriate style.
Subject Synopsis/ Indicative Syllabus	The key learning strategy for the subject is that of learning by doing. Students are expected to work independently and individually, reflecting on the experience of the work in progress and feedback from the supervisor. The principle educational aims for the subject are to promote the following abilities and disciplines: • Self learning • Independence of thought • Critical evaluation • Formulation and research of complex problems • Communication of complex ideas and conclusions
Teaching/Learning Methodology	The subject consists of an introduction workshop at the first week of the semester outlining the requirement of the subject. Students then submit their research proposal and will be allocated supervisors according to their areas of research interest. Students will then work independently and meet with their

<table>
<tr><td></td><td>supervisors regularly for supervision. Students are required to present their research findings in class and submit the final reports for assessment.
• Small group meetings
• Individual presentation
• Independent study
• Individual assignment
• Self-study</td></tr>
<tr><td>Assessment Methods in Alignment with Intended Learning Outcomes</td><td>
<table>
<tr><td rowspan="2">Specific assessment methods/tasks</td><td rowspan="2">% weighting</td><td colspan="5">Intended subject learning outcomes to be assessed (Please tick as appropriate)</td></tr>
<tr><td>a., b.</td><td>c., d.</td><td>d., e.</td><td>f.</td><td>g.</td></tr>
<tr><td>1. Proposal*</td><td>15%</td><td>5%</td><td>5%</td><td>-</td><td>-</td><td>5%</td></tr>
<tr><td>2. Presentation*</td><td>15%</td><td>5%</td><td>-</td><td>5%</td><td>-</td><td>5%</td></tr>
<tr><td>3. Research-based paper*</td><td>70%</td><td>-</td><td>25%</td><td>15%</td><td>20%</td><td>10%</td></tr>
<tr><td>Total</td><td>100%</td><td colspan="5"></td></tr>
</table>
*Students are required to pass all the specific assessment methods/tasks to pass the subject.

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

The assessment is 100% by coursework. Assessment criteria will normally be explicitly linked to the learning outcomes for the subject and will be distributed to students as they embark on the subject, usually at the first workshop, which precedes the subject. The assessment criteria for the individual assignment are given in the Table above.</td></tr>
<tr><td>Reading List and References</td><td>Fellows, R. and Liu, A. (2008), Research Methods for Construction, 3rd Edition, Wiley-Blackwell.

Lester J.D. and Lester J.D. (2007). Writing Research Papers; a complete guide, 12 Edition, Longman.</td></tr>
</table>

Subject Description Form

Subject Code	BRE506
Subject Title	Principles of Project Management
Credit Value	3
Level	5
Pre-requisite / Co-requisite/ Exclusion	Nil
Objectives	This subject aims to enrich students' knowledge and skills in project management.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. Understand the principles of Project Management Body of Knowledge (PMBOK); b. Learn the skills in managing projects with cross-functional teams and external parties; c. Apply project management techniques at workplaces aiming at shorter lead time, reduced costs, improved quality and enhanced relationship with the concerned parties.
Subject Synopsis/ Indicative Syllabus	**Overview of project management:** characteristics of project; characteristics of project management; defining project management; responsibilities of project managers; meaning of PMBOK. **Project integration management:** definition of integration management; project stakeholders; project objectives and trade-offs; project life cycles; project plan; project execution; overall project change. **Project scope management:** meaning of scope; development of a project charter; scope statement; work breakdown structure (WBS). **Project time / schedule management:** project master schedules; defining activities; estimating activity durations; logic networks; methodology for network analysis; identifying the critical path; schedule control. **Project cost management:** meaning of cost management; process of cost management; resource planning; cost estimating; cost budgeting; cost control; value management. **Project quality management:** source of failure; possible causes for cost related errors; overview of quality management; quality planning; quality assurance; quality control. **Project resource management:** overview of project human resource management; organizational planning; estimating activity resources; staff acquisition; team development. **Project communications management:** general communication concept; process of project communication; best practice for project communication.

	Project risk management: process of project risk management; risk identification; risk quantification; risk response development; risk response control. **Project procurement management:** process of procurement management; procurement planning; solicitation planning; solicitation; source selection; contract administration; contract close-out. **Project stakeholder management:** process of identifying stakeholders; process of planning stakeholder management; process of managing stakeholder engagement; process of controlling stakeholder engagement.
Teaching/Learning Methodology	Lectures and seminars will be run throughout the semester period. A lecture schedule outlining the topics to be discussed throughout the three weekend daytime workshops will be informed to students in the first lecture of the semester. During the lecture period, the lecturers will introduce and discuss the topics, with frequent reference to, and examination of, the recommended textbook, published research papers or other reference materials whenever deemed appropriate. Apart from the face-to-face lecture classes, students are required to form small groups to write a group assignment report based on a set of assigned questions and scenarios in relation to project management in the construction sector or other industry sectors. Students are encouraged to apply their concepts and knowledge learned from the subject, and their hands-on working experience at their workplaces, to tackle the assignment questions. It is the students' ultimate responsibilities to ensure that no plagiarism is committed in their group assignment reports. So students should have checked their works against plagiarism by using some common plagiarism detection and scanning tools (e.g. Turnitin program) before submitting their completed group reports for assessment. Students should submit and retain their "final scanned" electronic copy of their completed group written reports (with the Similarity Index and AI-text Indicators shown) at the same location of the blackboard subject website for perusal and inspection by the subject lecturers. **Honour Declaration Form on the Use of Generative AI (GenAI) Tools in Subject Assignments** **PolyU GenAI App** (source: https://genai.polyu.edu.hk) Students are required to declare the use of any Generative AI (GenAI) tools for brainstorming or generating initial ideas, literature search or writing of assignment reports (e.g. ChatGPT, DeepSeek, Poe, Google Bard, Microsoft 365 Copilot Chat, Qwen 通义千问, etc) in preparing their submitted work, and where and how they have been used. Therefore, students need to submit their completed Honour Declaration Forms (one form for one student for individual assignment whereas one form for one group for group assignment) which should be included at the end of their submitted assignments as a kind of mandatory requirement for perusal and reference by the subject lecturers. If students have adopted AI-generated texts or materials in their work, they must properly cite and reference them in accordance with accepted academic conventions and citation styles. Students may refer to the *Guidelines for Students on the Use of Generative Artificial Intelligence* (source:

	https://www.polyu.edu.hk/ar/students-in-taught-programmes/use-of-genai) developed by the Academic Registry (AR) of PolyU for reference.
Assessment Methods in Alignment with Intended Learning Outcomes	

Specific assessment methods / tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					
		a.	b.	c.			
1. Coursework (Individual assignment and Group written report	50%	✓	✓	✓			
2. Examination (2 hours)	50%	✓	✓	✓			
Total	100 %						

Students are required to pass all the specific assessment methods / tasks (**both coursework and examination separately**) in order to pass the whole subject.

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

Coursework (Individual assignment and Group written report)

The designed individual and group assignment questions are intended to assess the level of students' knowledge and understanding of various underlying functions of project management as defined by the PMBOK Guide used for projects, and then to apply learned knowledge and their hands-on working experience at their workplaces to perform main project management functions on different types of construction projects.

The individual assignment requires students to develop a project plan and schedule for a small wooden house construction project, with emphasis on project description including products, processes and logical sequences, project network diagramming to facilitate the communication of project management in general, and to lay the basis for project planning and scheduling in particular. The group-based assignment requires writing a "method statement" report based on the project information as provided to communicate the project development and construction processes to all the stakeholders while making connections with those relevant basic functions as defined by the Project Management Body of Knowledge (PMBOK) Guide.

Examination (2 hours)

The examination questions attempt to test students' knowledge and understanding of various underlying functions of project management as defined by the PMBOK Guide used for projects, and then to analyze different hypothesized scenarios to provide straight answers or logical arguments by citing relevant both local and international case study projects for proper illustration.

Reading List and References	1. Dennis P. Slevin, David I. Cleland and Jeffrey K. Pinto (2004). *Innovations: Project Management Research*. 2. David I. Cleland and Lewis R. Ireland (2010). *Project Manager's Portable Handbook*, 3rd edition. 3. Development Bureau (2018). *Construction 2.0 - Time to Change*, Report of the Project Cost Management Office, Development Bureau, Hong Kong SAR Government, Hong Kong on the future of the local construction industry - the challenges and how these can be addressed, September, 53 pages (URL: https://www.psgo.gov.hk/en/c20.html). 4. Erling S. Andersen, Kristoffer V. Grude and Tor Haug (2009). *Goal Directed Project Management: Effective Techniques and Strategies*, 4th edition. 5. Frederick Harrison and Dennis Lock (2016). *Advanced Project Management: A Structured Approach*, 4th edition. 6. Gary Heerkens (2006). *The Business-savvy Project Manager: Indispensable Knowledge and Skills for Success* 7. Harold Kerzner (2004). *Advanced Project Management: Best Practices on Implementation*, 2nd edition. 8. Harold Kerzner (2022). *Project Management: A Systems Approach to Planning, Scheduling and Controlling*, 13th edition. 9. John M. Nicholas and Herman Steyn (2017). *Project Management for Engineering, Business and Technology*, 5th edition. 10. Paul A. Tedesco (2006). *Common Sense in Project Management*. 11. Project Management Institute (2013). *A Guide to the Project Management Body of Knowledge (PMBOK Guide 2013)*, 5th edition. 12. Project Management Institute (2017). *A Guide to the Project Management Body of Knowledge (PMBOK Guide 2017)*, 6th edition. 13. Project Management Institute (2021). *A Guide to the Project Management Body of Knowledge (PMBOK Guide 2021)*, 7th edition. 14. Rodney J. Turner (2016). *Gower Handbook of Project Management*, 5th edition. 15. Scott Berkun (2005). *The Art of Project Management*. 16. Thomas E. Uher and Martin Loosemore (2004). *Essentials of Construction Project Management*.

Subject Description Form

Subject Code	BRE511
Subject Title	Information Management for Construction and Real Estate
Credit Value	3
Level	5
Pre-requisite/ Co-requisite/ Exclusion	Nil
Objectives	This subject aims at understanding of how data and information is designed, created, used and managed in the construction industry with emphasis on information modelling and management at the project and organization levels.
Intended Learning Outcomes	By the end of this subject, students will be able to: a. understand the basic concepts of the creation and management of data and information within construction projects; b. understand contemporary issues in information management at project and organization level; c. apply basic building modelling knowledge to construction projects through the selection, development and implementation of information systems.
Subject Synopsis/ Indicative Syllabus	Information systems: information management; e.g. information distribution, access, securing and control; the strategic management of information and communication technologies assessing the business benefits of information technologies, knowledge management, IT and organization change. Understand current information systems and management procedures within the construction industry; relevant legislation impact of information systems; building information modelling; integrated property and construction industry databases; and construction project-based systems. Case studies from both large and small construction organizations will be used to illustrate current systems within the industry.

Teaching/Learning Methodology	• Lectures
	• Training exercises on information systems (including Microsoft Project, Autodesk Revit and Navisworks)
	• Independent study and teamwork
	  • Assignments
	  • Individual and team projects
	  • Case study and presentation

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					
		a	b	c			
1. Assignment	30%	✓	✓	✓			
2. Individual Report	30%	✓	✓	✓			
2. Group Report	40%	✓	✓	✓			
Total (Continuous Assessment*)	100 %						

*Students are required to achieve grade D or above in overall subject grade to pass the subject.

Assignments require students to work on questions to help them for understanding of fundamental knowledge of the management of data and information within construction projects.

Individual projects require students to work individually and submit an individual report that is focused on topics of IT-related information management application in construction projects.

Students will also need to work in a project team for the group project. Group project will be focused on potential applications of IT systems, BIM, AI, and Big Data analytics to solve existing practical problems during the life cycle of a construction project. By working together in a team environment and working on real-world working practices, students will be able to test information-management practices in the way to become creative and innovative practitioners.

Reading List and References

Shen, Q.G., Brandon, P., & Baldwin, A., (2009) Collaborative Construction Information Management, Taylor & Francis.

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Smith, D.M. & Tardi, F.M. (2009) Building information modeling: a strategic implementation guide for architects, engineers, constructors, and real estate asset managers, Jolm Wiley and Sons.

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	CIC BIM Standards for Architecture and Structural Engineering (Version 2 - December 2020); and (Version 2.1 - 2021); CIC BIM Dictionary (December 2020); and (2021);

Subject Description Form

Subject Code	BRE524
Subject Title	Urban Planning and Urban Design
Credit Value	3
Level	5
Pre-requisite/ Co-requisite/ Exclusion	Nil
Objectives	The subject aims to provide student with a comprehensive perspective on urban planning and urban design issues with particular emphasis on the importance of urban planning and urban design in the land development process.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. understand the nature and development of urban planning; b. understand the basic concepts of urban design; c. apply urban planning and urban design concepts to analyze contemporary urban land use problems; d. develop a more in-depth understanding of urban planning and urban design issues in Hong Kong; e. develop ability to work in a team and manage to present research findings in a professional manner.
Subject Synopsis/ Indicative Syllabus	Topical studies: Nature of urban planning; theories of urban structure; conflict between urban planning and real estate development; problems of town planning in Hong Kong; public participation in urban planning; land use planning; urban redevelopment; urban design concepts and heritage conservation principles.
Teaching/Learning Methodology	Topics related to urban planning and urban design will be introduced by lectures. The subject also emphasizes case studies on local urban planning and urban design issues. Small group discussion will bring out initial understanding on the problems of urban planning and urban design in modern cities. Students are required to conduct urban planning/design projects and presentations for constructive criticism and exchange of ideas. Professionals/researchers in the urban planning and urban design fields may be invited to give guest lectures to provide most updated knowledge to the students.

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					
		a.	b.	c.	d.	e.	
Coursework:							
a) term project	50%	√	√	√	√	√	
b) term paper	50%	√	√	√	√	√	
Total	100 %						

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

Students are required to conduct urban planning and design projects. The projects require students to apply planning and design concepts to analyze a selected current land use planning issue. The learning outcomes are assessed by various means, such as group presentation, group report, term paper, and so on. Students are required to achieve grade D or above in overall subject grade to pass the subject.

Reading List and References

Birch, Eugenie Ladner (2009) *The Urban and Regional Planning Reader*, Routledge.

Cuthbert, A. (2003) *Designing Cities: Critical Readings in Urban Design*, Blackwell Publishers.

Lai, Lawrence Wai-Chung (2000) *Town Planning Practice*, Hong Kong University Press.

LeGates and Stout (2011) The City Reader, Routledge.

Levy, John M. (2011) *Contemporary Urban Planning*, Pearson/Prentice Hall.

Li, Y., Chen, X., Tang, B. S., & Wong, S. W. (2018). From project to policy: Adaptive reuse and urban industrial land restructuring in Guangzhou City, China. *Cities*, 82, 68-76.

Nissim, Roger (2016) *Land Administration and Practice in Hong Kong*, Hong Kong University Press.

Song, Yan and Ding, Chengri (2009) *Smart Urban Growth for China*, Lincoln Institute of Land Policy.

Scott Campbell and Susan Fainstein (2003) Readings in Planning Theory. Oxford, United Kingdom

- Wong, S.W., Tang, B.S. Liu, J.L., Liang, M and Ho, W. (2021). From "Decentralization of Governance" to "Governance of Decentralization": Reassessing Income Inequality in Periurban China. *Environment and Planning A: Economy and Space*. [DOI:10.1177/0308518X20988013]
- Wong, S.W., Tang, B.S. and Liu, J.L. (2021). Neoliberal State Intervention and the Power of Community in Urban Regeneration: A Tale

	of Three Village Redevelopment Cases in Guangzhou, China. *Journal of Planning Education & Research*. [DOI:10.1177/0739456X21994661] • Wong, S. W., Tang, B.S., Liu, J. (2020). Rethinking China's rural revitalization from an historical perspective. *Journal of Urban History*. [DOI: 10.1177/0096144220952091] [DOI: 10.1061/(ASCE)UP.1943-5444.0000586]. • Wong, S. W., Tang, B. S. and Liu, J. (2020). Village elections, grassroots governance and state power restructuring: an empirical study in Southern Periurban China. *The China Quarterly*, 241(March), 22–42. Wong, S.W., Tang, B.S. and Liu, J.L. (2018).Village Redevelopment and Desegregation as a Strategy for Metropolitan Development in Southern China: Some Lessons from Guangzhou City. *International Journal of Urban and Regional Research*, 42 (6), 1064-1079. Yung, EHK and Chan, EHW (2012) Implementation challenges to the adaptive reuse of heritage buildings: Towards the goals of sustainable, low carbon cities. *Habitat International*, 36(3), 352-361. Yung, E.H.K., Langston, C., & Chan, E.H.W. (2014) Adaptive reuse of shophouses in urban renewal districts in Hong Kong, *Cities*, 39 , 87–98 Yung, E.H.K. & Chan, E.H.W. (2015) Re-examining the pro-growth ideology in cities: Conservation of historic properties in Hong Kong, *Urban Review Affairs,* 32 (4): 513–35. HKSAR Government Publications: *A Report on the updated area assessments of industrial land in the territory* (2006) Planning Department *Building Coordinated and Sustainable World-Class City-Region: Planning Study on the Co-ordinated Development of the Grater Pearl River Delta Townships* (2009) Planning Department Planning and Urban Design for a Liveable High-density City (2016) Planning Department *The Urban Design Guidelines for Hong Kong Executive Summary* (2002) Planning Department *The Urban Renewal Strategy* (2011) Planning Department

Subject Description Form

Subject Code	BRE525
Subject Title	Property Management
Credit Value	3
Level	5
Pre-requisite / Co-requisite/ Exclusion	Nil
Objectives	a. To allow the students to broaden and deepen their knowledge in the areas related to property management practices in Hong Kong. b. To provide lectures and seminars at postgraduate study level in property management theories and techniques in Hong Kong built environment. c. To develop the students' ability in applying theories and techniques in both research and practice in property management in Hong Kong.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. possess in-depth professional knowledge in specialist areas within property management and be able to apply their knowledge and contribute to professional leadership; b. think holistically and analytically in dealing with complex problems and situations pertinent to their professional practice. They will be versatile problem solvers with good mastery of critical and creative thinking skills, who can generate practical and innovative solutions; c. have an enhanced capability for continual professional development through inquiry and reflection on professional practice; d. be equipped with specific multi-disciplinary skills necessary in real estate development, urban planning and economics, asset management and maintenance management in order to meet desired needs within realistic constraints.
Subject Synopsis/ Indicative Syllabus	Building Management Ordinance, Deeds of Mutual Covenants, financial planning and control for property management, real estate appraisal and ethics in property management.
Teaching/Learning Methodology	The subject consists of a series of lectures and tutorials for the introduction of concepts and theory of property management and related operations. In supplement, case studies will be introduced to reflect the real life examples of property management and related techniques. Prominent external speakers will also be invited to present their own cases with the participation of students. • Lectures • Seminars / Workshops • Independent study • Self-study material • Assignments

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					
		a.	b.	c.	d.		
1. Continuous Assessment (Individual presentation and participation in class / Group project)*	40%	√	√	√	√		
2. Examination*	60%	√	√	√	√		
Total	100%						

*Students are required to pass all the specific assessment methods/tasks to pass the subject.

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

Assessment methods are set in line with the intended learning outcomes.

Reading List and References

Buildings Department (2002), "Building Maintenance Guidebook", Hong Kong SAR Government.

City University of Hong Kong (2003), "Building Design and Development in Hong Kong", City University of Hong Kong Press.

Corgel, John B. (2001), "Real Estate Perspectives: An Introduction to Real Estate", 4e, McGraw-Hill.

David Flux, (2009), "Hong Kong Taxation: Law & Practice (2008-08 Edition)", The Chinese University Press.

Geltner, D and Miller, N. G. (2001), "Commercial Real Estate Analysis and Investment", Prentice Hall.

Goo, S.H., and Lee, A., (2003) *Land Law in Hong Kong*, Butterworths.

Horngren, Datar, and Foster (2009), "Cost Accounting: A Managerial Emphasis", 13e, Prentice Hall.

Malcolm Merry (2003), "Hong Kong Tenancy Law", Butterworths.

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Rebecca Lai-har Chiu [Editor] (2006), "Professional Housing Management Practices in Hong Kong", Hong Kong University Press.

Robert C. Kyle (2000), "Property Management", 6e, Dearborn Financial Publishing.

Sihombing, J., and Wilkinson, M., (2002) *A Student's Guide to Hong Kong*

	Conveyancing, Butterworths. 方芳(2003), “物業管理”,上海財經大學出版社 方鎮光(2008), “建築物管理法律精解”, 香港大學出版社 香港地產學會(2000),“物業管理專業手冊”商務印書館

Subject Description Form

Subject Code	BRE527
Subject Title	Construction Practice in China
Credit Value	3
Level	5
Pre-requisite / Co-requisite/ Exclusion	Nil
Objectives	This subject aims to introduce the real estate and construction management theories and techniques in the China's construction context for project managers.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. broaden and deepen their knowledge in the areas related to the practices in the construction and real estate industries in China; b. apply theories and techniques in both research and practices in construction management and real estate development in China.
Subject Synopsis/ Indicative Syllabus	**The construction practices in China** Construction market and resource management, construction project development procedures, construction procurement systems, competition and competitiveness, project supervision and project management, contract management, construction professionals' qualifications and practice and risk management in the construction business. **Real estate development in China** Introduction of the real estate market, real estate market practices, urban land use and development, real estate finance and foreign investment in real estate in China.
Teaching/Learning Methodology	The methods of teaching comprise: a. formal lectures for explaining and discussing important concepts and theories in the subject contents; b. workshops and seminars for students to present and discuss the key issues problem-based cases; c. professional study for students to exchange with professionals in China Mainland; d. guest speakers will be invited to deliver lectures on special topics.

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					
		a.	b.				
1. Group Work*	50%	√	√				
2. Examination*	50%	√	√				
Total	100%						

*Students are required to pass all the specific assessment methods/tasks to pass the subject.

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

Assessment (50%) via a group work tests the students' ability to analyze and synthesis the construction theories and techniques for developing a business strategy in their own trade.

Examination (50%) tests the students' ability to apply the theories to scenarios drawn from their work experience, and to test whether they can articulate the relationships through discussions and arguments.

Reading List and References

Recommended:

Cao, J. (2015). *The Chinese real estate market: development, regulation and investment*. Abingdon, Oxon: Routledge.

Flanagan, R. and Li, S. R. (1997). *International construction: a perspective of China*, Chartered Institute of Building. (HD9715.C52 F57 1997)

Frederick, E. G. and Nancy, E. J. (2014). *Construction Project Management (4th Edition)*, Boston: Pearson. (TH438 .G62497 2014)

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Supplementary:

Fainstein, S. S. (2010). *The Just City*. Ithaca: Cornell University Press.

Fang D. P.; Li, M. E.; Fong, P. And Shen, L. Y. (2004). Risks in Chinese construction market – contractors' perspective*, Journal of Construction Engineering & Management ASCE,* Vol. 130, No. 6, 853-861.

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Logan, J. R., & Molotch, H. L. (2007). *Urban fortunes: The political economy of place*. Berkeley, CA: University of California Press.

Shen, L. Y. and Hai, S. (2000). Project Supervision Practice in the Chinese Construction, *Journal of the Hong Kong Surveyor,* Vol. 11 (1), pp. 22-26.

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Shen, L Y, Zhao, Z Y and Drew, D (2006). Strengths, Weaknesses, Opportunities and Threats (SWOT) for foreign-invested construction enterprises: a China study, *Journal of Construction Engineering and Management, ASCE,* Vol. 132, No. 9, 966-976.

Zhao, Z.Y., Yao, J.H. and Tang, C. (2017) Chinese Contractors in the International Market: Business Distribution and Competitive Situation. In Wu, Y. et al. (eds.), Proceedings of the 20th International Symposium on Advancement of Construction Management and Real Estate, Springer, Singapore.

Zou, P.X.W., Fang, D.P., Wang, S.Q. and Loosemore, M. (2007). An overview of the Chinese construction market and construction management practice, *Journal of Technology Management in China*, 2(2), pp. 163 – 176

Subject Description Form

Subject Code	BRE530
Subject Title	Economics for Urban Studies
Credit Value	3
Level	5
Pre-requisite / Co-requisite/ Exclusion	Nil [Recommended background knowledge: Introductory economics (e.g. Economics 101 or equivalent undergraduate subjects offered by other schools, BRE 263 Construction Economics and Finance, BRE 363 Construction Economics, etc.). Students are expected to possess a basic understanding of the concepts and principles of economics before registering for this subject.]
Objectives	This subject aims to equip students with an economic way of thinking towards the problems in connection to the built environment. Both the classic and state-of-the-art literature in economics will be introduced. Attention will be paid to how economics can shed light on the analyses of problems in urban context. The emphasis of the subject will be put on both economic theories and their applications in resolving problems in urban studies and exploring the economic value in urban development.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. use economic principles and state-of-the-art theories to help students develop an understanding of the real estate market and urban economy, b. acquire skills necessary to analyze urban development and policy implications to support decision-making process, and c. identify the root causes on contemporary issues and possible solutions in dealing with urban problems.
Subject Synopsis/ Indicative Syllabus	**The subject content can be broadly divided into three parts:** **Part I: Introduction to fundamental economic concepts** • State-of-the-art theories covering urbanization, location theories, and urban structure. • Analysis of the real estate market by use of Four-Quadrant Model, Hedonic model, and market efficiency models. • Determining land rents and land use patterns by bid rent theory. **Part II: Social and environmental dimensions of urban development** • Theories covering neighbourhood choice and segregation, urban transportation and congestion, and sustainable development within an urban context. • Comparison of various practices in achieving urban renewal by mitigating negative externalities. **Part III: Economic value of (re)development projects and government policies in urban context** • Valuation of development and redevelopment projects within the urban context by use of various appraisal methods. • Means and justifications for government intervention in urban development and renewal.

<table>
<tr><td>Teaching/Learning Methodology</td><td>Students are required to attend lectures and tutorials throughout the whole course. Lectures will be used to deliver the subject content, and tutorials will be organized in a highly interactive manner which will require students to read selected materials, use online discussion forum, and be prepared before attending the lectures. In-depth discussions and group presentations on problem solving and hands-on urban development/redevelopment issues will be conducted in tutorials.</td></tr>
<tr><td>Assessment Methods in Alignment with Intended Learning Outcomes</td><td>
<table>
<tr><td rowspan="2">Specific assessment methods/tasks</td><td rowspan="2">% weighting</td><td colspan="6">Intended subject learning outcomes to be assessed (Please tick as appropriate)</td></tr>
<tr><td>a.</td><td>b.</td><td>c.</td><td></td><td></td><td></td></tr>
<tr><td>1. In-class participations and discussions for preparing the individual assignment*</td><td>50%</td><td>√</td><td>√</td><td>√</td><td></td><td></td><td></td></tr>
<tr><td>2. Examination*</td><td>50%</td><td>√</td><td>√</td><td>√</td><td></td><td></td><td></td></tr>
<tr><td>Total</td><td>100 %</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
*Students are required to pass all the specific assessment methods/tasks to pass the subject.
Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:
In-class participations and discussions, and individual assignment (50%): Intensive discussions will be held in classes covering the subject topics. Students are required to critically review a contemporary issue assigned to them in an individual assignment, by employing what they learned from classes in resolving urban problems.
Final examination (50%): Students are required to attend a two-hour examination at end of semester. They will be required to attempt three essay type questions out of a list of 5 to 6. No compulsory question will be set and all questions carry equal marks. It is so designed to ensure that the students will gain an in-depth understanding of at least three topics in the indicative syllabus.
</td></tr>
</table>

Reading List and References	**Recommended:** Harvey, J. (2004) *Urban Land Economics: The Economics of Real Property*, London: MacMillan. O'Sullivan, A. (2019) *Urban Economics*, London: Irwin. Pirounakis, N.G. (2013) *Real Estate Economics – A Point-to-point handbook*, Routledge, 2013. **Supplementary:** Adams, D., & Hastings, E. M. (2001). Urban renewal in Hong Kong: transition from development corporation to renewal authority. *Land Use Policy*, 18(3), 245-258. Agarwal, S., Fan, Y., McMillen, D. P., & Sing, T. F. (2021). Tracking the pulse of a city—3D real estate price heat maps. *Journal of Regional Science*, 61(3), 543-569. Arnott, R. (1979). Optimal city size in a spatial economy. *Journal of Urban Economics*, 6(1), 65-89. Bruch, E. E., & Mare, R. D. (2006). Neighborhood choice and neighborhood change. *American Journal of Sociology*, 112(3), 667-709. Davis, J. C., & Henderson, J. V. (2008). The agglomeration of headquarters. *Regional Science and Urban Economics*, 38(5), 445-460. DiPasquale, D., & Wheaton, W. C. (1992). The markets for real estate assets and space: A conceptual framework. *Real Estate Economics*, 20(2), 181-198. Fan, Y., Yang, Z., & Yavas, A. (2019). Understanding real estate price dynamics: The case of housing prices in five major cities of China. *Journal of Housing Economics*, 43, 37-55. Glaeser, E. L. (2007). *The economics approach to cities*. National Bureau of Economic Research (No. w13696). Hui, E. C., & Yue, S. (2006). Housing price bubbles in Hong Kong, Beijing and Shanghai: a comparative study. *The Journal of Real Estate Finance and Economics*, 33(4), 299-327. Mayer, C. (2011). Housing bubbles: A survey. *Annual Review of Economics*, 3(1), 559-577. Musterd, S., & Ostendorf, W. (Eds.). (2013). *Urban segregation and the welfare state: Inequality and exclusion in western cities*. Routledge. Nechyba, T. J., & Walsh, R. P. (2004). Urban sprawl. *Journal of Economic Perspectives*, 18(4), 177-200. Pagourtzi, E., Assimakopoulos, V., Hatzichristos, T., & French, N. (2003). Real estate appraisal: a review of valuation methods. *Journal of Property Investment & Finance*. Parry, I. W. H. (2002). Comparing the efficiency of alternative policies for reducing traffic congestion. *Journal of Public Economics*, 85(3), 333-362. Warren-Rhodes, K., & Koenig, A. (2001). Ecosystem appropriation by Hong Kong and its implications for sustainable development. *Ecological Economics*, 39(3), 347-359. Zheng, S., & Kahn, M. E. (2008). Land and residential property markets in a booming economy: New evidence from Beijing. *Journal of Urban Economics*, 63(2), 743-757.

Subject Description Form

Subject Code	BRE532
Subject Title	Maintenance Management and Operation
Credit Value	3
Level	5
Pre-requisite / Co-requisite/ Exclusion	Nil
Objectives	To provide students with knowledge of building maintenance technology and management. To provide students with the current practice and regulations of building maintenance in Hong Kong To enable students to apply those knowledge to their future workplaces.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. recognize the importance of effective and appropriate maintenance work; b. identify building defects; c. propose execution plan of building maintenance upon the defects;
Subject Synopsis/ Indicative Syllabus	Maintenance management: establishing workload; budgeting, programming, executing and controlling programme; contractual forms and procedures; use of direct and indirect labour; controlling maintenance and repair work; working in occupied premises; service charges; information systems; categories of information; feedback; maintenance manuals; establishing database; schedules and specifications; survey; report writing. Maintenance technology: diagnosis and treatment of common defects in buildings by life expectancy; conservation. Hazardous materials in buildings and health issues related to buildings. Sick building syndrome; development and prevention; case studies. Asbestos management; abatement and disposal; case studies. Building defects diagnostic techniques. Sustainable maintenance.
Teaching/Learning Methodology	The subject consists of a series of lectures, tutorials, practical workshops and laboratory demonstration classes. Concepts, theory and application of maintenance management and operation will be covered. Case studies will be introduced to reflect the real life examples of building maintenance techniques. In particular in maintenance operation, the subject will introduce the condition-based inspection and maintenance technology covering a host of advanced *non-destructive testing* (NDT) technologies such as infrared thermography, pulsed radar, forced vibration techniques etc. The subject will also emphasize the importance of continuous condition monitoring and complete rehabilitation instead of patch repairs to deteriorated concrete structures. Prominent guest speakers are invited to advance students' technological and managerial

knowledge.

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)						
		a.	b.	c.				
1. Continuous assessment	40%	√	√	√				
2. Examination	60%	√	√	√				
Total	100%							

*Students are required to pass both the continuous assessment and examination to pass the subject.

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

Continuous assessment through a series of seminar topics and workshops covers all knowledge that students shall be able to achieve as stated in the intended learning outcomes. Examination is to assess the theoretical aspects of maintenance technology and management skills.

Reading List and References

Akhtar, S. (2013). "Review of nondestructive testing methods for condition monitoring of concrete structures." *Journal of construction engineering*, 2013.

Buildings Department (2002) *Building Maintenance Guidebook*. HKSAR

Chang, C.-Y., and Tsai, M.-D. (2013). "Knowledge-based navigation system for building health diagnosis." *Advanced Engineering Informatics*, 27(2), 246 260.

Chanter B. (2007) *Building Maintenance Management*, Blackwell

Douglas J. & Noy E A (2011) *Building Surveys & Reports* Wiley Blackwell 4th Edition

Douglas J. & Ransom B. (2013) *Understanding Building Failures* Routledge 4th Edition.

Lee H.S. and Yuen, C.S. (1993) *Building Maintenance Technology* Macmillan

Lee R. (2001) *Building Maintenance Management* Blackwell 4th edition

McCann, D., and Forde, M. (2001). "Review of NDT methods in the assessment of concrete and masonry structures." *NDT & E International*, 34(2), 71-84.

Petty S. E. Edit. (2013) *Forensic Engineering*: Damage Assessments for Residential and Commercial Structures CRC Press

Sing, M.C.P., Love, P.E.D., and Davis, P.R. (2014). "Experimental study on condition assessment of reinforced concrete structure using a dynamics

	response approach." *Structural Survey*, 32(2), 89-101. Wood B. (2009) *Building Maintenance* Wiley-Blackwell

Subject Description Form

Subject Code	BRE533
Subject Title	Value Management in Construction and Property
Credit Value	3
Level	5
Pre-requisite/ Co-requisite/ Exclusion	Nil
Objectives	This subject aims to meet the needs of construction professionals who wish to apply value management/engineering methodology to obtain best value for money for their projects, by broadening and deepening their knowledge in the theory and practice of value management/value engineering in the construction context.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. Understand the value management methodology; b. Use value management tools/techniques such as function analysis in workshops; c. Organize and manage value management workshops in a project life cycle; d. Exercise practical creativity skills and work with a team of stakeholders to arrive at innovative solutions; e. Ensure value for money for projects by applying value management in business and/or technical situations; f. Implement the value management methodology and techniques in real-life construction projects.
Subject Synopsis/ Indicative Syllabus	• Value management basics: historical development, definitions and concepts. • Value management methodology and techniques, including function analysis, function cost analysis, environment for creativity, life cycle costing. • Structured job plan (information, analysis, creativity, evaluation, development, presentation) and alternative VM approaches such as the Charette job plan. • Group dynamics, teamwork, group problem-solving methods, and facilitation skills. • Project selections for VM studies, applications in Hong Kong and overseas, limitations. • Comparison of value management and traditional cost management techniques. • Case studies of the practice of value management. • Guided VM workshop for real life projects.

Teaching/Learning Methodology

Topics related to the concepts and development of value management (VM) techniques will be introduced by brief lectures, these periods will also serve to guide the students to various reference materials. Case studies, coursework, and supervised VM workshops will provide opportunities for students to have a deeper understanding of the methodology how it is practiced in real-life projects, and to have some hands-on experience.

Lectures and Seminars

- Historical Developments, Definitions, Concepts of VM
- The Value Management Methodology
- VM Job Plan
- Managing VM Study
- Teamwork and Group Dynamics
- Group Facilitation and Creative Thinking
- The Use of Group Support Systems in VM Studies
- VM Applications, Limitations and Case Studies

Supervised workshops

Independent study

- Self-study material
- Projects
- Assignments

The generative AI tools (genAI) is not allowed for
(1) functions identification and function analysis;
(2) generating creativity ideas during Value Management workshop
but encouraged for
(1) search for typical examples or cases of value management
(2) helping improve structure, grammar, writing, presentation slides, etc.

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					
		a.	b.	c.	d.	e.	f.
1. Continuous Assessment*	50%	✓	✓	✓	✓	✓	✓
• Preparation of a term paper individually	25%			✓			✓
• Participation in hands-on VM workshop	25%	✓	✓	✓	✓	✓	✓
2. Examination*	50%	✓	✓			✓	
Total	100%						

	* Students are required to pass both the continuous assessment and examination to pass the subject. Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes: The hands-on VM workshop will inform how well the students have achieved the intended learning outcomes. The examination will measure students' understanding of the VM theory/concepts in a written form.
Reading List and References	**Essential Reading:** Shen G.Q.P., Yu A.T.W. (2016). Value Management in Construction and Real Estate: Methodology and Applications. Routledge, Taylor and Francis Group, ISBN: 978-1-138-85278-5. **Recommended Readings:** British Standards Institution (2020). British Standard: Value Management, BS EN 12973: 2020. Environment, Transport and Works Bureau (2002). Technical Circular (Works) No. 35/2002 Implementation of value management in public works projects, http://www.devb.gov.hk/filemanager/technicalcirculars/en/upload/126/1/c-2002-35-0-1.pdf Kelly John, Male Steven, Graham Drummond (2015). Value Management of Construction Projects, 2nd Edition, John Wiley & Sons. Shen G.Q.P., Fan S.C. and Kelly J. (2009). A group support system for collaborative working in a value management workshop environment, in Shen et al (Eds), Collaborative Construction Information Management, Spon Press, UK, USA, Canada, 303-326. Shen Q.P. and Liu G.W. (2003). Critical Success Factors for Value Management Studies in Construction, Journal of Construction Engineering and Management, ASCE (American Society of Civil Engineers), 129(5), 485-491. Shen Q.P. and Liu G.W. (2004). Applications of Value Management in the Construction Industry in China, Engineering, Construction and Architectural Management, 11(1), 9-19. Shen Q.P. and Yu A.T.W. (2012). Value management: recent developments and way forward, Construction Innovation: Information, Process, Management, 12(3), 264-271. Yu A.T.W., Shen Q.P., Kelly J. and Lin G.B. (2006). A Value Management Approach to Strategic Briefing: An Exploratory Study, International Journal of Architectural Engineering and Design Management, 2(4), 245-259. Yuan Z., *Shen G.Q.P., Chung J.K.H., Ramly Z., Yu A.T.W., Wang H. (2015). Experimental Study on Virtual Value Management Workshop in Hong Kong, ASCE Journal of Management in Engineering, 32(2). DOI 10.1061/(ASCE)ME.1943-5479.0000392.

Subject Description Form

Subject Code	BRE541
Subject Title	Property Law
Credit Value	3
Level	5
Pre-requisite/ Co-requisite/ Exclusion	No special pre-requisite for this subject. The subject is mutually exclusive with Property and Construction Law (BRE584)
Role of the subject in real estate maintenance and development	As regards real estate maintenance and real estate development, owners of any right relating to any existing estate or any estate yet to be created as well as the legal significance of any action to be taken by those engaged in the industry are needed to be understood before any action is taken for maintaining and/or developing the related estate. Hence, it is essential to equip students the related legal knowledge so that they are in a better position to consider the most appropriate action when circumstances arise.
Objectives	The objectives of the subject are to: a. Equip the students with the legal knowledge being essential to building management and real estate development. b. Develop students' ability to make professional judgment over the areas relating to the management and development of a real estate.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. Understanding the legal system of the HKSAR and the obligations created under contract law and tort law. b. Discriminate between property concepts, including land ownership, land use and charges. c. Understand the key concepts in property law which are essential for building management and development and discriminate among the concepts. d. Understand the relationship, rights and obligation between a landlord and a tenant under a tenancy agreement. e. Possess the ability to evaluate property law with reference to contemporary issues and building management in particular. f. Use knowledge, reasoning and research skills to deal with property related issues arising in the context of an area of practice. g. communicate effectively
Subject Synopsis/ Indicative Syllabus	**Context** The nature and classification of property, review of the legal system and general principles in contract law and tort law that have direct application to

	property management area. A comparative analysis of the elements of different legal systems over property law concepts. **<u>Rights and obligation of the owner of an estate</u>** Legal and economic meanings of property rights; title; use; income; and management, including the right of disposal. The legal relationship between co-owners in a multi-storey building, the importance of a deed of mutual covenant in regulating the rights and obligations of the co-owners as well as the statutory law over the management of a multi-storey building. **<u>Acquisition, disposal and loss of property rights</u>** Principles and legal rules relating to the creation and transfer of property rights. The creation of a landlord and tenant relationship in general and in commercial world in particular. The nature of a security transaction and the charges being created by a company for financing a development. **<u>Protection of property rights</u>** Relationships between building management law and contract law, tort law, criminal law and tenancy law and the Land Registration system in Hong Kong and judicial remedies. The nature of a tenancy relationship as well as the rights and obligations of the landlord and tenant under a tenancy agreement. The nature of land covenant and, in particular, the nature and role of a deed of mutual covenant. Adverse possession **<u>Restrictions on property rights</u>** a. Private restrictions including easements and restrictive covenants, and sale of goods b. Public restriction including planning, land resumption, building controls.
Teaching/Learning Methodology	The pedagogical philosophy underpinning this subject is experiential learning. Students will follow a sequence of activities which may be summarized as follows: • Learning by doing • Learning through sharing • Learning through feedback • Learning by reflection An experiential methodology is particularly appropriate for a Master's

programme which is intended for persons with some knowledge and experience in the management of real estate industries. The framework is also consistent with development professional judgment, particularly the emphasis upon reflection, through which experience is turned into learning.

Class contact time is organized into seminars in which relevant topics will be explored and discussed. Guidance on legal research will be provided. Legal practitioner may be invited to attend the seminars to discuss matters of topical interest and practical relevance.

Students will divide into learning support groups to, firstly, assist learning, secondly, share viewpoints on the case studies, and finally, work together in the assignment.

For the graded coursework component of summative assessment, a topic relating to the syllabus of this subject of particular interest to the students will be select and research may be carried out into that topic.

Learning approach involves:

- Lectures and seminars
- Independent study
  - Self-study material
  - Assignment

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					
		a.	b.	c.	d.	e.	
1. Assignment: research project	50%	√	√	√	√	√	
2. Examination	50%	√	√	√	√	√	
Total	100 %						

*Students are required to pass all the specific assessment methods/tasks to pass the subject.

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

Research project designed to assess legal research skills, legal study and legal analysis and application of law to real-life problems.

One three hour open-book examination, comprising a combination of breadth and depth problems designed to assess knowledge, reasoning ability, and critical judgment.

Reading List and References

Indicative reading list and references:

Note: The latest version of the readings should be used.

Cottrell J (1999) *Legal Research: A Guide for Hong Kong Students*, Hong

	Kong University Press. Hong Kong. **Hong Kong legal system and general principles of law:** Vanessa Stott. (2010). An Introduction to Hong Kong Business Law (6th ed). Pearson Education Clement Shum. (1998). General Principles of Hong Kong Law. (3rd ed). Longman **Land law:** S.H.Goo., & Alice S.C.Lee. (2015). Land Law in Hong Kong. (4th ed). LexisNexis. Sihombing, J., & Wilkinson, M. (2014). A Student's Guide to Hong Kong Conveyancing. (7th ed). LexisNexis Nield, S. (1997) Hong Kong Land Law. (2nd). Addison Wesley Longman China Limited. **Planning and Land Resumption:** John, Litton., & Kate, Olley. (2018) Planning Law in Hong Kong. LexisNexis. Richard, E. Smith. (2006) Planning Control: Development, Permission and Enforcement. RICS Boooks. Gordon N, Cruden,Lisa Jane Cruden. (2017) Land Compensation and Valuation Law in Hong Kong. (4th ed). LexisNexis **Building Management:** Merry M. (2016) Building Management in Hong Kong. (3rd ed). LexisNexis **Tenancy law:** Merry, M. (2016) Hong Kong Tenancy Law, (6th ed). LexisNexis **Security transactions:** S.H.Goo, & Alice S.C.Lee (2015), 4th edition. LexisNexis. V Stott. (2015) Hong Kong Company Law. (14th ed). Pearson Education Asia Limited. **Supplementary:** Authorized Hong Kong Law Report and Digest, Sweet & Maxwell. Government Publications. Halsbury Laws of Hong Kong, Butterworths. Hong Kong Cases, Butterworths **Useful websites** Polytechnic University library database: Westlaw

	HKSAR Judiciary: https://www.judiciary.hk/en/home/index.html Hong Kong Legal Information: http://www.hklii.org/ Hong Kong e-legislation: https://www.elegislation.gov.hk/

Subject Description Form

Subject Code	BRE550
Subject Title	Statutory Framework for Construction Practice
Credit Value	3
Level	5
Pre-requisite/ Co-requisite/ Exclusion	Nil
Objectives	To provide students with an overview and understanding of the regulations currently enforced in the construction industry. Responsibilities of the engineers will be highlighted and this will equip students with sound knowledge to appreciate the relationship between regulations and practice of the construction industry.
Intended Learning Outcomes	Upon completion of the subject, students will be able: a. to possess in-depth knowledge in construction related ordinances; b. to possess skills in managing disputes by reference to construction related ordinances; c. to think holistically and analytically in dealing with complex problems and situations pertinent to construction disputes; and d. to make use of the ordinances to general practical argument.
Subject Synopsis/ Indicative Syllabus	**Keyword Syllabus** i) Statutory Control Framework and Building Control Enactment history and Buildings Ordinance, regulations, PNAP, Offences. Minor Works Control System. Control of buildings and appeal. Practice Notes in force and authority. Procedures for approval, consent and permit to occupy. Supervision plans. ii) Exemptions and Unauthorized Building Works Exemptions (s41) and Buildings Ordinance (Application to the NT). Unauthorized building works. Order for demolition, removal or alteration, and appeal. iii) Building Management Ordinance Deed of mutual covenant and general duties under BMO. Common parts. Owners incorporated and Management. iv) Environmental Legislation and Administration Town planning system and environmental impact assessment. Environmental legislation and regulations.

<table>
<tr><td></td><td>v) <u>Construction Safety</u>
Principle of construction safety.
Ordinances and Regulations.
Vi) <u>Prosecution and Appeal arising from Construction Practice</u>
Civil v. Criminal Prosecution
Judicial Review,
Administrative Appeal
Other Consequences of non-compliance and exemptions.</td></tr>
<tr><td>Teaching/Learning Methodology</td><td>Lectures will provide fundamental knowledge and application examples relating to the construction-related ordinances. Students will be required to undertake various activities including tutorials to enable them to thoroughly digest the taught contents.

Tutorials will provide opportunities for students and lecturer to communicate and discuss any difficulties relating to the lecture programme. It will also provide a forum for students and lecturer to discuss the ongoing coursework.

Coursework will provide students with opportunities to tackle complex real problems to facilitate their learning.

Independent study and associated reading will require students to conduct some problem-solving exercises independently, analyze the cases and prepare practical and innovative arguments.</td></tr>
<tr><td>Assessment Methods in Alignment with Intended Learning Outcomes</td><td>
<table>
<tr><td rowspan="2">Specific assessment methods/tasks</td><td rowspan="2">% weighting</td><td colspan="6">Intended subject learning outcomes to be assessed (Please tick as appropriate)</td></tr>
<tr><td>a.</td><td>b.</td><td>c.</td><td>d.</td><td></td><td></td></tr>
<tr><td>1.Coursework (PPT slide and report)*</td><td>40%</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td></td><td></td></tr>
<tr><td>2. Written Examination*</td><td>60%</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td></td><td></td></tr>
<tr><td>Total</td><td>100%</td><td colspan="6"></td></tr>
</table>
*Students are required to pass all the specific assessment methods/tasks to pass the subject.

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:Coursework will be set such that students will be asked to completed tasks to align with intended learning outcomes, including:
• research related to in-depth knowledge in construction related ordinances,
• prepare presentation and discussion with party group work to learn managing disputes and exercise problem solving skills and
• prepare and submit a final report to cover the subject area holistically and analytically.</td></tr>
</table>

	Written examination: To align with intended learning outcomes, at least 4 questions will be set to cover the key knowledge area of the subject and they are separated into two sections that students have to attempt both sections. Students can answer the questions with open-book examination approach. As such, students can be examined on the in-depth understanding of a broad range of knowledge and the ability to search and use information critically. Some of the questions will be problem solving type on practical issues and the others are essay type to discuss controversial issues in order to test student both holistically and analytically. Students must attain at least Grade D in both coursework and final examination (whenever applicable) in order to attain a passing grade in the overall result.
Reading List and References	**<u>Ordinances</u>** Cap 59, Factories and Industrial Undertaking Ordinance Cap 123, Buildings Ordinances Cap 344, Building Management Ordinance Cap 499, Environmental Impact Assessment Ordinance Cap 509, Occupational Safety and Health Ordinance **<u>References</u>** • Environment, Transport and Works Bureau: www.etwb.gov.hk - technical circulars • Butterworths, *Hong Kong Building Law Handbook. .* (2017, Fourth Edition) • Chan E.H.W., Mok P. & Scott D. (2001) Statutory Requirements for Construction Professionals, Published by HK Institute of Construction Managers and Pace Publishing Ltd. ISNB:962-7723-28-2, Hong Kong. • Christopher Tung, *Keeping It Clean and Safe: The Impact of Safety and Environmental Regulations on The Hong Kong Construction Industry*, Chapter 2, The Construction Law Minefield of Hong Kong, Butterworths, 2001. • Halsbury's Laws of Hong Kong – Building & Construction. (2011, Second Edition) • Lawrance W. C. Lai and Daniel C. W. Ho, *Planning, Buildings for a High-rise Environment – A Review of Building Appeal Decisions*, HKU Press, 2002. • Practice Notes for AP and RSE issued and updated from time to time from the Buildings Department. • Sihombing and Wilkinson, *Students' Guide to Hong Kong Conveyancing.* (2021, Ninth Edition (Student)) • Steve Rowlinson, *Hong Kong Construction – Site Safety Management*, Sweet & Maxwell, Asia, 2003.

Subject Description Form

Subject Code	BRE562
Subject Title	Project Appraisal
Credit Value	3
Level	5
Pre-requisite/ Co-requisite/ Exclusion	Nil
Objectives	This subject aims to: a. introduce basic valuation concepts of international real estate; b. develop knowledge and understanding of international approaches to standards of appraisals; c. familiarize students with a broad spectrum of appraisal approaches and to integrate them in comprehensive project appraisals.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. have an understanding of basic valuation concepts of international real estate; b. have a knowledge of international approaches to standards of appraisals; c. gain a broad spectrum of appraisal approaches and to apply them in comprehensive project appraisals.
Subject Synopsis/ Indicative Syllabus	Indicative syllabus: • Real estate valuation techniques • International real estate valuation standard • Economic appraisal: theory and methods • Financial appraisal and development decisions
Teaching/Learning Methodology	Lectures and directed reading will be used to outline the techniques and approaches determined by international valuation practice; conventional economic appraisal and environmental appraisal. Visiting speakers from international agencies will illustrate practical applications. Coursework will be used to test understanding and application of the relevant methodologies and ability to undertake a critical appraisal of each method. Case studies will be used. • Lectures • Seminars and workshops • Independent study • Assignment • Self-study

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					
		a.	b.	c.			
1. Coursework	50%	√	√	√			
2. Examination	50%	√	√	√			
Total	100%						

*Students are required to pass all the specific assessment methods/tasks to pass the subject.

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

Both coursework and examination will be used to test understanding and application of the relevant methodologies and ability to undertake a critical appraisal of each method.

Reading List and References

Indicative Reading List:

Asian Development Bank (1996) *Economic Evaluation of Environmental Impacts*, Asian Development Bank, Manila.

Baum A., Mackmin D., Nunnington N., (1997) *The Income Approach to Property Valuation: 4th ed.*, International Thompson Business Press.

Best P., (1998), *Implementing Value at Risk*, Wiley, New York.

Champness, (1997), *Approved European Property Valuation Standards*, Estates Gazette Limited.

Copeland T., Koller T., Murrin J., (1995), *Valuation: Measuring and Managing the Value of Companies 2nd Edition*, Wiley, New York.

Eckert, Joseph K., (1990), Property Appraisal and Assessment Administration. Chicago, International Association of Assessing Officers.

Economist Intelligence Unit, (1997), *Global Direct Investment and the Importance of Real Estate*, EIU, London.

Field, (1997), *The Appraisal of Real Estate*, 11th ed., Appraisal Institute, Chicago.

Gelbtuch H.C., Mackmin D., (1997) *Real Estate Valuation in Global Markets*, Appraisal Institute, Chicago.

HKIS, (2005), *The HKIS Valuation Standards on Properties*, The Hong Kong Institute of Surveyors.

Johansson P., (1993) Cost-Benefit Analysis of Environmental Change, CUP, Cambridge.

Li Ling-hin, (1997) *Development Appraisal of Land in Hong Kong*, Chinese University Press, Hong Kong.

	Lumby S., (1994), *Investment Appraisal and Financial Decisions*, 5th Edition, Chapman & Hall. Millington, A. F., (2000) An Introduction to Valuation, Estate Gazette Nevitt P.K., Fabozzi F., (1995) *Project Financing*, Euromoney. Royal Institution of Chartered Surveyors, (1997), *Calculation of Worth: An Information Paper*, RICS, London. Sirota D., (1998), *Essentials of Real Estate Finance: 9th ed*., Real Estate Education Co., Chicago. Squire, van der Tak H.G., (1975, seventh printing 1992) *Economic Analysis of Projects*, Johns Hopkins University Press, Baltimore. Ventolo, Williams, (2004), *Fundamentals of Real Estate Appraisal*, 8th ed., Dearborn Real Estate Education. Ward W.A., Deren B.J., (1991), *The Economics of Project Analysis: A Practitioner's Guide,* Economic Development.

Subject Description Form

Subject Code	BRE565
Subject Title	Real Estate Asset Management
Credit Value	3
Level	5
Pre-requisite/ Co-requisite/ Exclusion	Nil (Students are expected to possess some knowledge of the real estate development process and an understanding of basic organizational management theory)
Objectives	This subject aims to provide an integrated and consolidated intellectual framework for students to comprehend and analyse the current factors and issues in the management of corporate real estate as a business asset.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. explain the institutions or rules of the game (formal and informal) in the context of real estate management, which focuses on the real estate, the organization that use it and the people that manage it; b. develop knowledge and understanding of the strategic management of and the corporate real estate; c. familiarize with theoretical models and concepts in analyzing issues in asset management and performance applied to real estate assets; d. communicate and present ideas in a clear and articulate manner using appropriate academic convention.
Subject Synopsis/ Indicative Syllabus	**Institutions:** Legal framework setting out ownership rights of organizations over real estate. Formal and informal rules and conventions adopted by organizations in management of real estate assets. Types of governance – markets or hierarchies, risk management by real estate assets. **Organizational Theory:** Relationship between real estate ownership and use within organizations – objectives of organizations, organizational structure, allocation of resources, behavioural theory of the firm. **Management Strategy:** Alignment of organizational real estate strategy with organizational objectives. Structure of real estate management unit within organization. Performance monitoring and procurement of real estate assets and management skills. **Real Estate:** a. as a factor of service and production;

<table>
<tr><td></td><td>b. as a financial investment. Real estate asset performance, value creation and management relating to different asset management model and investment vehicles.</td></tr>
<tr><td>Teaching/Learning Methodology</td><td>Topics will be introduced by lectures with guidance to various reference materials. Case studies and assignments will be used to create an ‘action learning’ environment in which the students will critically evaluate practices and procedures for the achievement of quality. Small group discussion will enhance the information flow and evaluation process.

• Lectures and seminars
• In-class tutorials
• Independent study
  • Assignment
  • Self-study</td></tr>
<tr><td>Assessment Methods in Alignment with Intended Learning Outcomes</td><td>
<table>
<tr><td rowspan="2">Specific assessment methods/tasks</td><td rowspan="2">% weighting</td><td colspan="6">Intended subject learning outcomes to be assessed (Please tick as appropriate)</td></tr>
<tr><td>a.</td><td>b.</td><td>c.</td><td>d.</td><td></td><td></td></tr>
<tr><td>1. Assignment/case studies*</td><td>40%</td><td>√</td><td>√</td><td>√</td><td></td><td></td><td></td></tr>
<tr><td>2. Examination*</td><td>50%</td><td>√</td><td>√</td><td>√</td><td></td><td></td><td></td></tr>
<tr><td>3. Participation/ presentation*</td><td>10%</td><td></td><td></td><td></td><td>√</td><td></td><td></td></tr>
<tr><td>Total</td><td>100%</td><td colspan="6"></td></tr>
</table>
*Students are required to pass all the specific assessment methods/tasks to pass the subject.

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

Assignment questions are distributed to students to practice applying investment strategies and analysis to evaluate real estate asset management decision. Selected problems/case studies will be discussed in tutorial sessions, and students are required to present their solution apply to those case studies.

The final examination assesses students’ ability in solving and rationalizing problems of real estate asset management by applying their knowledge gained from the subject.</td></tr>
<tr><td>Reading List and References</td><td>Cinquini, L., Minin A. & Varaldo, R. (2013) New Business Models and Value Creation: A Service Science Perspective, Milan; London: Springer.

Haynes, B., Nunnington, N. & Eccles, T, (2017) Corporate Real Estate Asset Management: Strategy and Implementation (Second edition), Abington, Oxon: Routledge.

Hewlett, C. & Kaufmann, G. (2008), Strategy for Real Estate Companies,</td></tr>
</table>

	Washington, DC: ULI – Urban Land Institute. Kaplan, R.S. & Norton, D.P., (2004) *Strategy Maps: Converting intangible assets into tangible outcomes*, Boston: Harvard Business School Press. Parker, D. (2018) *The Routledge REITs Research Handbook*, Abingdon, Oxon: Routledge. *REITs in Asia: from Concept to Completion*, Hong Kong: Asia Law & Practice (2005). Seabrooke, W., Kent, P. & How, H. (2004), *International Real Estate: An Institutioanl Approach*, Oxford, U.K; Malden, MA: Blackwell Pub. Then, D S S,, (2012) *Real Estate Asset Management: Operational Property Assets and Facilities Support Services as a Business Resource*, Saarbrucken, Germany: LAP Lambert Academic Publishing. Weatherhead, M. (1997) *Real Estate in Corporate Strategy*, MacMillan Press.

Subject Description Form

Subject Code	BRE572
Subject Title	Real Estate Development
Credit Value	3
Level	5
Pre-requisite / Co-requisite/ Exclusion	Nil
Objectives	This subject adopts a multi-disciplinary approach and covers both the theoretical, conceptual and essential aspects of property development. It is intended to provide an integrated, intellectual and critical framework for students to comprehend and analyze the contemporary problems of and key issues affecting the production and consumption of the built environment in our society.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. identify and describe the literature for a broad-based research topic related to land and property development; b. appraise the complex and dynamic process of real estate development, with special reference to the local context; c. evaluate the significance of all the key social, political, economic, physical and regulatory factors and their trends in affecting the operation of the property development industry; d. assess the strengths and weaknesses of the theoretical models and concepts in analyzing the current issues affecting property development in our society; e. synthesize important insights and knowledge from various intellectual disciplines and apply them in addressing contemporary problems in the production and consumption of built environment in our cities.
Subject Synopsis/ Indicative Syllabus	***Real Estate Development Features, Models and Processes:*** Models of Development Process; Transformation of Urban Built Environment. ***Public Sector Regulations and Development Potential:*** Concepts of Project Feasibility; Approaches in Development Control Decision Analysis. ***Current Issues in Real Estate Development:*** Globalization of Real Estate; Land Development in China; Property-led Urban Regeneration. ***Different Types of Real Estate Development:*** Office, Residential and Industrial Development.
Teaching/Learning Methodology	This subject will consist of a series of lectures, workshops and tutorials to introduce the theories, models and literature relevant to the subject syllabus. Students are requested to read the assigned readings and complete some directed self-learning activities to assess their understanding of the subject syllabus.

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					
		a.	b.	c.	d.	e.	
Team Project*	50%	√	√	√	√	√	
Team Paper*	50%	√	√	√	√	√	
Total	100%						

*Students are required to pass all the specific assessment methods/tasks to pass the subject.

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

The Term Paper and Final Examination cover essay-type questions and allows students to further synthesize the knowledge and apply to practical scenarios and specific situations.

Indicative Reading List and References

Brown, P. H. (2015). *How Real Estate Developers Think: Design Profit and Community.* USA: University of Pennsylvania Press.

Buitelaar, E. (2004). A transaction-cost analysis of the land development process. *Urban Studies, 41*(13), 2539-2553.

Charney, I. (2007). Intra-metropolitan preferences of property developers in greater Toronto's office market. *Geoforum*, 38(6), 1179-1189.

Cho, C.-J. (2010). An analysis of the housing redevelopment process in Korea through the lens of the transaction cost framework. *Urban Studies, 48*(7), 1477-1501.

Coiacetto, E. (2007). The role of the development industry in shaping urban social space: a conceptual model. *Geographical Research*, *45*(4), 340-347.

Fainstein, S. S. (2008). Mega-projects in New York, London and Amsterdam. *International Journal of Urban and Regional Research, 32*(4), 768-785.

Gielen, D. M., & Tasan-Kok, T. (2010). Flexibility in planning and the consequences for public-value capturing in UK, Spain and the Netherlands. *European Planning Studies, 18*(7), 1097-1131.

Gospodini, A. (2006). Portraying, classifying and understanding the emerging landscapes in the post-industrial city. *Cities*, 23(5), 311-330.

Hutton, T. A. (2004). Post-industrialism, post-modernism and the reproduction of Vancouver's central area: retheorising the 21st-century city. *Urban Studies, 41*(10), 1953-1982.

Tang, B.S., Wong, S.W. and Liu. S.C. (2011) Institutions, property taxation and local government finance in China. *Urban Studies*, 48 (5), 847-875.

Li, Y., Chen, X., Tang, B. S., & Wong, S. W. (2018). From project to policy: Adaptive reuse and urban industrial land restructuring in Guangzhou City, China. Cities. *Cities* 82, 68-76.

Wu, J. (2011). Globalization and emerging office and commercial landscapes in Shanghai. *Urban Geography, 32*(4), 511-530.

Subject Description Form

Subject Code	BRE574
Subject Title	Construction Process Management
Credit Value	3
Level	5
Pre-requisite / Co-requisite/ Exclusion	Nil
Objectives	The objectives of this subject focus towards the application of building/construction management techniques by integrating site operational management with strategic and project management activities.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. understand the concept and significance of construction process management in project development; b. appraise the impacts of project time, cost, resource productivity, and constructability to construction process management; c. optimize the construction process for improving project time, project cost, resource productivity; d. apply the operational functions of time, information, material, resource, contract, site environment for process management.
Subject Synopsis/ Indicative Syllabus	Process management concepts: process productivity (work cycle balancing; work sampling; method productivity delay model), process simulation (types of process simulation; Monte Carlo simulation; hand simulation; CYCLONE simulation), process optimization (linear programming technique; model formulation). Management functions and processes: time management; information management; materials management; resource management; sub-contracting management; site environment management, procurement management.
Teaching/Learning Methodology	• Lectures • Seminars • Independent study • Assignments • Self-study

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					
		a.	b.	c.	d.		
1. Continuous Assessment* (Assignments and class participation)	60%	√	√	√	√		
2. Examination	40%	√	√	√	√		
Total	100%						

*Students are required to pass both the continuous assessment and examination to pass the subject.

Reading List and References

AbouRizk, S. (2010). “Role of simulation in construction engineering and management.” Journal of construction engineering and management. 136(10), 1140-1153.

Siu, M., Lu, M., and AbouRizk, S. (2016). “Resource supply-demand matching scheduling approach for construction workface planning.” Journal of construction engineering and management. 142 (1), 04015048.

Tang, S.L. (1999). Linear optimization in applications. Hong Kong University Press, Hong Kong.

Tang, S.L., Ahmad, I.U., Ahmed, S.M., and Lu, M. (2004). Quantitative techniques for decision making in construction. Hong Kong University Press, Hong Kong.

Tang, S.L., Poon, S.W., Ahmed, S.M., and Wong K.W. (2003). Modern construction project management. Hong Kong University Press.

Tatum, C.B. (2005). “Building better technical support for construction.” Journal of construction engineering and management, 131(1), 23-32.

Tatum, C.B. (2012). “Integrated construction engineering activities to satisfy challenging project objectives.” Construction research congress 2012, 139-148.

The Hong Kong Institute of Architects, The Hong Kong Institute of Surveyors. (2005). Agreement and schedule of conditions of building contract for use in the Hong Kong Special Administrative Region, Private Edition - with quantities, 2005 Edition.

The Hong Kong Institute of Architects, The Hong Kong Institute of Surveyors (2006). Agreement and schedule of conditions of building contract for use in the Hong Kong Special Administrative Region, Private Edition - without quantities, 2006 Edition.

The Hong Kong Institute of Architects, The Hong Kong Institute of Surveyors (2005). Agreement and schedule of conditions of nominated sub-contract for use in the Hong Kong Special Administrative Region, 2005 Edition.

Subject Description Form

Subject Code	BRE581
Subject Title	International Construction Projects
Credit Value	3
Level	5
Pre-requisite / Co-requisite / Exclusion	Nil
Objectives	This subject aims to enrich students' knowledge and skills in procurement management and relational contracting systems used for international construction projects.
Intended Learning Outcomes	Upon completion of this subject, students should be able to: a. demonstrate an understanding of international trade and the nature of international construction. b. describe and select appropriate procurement options and management techniques used for international construction projects. c. apply concepts and principles of relational contracting to the implementation of construction projects.
Subject Synopsis / Indicative Syllabus	Keyword syllabus: **International construction:** Opportunities in local, Chinese and overseas market, managing multi-disciplinary and multi-national projects, cultural and political risks, "One Belt, One Road 一帶一路" initiative of Mainland China, cross-cultural management of international project teams. **Procurement of international projects:** Design-build, management contracting and construction management, international standard forms of contract such as the FIDIC form of contract and the New Engineering Contract (NEC). **Relational contracting:** Overview, partnering, alliancing, public-private partnerships (PPP) and joint ventures, measures of success for international projects, target cost contracting, risk assessment models, New Engineering Contract (NEC), and case studies.
Teaching / Learning Methodology	Lecture topics are introduced through a printed study guide and a recommended textbook, which are supplemented by materials delivered during the lectures. Seminars provide an opportunity for students to further explore topics in greater depth through case study analysis, and critical evaluation of established protocols. The coursework assignment comprises in-class exercise and a group term paper supported by individual guided readings and group discussions. It is the students' ultimate responsibilities to ensure that no plagiarism is committed in their coursework assignments. So students should have checked their works against plagiarism by using some common plagiarism detection and scanning tools (e.g. Turnitin program) before submitting their completed coursework assignments for assessment. Students should submit and retain their "final scanned" electronic copy of their completed assignments (with the Similarity Index and AI-text Indicators shown) at the same location of the Blackboard subject website for perusal and inspection by the subject lecturers.

As the Generative AI (GenAI) tools has become a normal part of learning, teaching and assessment as an emerging trend at PolyU to produce text and other media for the assessments, students have to submit their **completed Honour Declaration Forms (for both individual assignments and group reports)** if the assessments and assignments of the subject are primarily **based on essays or written type of works**, starting from Semester 1 of 2024/25.

Honour Declaration Form on the Use of Generative AI (GenAI) Tools in Subject Assignments

PolyU GenAI App (source: https://genai.polyu.edu.hk)

Students are required to declare the use of any Generative AI (GenAI) tools for brainstorming or generating initial ideas, literature search or writing of assignment reports (e.g. ChatGPT, DeepSeek, , Poe, Google Bard, Microsoft 365 Copilot Chat, Qwen 通义千问, etc) in preparing their submitted work, and where and how they have been used. Therefore, students need to submit their completed Honour Declaration Forms (one form for one student for individual assignment whereas one form for one group for group assignment) which should be included at the end of their submitted assignments as a kind of mandatory requirement for perusal and reference by the subject lecturers.

If students have adopted AI-generated texts or materials in their work, they must properly cite and reference them in accordance with accepted academic conventions and citation styles. Students may refer to the Guidelines for Students on the Use of Generative Artificial Intelligence (source: https://www.polyu.edu.hk/ar/students-in-taught-programmes/use-of-genai) developed by the Academic Registry (AR) of PolyU for reference.

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods / tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					
		a	b	c			
1. Coursework (In-class exercise)	10%	✓	✓	✓			
2. Coursework (Group term paper or report)	40%	✓	✓	✓			
3. Examination (2 hours)	50%	✓	✓	✓			
Total	100%						

Students must complete and pass each of the two assessment components of the subject (**both coursework and examination separately**) in order to obtain an overall pass of the whole subject.

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

Coursework (In-class exercise and Group term paper or report)

The designed term paper question attempts to test the level of students' knowledge and understanding of various procurement options and relational contracting systems used for construction projects, and then to determine the most appropriate one for implementation with strong justifications or sound recommendations.

Examination (2 hours)

The examination questions attempt to test students' knowledge and understanding of various procurement options and relational contracting systems

	used for construction projects, and then to cite relevant both local and international case study projects for proper illustration and justified arguments.
Reading List and References	**Construction Industry** Construction Industry Institute – Hong Kong (2008). *Proceedings of the CII-HK Conference 2008 – Building a Stronger Construction Industry for Hong Kong: Opportunities and Challenges* (Thomas Ng, Albert Chan, Daniel Chan and James Wong as Editors), 26 November 2008, Hong Kong, China, ISBN 978-988-99558-9-2, 185 pages. Construction Industry Review Committee (2001). *Construct for Excellence*, Report of the Construction Industry Review Committee, Hong Kong SAR, Hong Kong, 207 pages. Development Bureau (2018). *Construction 2.0 - Time to Change*, Report of the Project Cost Management Office, Development Bureau, Hong Kong SAR Government, Hong Kong on the future of the local construction industry - the challenges and how these can be addressed, September, 53 pages (URL: https://www.psgo.gov.hk/en/c20.html). **Construction Procurement** Chan, A.P.C and Yung, E.H.K. (2003). *Procurement Selection Model for Hong Kong*, Research Monograph, Department of Building and Real Estate, The Hong Kong Polytechnic University, ISBN 962-367-285-3, 143 pages. Masterman, J.W.E. (2002). *An Introduction to Building Procurement Systems*. 2nd Edition, E & FN Spon. **Construction Contracts** Bunni, N.G. (1997). *The FIDIC Form of Contract: The Fourth Edition of the Red Book*. Blackwell Science. Hills, M.J. (2001). *Building Contract Procedures in Hong Kong*, Hong Kong: Pearson Education. **Construction Partnering** Broome, J. (2002). *Procurement Routes for Partnering – A Practical Guide*, London: Thomas Telford, Chapter 2. Chan, A.P.C., Chan, D.W.M. and Yeung, J.F.Y. (2010). *Relational Contracting for Construction Excellence: Principles, Practices and Case Studies*, Spon Press of the Taylor & Francis Group: UK, 334 pages, ISBN 978-0-415-46669-1 (hardback) (URL: http://www.routledge.com/books/details/9780415466691). **Target Cost Contracting** Broome, J. (2002). *Procurement Routes for Partnering – A Practical Guide*, London: Thomas Telford, Chapter 8. Chan, D.W.M., Chan, A.P.C., Lam, P.T.I., Lam, E.W.M. and Wong, J.M.W. (2007). *An Investigation of Guaranteed Maximum Price (GMP) and Target Cost Contracting (TCC) Procurement Strategies in Hong Kong Construction Industry*, Research Monograph, Department of Building and Real Estate, The Hong Kong Polytechnic University, 152 pages, ISBN 978-962-367-593-2, October 2007. (URL: http://ira.lib.polyu.edu.hk/handle/10397/2376) Chan, D.W.M. and Chan, J.H.L. (2017). *Target Cost Contracting Strategy in Construction: Principles, Practices and Case Studies*, Routledge of the Taylor & Francis Group: United Kingdom, 172 pages, January, ISBN 978-1-138-65190-6 (hardback) (URL: https://www.routledge.com/Target-Cost-Contracting-Strategy-in-Construction-Principles-Practices/Chan-Chan/p/book/9781138651906)

	Public-Private Partnerships (PPP) Chan, A.P.C., Chan, D.W.M. and Yeung, J.F.Y. (2010). *Relational Contracting for Construction Excellence: Principles, Practices and Case Studies*, Spon Press of the Taylor & Francis Group: UK, 334 pages, ISBN 978-0-415-46669-1 (hardback) (URL: http://www.routledge.com/books/details/9780415466691). Chan, A.P.C., Lam, P.T.I., Chan, D.W.M., Cheung, E. and Ke Yongjian (2009). Drivers for Adopting Public Private Partnerships - Empirical Comparison between China and Hong Kong Special Administrative Region. *Journal of Construction Engineering and Management*, ASCE, 135(11), November, 1115-1124. Chan, A.P.C. and Cheung, E. (2014) *Public Private Partnerships in International Construction: Learning from Case Studies*. Routledge of the Taylor & Francis Group: United Kingdom, 190 pages, ISBN 978-0-415-52975-4 (hardback) (URL: https://www.routledge.com/Public-Private-Partnerships-in-International-Construction-Learning-from/Chan-Cheung/p/book/9781138233744)

Subject Description Form

Subject Code	BRE582
Subject Title	Development Finance and Investment
Credit Value	3
Level	5
Pre-requisite / Co-requisite/ Exclusion	Nil
Objectives	This subject aims to introduce the concept and practice of project financing and property investment in a portfolio context for project managers.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. articulate the roles of property as an investment asset to enhance the value of a portfolio, by assessing returns and risks, and their relationships to risk diversification; b. appraise real estate investment/development by use of capital budgeting; c. identify the sources and considerations for financing building and infrastructure projects, together with an examination of associated risks and application of mitigation measures.
Subject Synopsis/ Indicative Syllabus	**The investment environment and historical perspective** Review of financial institutions, markets and instruments. Review of historical performance of property and financial investment, capital budgeting. **Modern portfolio theory** Net present value and discounting rates, returns and risks, Markowitz model and its application in portfolio selection. Capital asset pricing model. Systematic and unsystematic risks of property investment as compared with alternative investments including bonds and equities. Capital structure. Weighted average cost of capital (WACC). Efficient Market Hypothesis. **Behavioural Finance** Limitations of classical portfolio theories and validity of their rationality assumptions. Introduction of behavioural finance, and the psychological factors of investors' decision making. **Concept of Project Financing** Interest rate spread, collateral *vs* non-recourse, debt *vs* equity, credit rating. **Financing of property and infra-structure projects** Financing instruments available, syndication, government involvement, functions of World Bank/ADB, financial institutions, financing model, innovative financing approaches (e.g., FRN, CMBS, private equity placement), lending documentation, financing for sustainable development. **Risk management in Financing** Risk identification, risk transfer and mitigation measures, loan monitoring. **Case studies**

<table>
<tr><td></td><td>Case studies of major project financing in developing and developed countries.</td></tr>
<tr><td>Teaching/Learning Methodology</td><td>Lectures are supplemented by student-centered learning activities (reading, self-assessment questions and case studies).</td></tr>
<tr><td>Assessment Methods in Alignment with Intended Learning Outcomes</td><td>
<table>
<tr><td rowspan="2">Specific assessment methods/tasks</td><td rowspan="2">% weighting</td><td colspan="6">Intended subject learning outcomes to be assessed (Please tick as appropriate)</td></tr>
<tr><td>a.</td><td>b.</td><td>c.</td><td></td><td></td><td></td></tr>
<tr><td>1. Individual assignment and group project*</td><td>50%</td><td>√</td><td>√</td><td></td><td></td><td></td><td></td></tr>
<tr><td>2. Written exam*</td><td>50%</td><td>√</td><td></td><td>√</td><td></td><td></td><td></td></tr>
<tr><td>Total</td><td>100%</td><td colspan="6"></td></tr>
</table>
*Students are required to pass all the specific assessment methods/tasks to pass the subject.
Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:
Assessment (50%) via individual/group assignments tests the students' ability to manipulate calculations based on the theoretical concepts as well as communication skills.
Closed book examination (50%) tests the students' ability to articulate the relationships through discussions and arguments, whilst application is tested via scenario-based questions.
</td></tr>
<tr><td>Reading List and References</td><td>
<u>Indicative reading list and references:</u>
Bodie, Z., Kane, A., & Marcus, A. J. (2013). Investments. McGraw Hill.
Brown, G.R. and Matysiak, G. A. (2000), Real Estate Investment: A Capital Market Approach, Financial Times/Prentice Hall.
Brueggeman, W.B. and Fisher, J. (2016), Real Estate Finance and Investments, 15th edition, McGraw-Hill/Irwin.
Brealey, R.A. and Myers, S.C. (2017) Principles of Corporate Finance, McGraw Hill.
Chesterton, J. & Ghose, T.K. (1998), Merchant Banking in Hong Kong, Butterworths.
Elton, E. J., Gruber, M. J., Brown, S. J., & Goetzmann, W. N. (2009). Modern Portfolio Theory and Investment Analysis. John Wiley & Sons.
Issac, D. (2003), Property Finance, 2nd Edition, Palgrave Macmillan.
Merna, T and Al-Thani, F.F. (2018), Financing Infrastructure Projects – A Practical Guide, Thomas Telford.
Nevitt, P.K. and Fabozzi, F. (2000), Project Financing, 7the ed., Euromoney.
Pretorius, F., Lejot, P., McInnis, A., Arner, D., & Fong-Chung Hsu, B. (2008).
</td></tr>
</table>

	Project Finance for Construction & Infrastructure. Principles & case studies. Blackwell Publishing. Taleb, N.N. (2010) *The Black Swan: The Impact of the Highly Improbable, 2nd edition*, Random House Trade Paperbacks. Tan, W. (2007) *Principles of Project and Infrastructure Finance*, Taylor & Francis. *Asiamoney, Trade & Project Finance, Journal of Property Finance and Investment.* *Journal of Property Research, Journal of Real Estate Portfolio Management.* *Journal of Real Estate Research, Real Estate Economics, Journal of Real Estate Finance and Economics.*

Subject Description Form

Subject Code	BRE586
Subject Title	Construction Information Technology
Credit Value	3
Level	5
Pre-requisite/ Co-requisite/ Exclusion	Nil
Objectives	The objectives of this subject focus towards the application of IT in construction with emphasis on construction project management, construction information modeling and information technology service management.
Intended Learning Outcomes	By the end of this subject, participants should be able to: a. understand the ways of construction management workflow and dataflow analyses for the implementation of integrated construction management systems; b. understand the state of art of the information technologies and their applications in construction; c. understand the importance of disruptive technologies and information technology service management.
Subject Synopsis/ Indicative Syllabus	Unit 1. Construction Integrated Management System - Site Management. Unit 2. Construction Integrated Management System - Web-based PM and WPIS. Unit 3. BIM concept and applications. Unit 4. BIM and construction virtual prototyping technology. Unit 5. Case studies of using BIM and Construction Virtual Prototyping technology. Unit 6. Internet Technology and its Application to Construction. Unit 7. Database applications; Information Technology Service Management.

Teaching/Learning Methodology	• Lectures and seminars
	• Independent study
	  • Assignments
	  • Case study
	  • Self-study
	  • Computing

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					
		a.	b.	c.			
1. Assignment*	50%	√	√	√			
2. Examination*	50%	√	√	√			
Total	100%						

*Students are required to pass all the specific assessment methods/tasks to pass the subject.

Assignment requires students to work individually and submit an individual report that is focused on topics of IT applications on construction projects.

Examination will test students' understanding of fundamental knowledge of the application of IT in construction with emphasis on construction project management, construction information modeling and information technology service.

Reading List and References

ASCE Journal of Computing in Civil Engineering. www.asce.org.

Automation in Construction. An International Research Journal. www.elsevier.com/locate/autocon.

CIC, Construction Industry Council (2014), Roadmap for Building Information Modelling in Hong Kong's Construction Industry.

CIC, Construction Industry Council (2015), CIC Building Information Modelling Standards (Phase One) September 2015.

Electronic Journal of Information Technology in Construction, www.itcon.org.

Abid N, Wong K.D, Wong K.W "Bill of Quantities with 3D Views Using Building Information Modeling" in April 2015. Arabian Journal for Science and Engineering DOI 10. 1007/s13369-015-1657-2, ISSN 1319-8025.

Wong K.D. (2010) "*Attributes of Building Information Modelling Implementation in Various Country*" Journal of Architectural Engineering and Design Management", Special Issue in Integrated Design and Delivery Solutions, Page 288 to 302, Volume 6(4), November 2010, ISBN 978-1-84971-275-0.

Wong K.D. (2003) *Construction Integrated Management System for Contractors*, Journal of Building and Construction Management, Volume 8, Number 1, 2003, ISSN 102419540, pp. 12-18.

Wong K.D. (2013), "*Implementation of web-based construction project management system in China projects by Hong Kong developers*", Journal of Construction Innovation: Information, Process, Management, Jan 2013, Vol. 13 DOI/10.1108/14714171311296048 pp. 26 – 49.

Wong K.D. (2006), "*Use of Smart Card for Enhancing Construction Site Human Resources Management*" Journal of Building and Construction Management. Page 63 Volume 10 Number 1 2006 ISSN 102419540.

Subject Description Form

Subject Code	BRE587
Subject Title	Research Methods for Construction and Real Estate
Credit Value	3
Level	5
Pre-requisite/ Co-requisite/ Exclusion	Mutually exclusive with MM501
Objectives	To meet the need of those who wish to contribute to the identification of business and project problems, to select appropriate techniques for their solution and to present and communicate their findings in a logical way.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. define research and distinguish between research and other forms of enquiry; b. describe the features of the scientific method and to apply them to problems in construction and property; c. properly define and undertake a specific problem orientated research; d. formulate questions in a way which renders them amenable to rigorous investigation; e. know where and how to search for literature/information for research and consultancy work; f. assess the usefulness of research methods for particular problems using as criteria the hallmarks of good research; g. identify, collect, analyse and present information appropriate to finding a solution to the problem; h. describe broadly the strengths and limitations of basic approaches to qualitative and quantitative research; i. effectively communicate the findings of their work orally and in written form.
Subject Synopsis/ Indicative Syllabus	• Introduction to research methodologies • Formulation of a research problem • Library session on information management • Guest speakers on consultancy strategies and tactics; • Research methods in construction management

<table>
<tr><td></td><td>

Qualitative and quantitative data analysisPreparation of research proposal and research paper
Dissertation writing

</td></tr>
<tr><td>Teaching/Learning Methodology</td><td>
Students are required to attend the seminars presented by guest speakers.

They are also required to attend the library workshop and complete a quiz administered by the Faculty Librarian of the University Library.

There will be a take-home assignment in the form of a case study report. Students are required to set assumptions, collect data, decide the test methods and draw conclusions from the results.

Students are also required to present the research proposal and research findings in class.
</td></tr>
<tr><td>Assessment Methods in Alignment with Intended Learning Outcomes</td><td>
<table>
<tr><td rowspan="2">Specific assessment methods/tasks</td><td rowspan="2">% weighting</td><td colspan="10">Intended subject learning outcomes to be assessed (Please tick as appropriate)</td></tr>
<tr><td>a</td><td>b</td><td>c</td><td>d</td><td>e</td><td>f</td><td>g</td><td>h</td><td>i</td><td></td></tr>
<tr><td>1. Take-home assignment: write research proposal</td><td>40%</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td></td><td></td><td></td><td></td></tr>
<tr><td>2. Take-home assignment: report research findings</td><td>40%</td><td></td><td></td><td></td><td></td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td></td></tr>
<tr><td>3. Oral presentation for research proposal</td><td>10%</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td></td><td></td><td></td><td></td></tr>
<tr><td>4. Oral presentation for research paper</td><td>10%</td><td></td><td></td><td></td><td></td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td></td></tr>
<tr><td>Total
(Continuous Assessment*)</td><td>100%</td><td colspan="10"></td></tr>
</table>
*Students are required to achieve grade D or above in overall subject grade to pass the subject.

Writing research proposal will develop students’ academic skill in the preparation of a research proposal for a chosen topic.

Reporting research findings will develop students’ academic skill in the presentation of research findings using appropriate research methods.
</td></tr>
</table>

	Oral presentation will develop students' presentation skills, and practice their summarizing skills.
Reading List and References	**Recommended Readings:** Bell, J. and Waters, S. (2018). *Doing your Research Project*. A Guide for First-time Researchers, 7th Edition, Open University Press, London. Fellows, R. and Liu, A. (2015). *Research Methods for Construction.* 4th Edition, Blackwell, Wiley. Pallant, J. (2010) SPSS survival manual: a step by step guide to data analysis using SPSS, 4th Edition, Open University Press/McGraw-Hill, Maidenhead. Rowntree, D. (2000). *Statistics Without Tears: An Introduction for Non-Mathematicians,* Penguin Science.

Subject Description Form

Subject Code	BRE5731
Subject Title	Managing People in Projects
Credit Value	3
Level	5
Pre-requisite/ Co-requisite/ Exclusion	Nil
Objectives	Students are expected to possess knowledge of: a. human behavioural context of project-based industries; b. organisation culture and the role of a manager within it; c. the nature of group behaviour and conflict management; and d. personal skills in selected areas of people management.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. understand the human behavioural context of project-based industries; b. develop knowledge of organisation culture and the role of a manager within it; c. understand the nature of group behaviour and conflict management; and d. develop personal skills in selected areas of people management.
Subject Synopsis/ Indicative Syllabus	**Context:** Overview of the context and processes of management; employee resourcing; and professional ethics. **Individual Behaviour:** Motivation of project professionals; individual differences; stress management; and job design. **Small Group Behaviour:** Group formation; types of groups; interpersonal communication; and leadership of projects. **Organisation Behaviour:** Organisational culture; organisational development and the management of change; Temporary Multi-Organisations (TMO); subcontract management; joint venture management; and cross-cultural aspects of management. **Manager Skills:** Selection interviews - appraisal interviews; discipline/grievance interviews; negotiating; meetings (project/site meetings); investigation of incidents (site accidents); and team building.
Teaching/Learning Methodology	Topics are introduced through a study guide, supplemented by materials delivered through workshops and lectures. The independent study comprises individual and group work as well as guided reading. Students are part of small study groups who discuss to share views and enhance the learning through information exchange. • Face-to-face teaching: Lectures, workshops and presentation • Independent study: Assignments (Self-awareness Exercise and Term Paper) and Self study (Guided reading)

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)				
		a.	b.	c.	d.	
1. Continuous Assessment*		√	√	√	√	
• Self awareness Exercise	10%				√	
• Term paper	30%	√	√	√		
• Presentation	10%		√	√	√	
2. Examination*	50%	√	√	√	√	
Total	100%					

*Students are required to pass both the continuous assessment and examination to pass the subject.

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

a. to complete 'self-awareness exercise' and self-reflection report (individual work);

b. to complete the Term Paper individually. (Student presentation and reflection journal are required if in group work);

c. to complete the written examination and to demonstrate the knowledge of managing people in projects.

Reading List and References

Essential readings

Morris, P.W.G. and Pinto, J.K. (ed) (2007). *The Wiley guide to project organization and project management competencies*. John Wiley & Sons, Inc: New Jersey.

Robbins, S.P. and Hunsaker, P.L. (2014). *Training in interpersonal Skill: Tips for Managing People at work*, 6th Ed., Pearson Education Limited, England.

Recommended readings

Cheung, S.C. (2004). *Human resource management strategies and practices in Hong Kong*: research report, Hong Kong: Hong Kong Institute of Human Management.

Dainty A. et al (ed) (2007). *People and culture in construction: A reader*. Taylor & Francis: London.

Hong Kong (China), Construction Industry Review Committee (2001). *Construct for Excellent: Report of the Construction Industry Review Committee*, Report of the Construction Industry Report Committee Hong Kong, HKSAR.

ICAC (2003) *Ethics for construction professionals*, A resource portfolio for Hong Kong university, Hong Kong Ethics Development Centre, Hong Kong

Turner, J.R., Huemann, M. and Keegan, A. (2008). *Human resource management in the project-oriented organization*, Project Management Institute.

Subject Description Form

Subject Code	BRE5751
Subject Title	Strategic Management
Credit Value	3
Level	5
Pre-requisite/ Co-requisite/ Exclusion	Nil
Objectives	a. To provide students with in-depth understanding of the subjects relating to strategy and strategic management. b. To develop the students' ability in applying strategic management theories and techniques in practice in the area of construction and real estate.
Intended Learning Outcomes *(Note 1)*	Upon completion of the subject, students will be able to: a. understand strategy and strategic management; b. possess knowledge in strategic management techniques throughout the development and project cycle; c. apply theories and techniques in practice in the area of strategic management.
Subject Synopsis/ Indicative Syllabus *(Note 2)*	Strategy & strategic management Organization competitiveness Eastern theories on strategy Strategy in a changing world; strategy & leadership Systems Approach to strategic management Tactics and SWOTE Analysis Strategic management in practice; strategy tools Designing organizations and strategies Sustainable development; Sustainability principle, environmental impact, environmental performance assessment and protection. Challenges of major programme management Strategic management in construction; project management: strategic time, cost & quality management Corporate strategy and real estate Risk management, Risk concept, principles of the management of risks, risk management techniques, risk attitude, decision making and application of risk management Quality management, quality management system (QMS)

Teaching/Learning Methodology

(Note 3)

Topics are introduced through a study guide and recommended texts supplemented by materials delivered through lectures and seminars. The independent study comprises individual and group work as well as cases for tutorials. Students are part of small study groups who use face-to-face or web-based media to share views and interact with group members.

- Face-to-face teaching & learning: Lectures, Tutorials, Seminars and Discussion
- Independent study: Assignments (Individual Report) and Guided-study (Cases for discussion and presentation at tutorials)

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					
		a	b	c			
1. Continuous Assessments*	50%	√		√			
• Individual Report	40%						
• In-class participation	10%						
2. Examination*	50%		√	√			
Total	100 %						

*Students are required to pass both the continuous assessment and examination to pass the subject.

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

Students are required to submit a Term Paper and to demonstrate the ability to apply theory and techniques in practice.

In examination, students are required:

- to demonstrate knowledge in strategic management techniques throughout the development and project cycle;
- to apply theories and techniques in practice in the area of strategic management.

Reading List and References

Recommended readings:

Evans V (2014) *Strategy Tools* FT Publishing, Pearson

Galbraith J (2014) *Designing Organizations* Jossey-bass, Wiley

	Harvard Business Review *HBR's Must-Reads on Strategy* (Article Collection: Product 12601) Langford D and Male S (2001) *Strategic Management in Construction* Blackwell Science, Oxford Shen, L.Y. Lu W.S and Fan L.C.N. (2009). *Strategic Management*, The Hong Kong Polytechnic University. Sun Tze *The Art of War* (Chinese &/or English Translations) Weatherhead M. (1997) *Real Estate in Corporate Strategy* MacMillan ***Selected journal and conference papers*** CIOB (2014) "*Strategy"* in *Code of Practice for Project Management for Construction and Development* 5th ed. (85-110) John Wiley & Sons. Flanagan, R., Lu, W.S., Shen, L.Y. and Jewell, C. (2007). *Competitiveness in Construction: A Critical Review of Research, Construction Management and Economics*, Vol. 25, 989-1000. Shen L.Y. (1999). 'Risk Management', Building in Value: Pre-design Issues, (Ed., Best & De Valence) Arnold Publishers, ISBN: 0340741600, pp.248-267.

Subject Description Form

Subject Code	CSE565
Subject Title	Construction Technology
Credit Value	3
Level	5
Pre-requisite/ Co-requisite/ Exclusion	Nil
Objectives	Construction works are relatively complex and are completed through the combined efforts of different trades. To resolve a construction dispute, it is essential to understand both the operation and technologies involved. The objectives of this subject are to facilitate students to understand different types of construction works and the sequence of construction operations.
Intended Learning Outcomes	Upon completion of the subject, students will be able: a. to apply the different construction techniques to formulate effective solutions to construction practice in Hong Kong; b. to identify technological considerations on demolition, maintenance and repair of buildings; c. to work with others in group works and take responsibility for an agreed area of shared activities; and d. to have creative and critical thinking and ability to work independently.
Subject Synopsis/ Indicative Syllabus	**Keyword Syllabus** i) Introduction The parties: client, architect, consultants, contractor and government officers; types of main contractors and sub-contractors; site supervision on substructure and superstructure works. ii) Earthworks Advanced techniques and plants used in excavating and transporting soil or rock; methods in dumping/compacting earth. iii) Basement Construction Basic construction methods - top down and bottom up methods; retaining wall systems and modern water-tight systems; layout of shoring system for large and small site.

	iv) <u>Substructure</u> Shallow foundations – from simple footing to raft foundation; Piled foundations – displacement/replacement piles; pile loading tests, coring and latest advances in pile tests; acceptance criteria. v) <u>Reinforced Concrete, Pre-stressed Concrete and Pre-cast Concrete</u> Reinforced concrete – ready mixed concrete, in-situ concrete, quality control; formwork, propping, vibration and compaction, coring tests; Pre-stressed concrete - pre-tensioning and post-tensioning concrete; applications on bridge structures; Pre-cast concrete - production, erection and handling procedure. vi) <u>Structural Steelwork</u> Material specifications and fabrications; connections – different types and testing techniques; erection - methods of handling and procedures on erection; methods on fire protection. vii) <u>Demolition work</u> Methods of demolition; procedures of demolition work; safety measures. viii) <u>Maintenance and repair</u> Visual inspection, advances on destructive and non-destructive testing techniques; repair of external façade; waterproofing; structural repair; -chemical treatment; desalination; re-alkalization.
Teaching/Learning Methodology	Lectures will provide updated knowledge relating to the construction practice in Hong Kong. There will be 3 assignments, 1 mid-term test and 1 case study. Case studies will be conducted in groups. Each and every student will have to present his/her part to the class. Independent study and associated reading will require students to conduct some problem-solving exercises independently.

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)			
		a.	b.	c.	d.
Assignments 1 and 2	33.3%	✓		✓	
Assignment 3	16.7%	✓	✓	✓	
Mid-term test	25%	✓			✓
Case study	25%	✓	✓	✓	✓
Total	100 %				

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

Continuous assessment will be based on 3 assignments, 1 mid-term test and 1 case study.

Students must pass the final examination and achieve a passing overall score/ grade to pass the subject.

Reading List and References

Essential Textbook

Construction Planning, Equipment, and Method, R.L. Peurifoy, C.J. Schexnayder and A. Shapira, McGraw Hill, 7th Edition, 2006.

Practice Notes, Construction Standards and Regulations.

Reference Textbook

Advanced Construction Technology, R. Chudley, Harlow, England, 1999.

Introduction to Civil Engineering Construction, 3rd Ed., R. Holmes, Reading: College of Estate Management, 1995.

Building Construction and Design, J.E. Ambrose, Van Nostrand Reinhold, New York, 1992.

Construction Technology for Tall Buildings, M.Y.L. Chew, Singapore University Press, 2001.

Subject Description Form

Subject Code	EEE5T03
Subject Title	Engineering Ethics and Academic Integrity
Credit Value	1
Level	5
Pre-requisite/ Co-requisite/ Exclusion	Nil
Objectives	The objectives of the subject are to: 1. Raise students' awareness of the importance of adhering high standards of academic integrity 2. Enhance students' ability to critically analyse ethical issues and make appropriate ethical decisions.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: 1. Demonstrate knowledge and understanding of the concepts and principles of academic integrity and ethics. 2. Demonstrate awareness and ability to analyse academic integrity and ethical issues, such as copyright and plagiarism, and act properly to avoid academic and ethical misbehaviours. 3. Recognise important ethical issues and practices in a university context. 4. Understand the implications and concerns on academic integrity raised by the latest technology, such as ChatGPT and other Generative Artificial Intelligence (GenAI) tools. 5. Identify and deal with complex ethical and professional issues in discipline-specific settings, and be able to communicate effectively the issues to the stakeholders and the public. 6. Critically analyse and discuss problem cases related to engineering ethics and academic integrity.
Subject Synopsis/ Indicative Syllabus	Keyword Syllabus • Introduction to engineering and research ethics – Needs for research ethics to the integrity and well-being of industry, professions, and community; overview of theories and methods in engineering and research ethics. • Ethical issues related to project collaboration, publication, and authorship – Responsibility for quality works; credit and responsibility of project collaborators; citation and acknowledgment; qualifications for authorship; engineering case studies. • Professional and research misconduct – Definition of professional and research misconduct; self-deception in misconduct; factors that undermine integrity; understanding and fostering responsible conduct; engineering case studies.

	• Involving human subjects and animals – The common rule for the protection of human subjects in research and professional functions; responsibility for experimental animals; requirements governing research and professional functions involving human subjects and animals; engineering case studies. • Rights and responsibilities regarding intellectual property – Individual credit and the ownership of innovation; copyrights, "Fair Use," and the Digital Millennium Copyright Act; patents and trade secrets; property rights contrasted with credit for invention; patenting of inventions contrasted with publication of project result; engineering case studies. • Cyber ethics – Common threats to information and systems in the cyberspace; core values of cybersecurity: privacy, security, fairness, and accountability; potential value conflicts and solutions; ethical hacking and concerns; legislative framework: EU Da ta Protection Regulation; engineering case studies. • Ethical use of Generative AI – AI ethics; introduction of Generative AI and its ethical considerations in engineering research and professional functions; AI hallucination; technical efforts in fake, bias, and plagiarism identification; ethical responsibility of developers using generative AI; regulating generative AI and the AI Act; engineering case studies.
Teaching/Learning Methodology	• Lectures: Formal classroom lectures will be given to introduce the concepts of engineering research ethics. Core principles of ethics will be illustrated with engineering cases. They support the intended learning outcomes 1 to 5. Since all lectures are important, students need to achieve 100% attendance in the lectures to pass the subject. • Group discussions and quizzes: During the lecture, students will form groups to analyse and discuss various engineering ethics cases related to the topic of the lecture. Students also need to complete an online quiz after the lecture to show their understanding of the teaching material. They support the intended learning outcomes 1 to 6. • Case study and reflection: Students need to choose one of the problem cases in engineering ethics and academic integrity for in-depth analysis. The analysis result will be shared with other students in a presentation session. Students also need to analyse an ethical problem related to their research project/field of professional work for the reflective study. They support the intended learning outcomes 1 to 6.
Assessment Methods in Alignment with Intended Learning Outcomes	This subject will be assessed on a pass/fail grading system and will not be included in the GPA calculation. To pass the subject, students need to attend all lectures and score 50% or higher in the total marks.

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed					
		1	2	3	4	5	6
1. Quizzes	20%	✓	✓	✓	✓	✓	
2. Case study - Presentation	40%	✓				✓	✓
3. Reflective writing	40%	✓				✓	✓
Total	100%						

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

Quizzes: Students will complete an online quiz after each lecture to show their understanding of the teaching material. They assess the intended learning outcomes 1 to 5.

Case study presentation: The best way to learn engineering ethics and academic integrity is to analyse previous problem cases so that students can learn the lessons from them. A presentation session will be arranged for students to share with other students their analysis results. It assesses the intended learning outcomes 1, 5, and 6.

Reflective writing: To assist students to sink in the discussion in the classes, they are required to submit a reflective report to detail their analysis of an ethical problem related to their research project/field of professional work. It assesses the intended learning outcomes 1, 5, and 6. The reflective writing assignment submissions will be marked by students' supervisors adopting a holistic approach.

Student Study Effort Expected

Class contact:	
▪ Lecture and class activity	13 Hrs.
Other student study effort:	
▪ Self-study and group work	12 Hrs.
▪ Assignment preparation	10 Hrs.
Total student study effort	35 Hrs.

Reading List and References

1. Caroline Whitbeck (2011). *Ethics in Engineering Practice and Research*, Cambridge University Press.
2. Lance Eliot (2023). *Generative AI ChatGPT And AI Ethics*, Lance B. Eliot.
3. Markus Christen, Bert Gordijn, and Michele Loi (2020). *The Ethics of Cybersecurity*, Cham: Springer.
4. Kristin Shrader-Frechette (1994). *Ethics of Scientific Research*, Lanham, Md.: Rowman & Littlefield.
5. University of California, San Diego (UC San Diego). *Resources for Research Ethics Education*, http://research-ethics.net.

Part 4
Appendices

Appendix A
Regulations

CHAPTER I: INTRODUCTION

1. Preamble

The two self-financed taught postgraduate programmes, namely Master of Science in Construction and Real Estate and Master of Science in Project Management, are hosted by the Department of Building and Real Estate (BRE). They have been designed to establish a structure whereby graduates in employment with appropriate qualification and relevant experience can undertake programmes of postgraduate study which will meet their own needs particular to their employment and are professionally coherent. Students progress by accumulating credits for each subject passed. Successful completion of a programme of study will lead to a PolyU postgraduate award.

2. The Nature of BRE's Postgraduate Education

2.1 Depending on needs, a student's selected programme of study can be designed for one or more of the following:

2.1.1 an in-depth treatment of an area beyond the student's first degree level in the same area;

2.1.2 updating of the knowledge of those engaged in a field especially where the discipline at undergraduate level is subject to rapid expansion or change;

2.1.3 a re-orientation or conversion to an area new to the student (an area not directly related to the student's first degree); and

2.1.4 a synthesis and integration of a number of disciplines or subjects, particularly if the combination cannot be pursued adequately at undergraduate level.

3. The Subject

3.1 The syllabus and/or level of treatment for all subjects is postgraduate in standard. Each subject offered is subject to a process of review and approval which looks for the achievement of an appropriate standard in terms of subject matter, teaching approach and professional standing of the lecturers. The aim is the provision of the best possible programme in each field presented by lecturers who are expert in the field rather than offering a multiplicity of programmes by different Departments covering similar material. Teaching methods for each subject will vary to suit the nature of the material. However, all subjects require a similar amount of student effort. All subjects are first and foremost designed for students with experience and are of high standard in terms of relevance to modern practice, up-to-date content and intellectual challenge.

3.2 The size of the standard subject is defined in terms of the approximate total time which would need to be spent by an average postgraduate student. The effort required of a student on one subject is equivalent to 13 weeks of full-time study. On passing (i.e. obtaining a grade "D" or above) a standard subject, the student earns 3 credits. Exceptionally, there can be subjects which are not equivalent to 3 credits. Students will be informed in writing at the beginning of a subject of the assessment structure, number of pieces of coursework required, and submission deadlines. Subject lecturers are required to estimate the amount of time an average student should spend on different aspects of assessed and non-assessed work.

3.3 Each programme will cover a particular discipline and subjects within each programme will have the following classifications: *Core subjects* and *Elective subjects*. Students are requested to give due consideration to the appropriate combination of subjects that may be required for accreditations by particular professional institutions.

3.3.1 Core Subjects

Students will have to enroll for a specified number of core subjects as required by the award. Core Subjects are subjects which are taken as part of the award and regarded as core within the particular specialization chosen for the discipline. Some of these core subjects are compulsory. Compulsory Core Subjects are subjects which must be taken as part of the award. Students must select the relevant number of core subjects within their discipline specialization.

3.3.2 Electives

These are elective subjects which are taken as part of the award. The choice of elective subjects extends beyond the discipline or specialization and is aimed at broadening the knowledge base of the students.

3.4 Subjects for Fulfilling the Academic Integrity and Ethics (AIE) Requirement

The AIE requirement is a compulsory graduation requirement imposed university-wide on all Taught Postgraduate Programmes with effect from 2024/25 intake cohort. Subjects for fulfilling the requirement (AIE subjects) are 1-credit bearing. No credit fee will be charged for the AIE subjects.

The class contact hours of an AIE subject in a semester is 13 hours. An AIE subject can be offered in either semester 1 or semester 2 for students of a particular programme or mode, and be scheduled at weekday daytime, weekday evening or weekend, as determined appropriate by the subject offering Department.

AIE subjects are assessed on a “Pass/Fail” basis which will not be included in GPA calculation. Attainment of a “Pass” in an AIE subject is a graduation requirement. Students should refer to the subject description form of the AIE subject selected for their programmes to find out the specific subject-passing requirements.

4. Pre-requisites, Recommended Background Knowledge, Exclusions, Mutual Exclusions and Exemptions without Credits

4.1 Certain subjects can be specified as "pre-requisites" for a particular subject, in which case the subject titles and code numbers of the pre-requisites will be specified in the subject description form. Students will not be allowed to take that subject unless they have completed and passed the pre-requisite subjects, or unless they have obtained approval from the subject lecturer.

4.2 "Recommended background knowledge" may be stipulated in the subject description form of a subject and students who do not possess the recommended background knowledge should be counselled not to take the subject. However, they would not be barred from taking a subject simply on the ground that they do not have the recommended background knowledge. It is the students' responsibility to judge whether they have adequate background knowledge before registering on any subject.

4.3 A student's previous education experience may preclude his enrolment in certain subjects (i.e. he will not be allowed to take those subjects), such that taking that subject will give him an unfair advantage over other students. Such exclusion is most likely to occur in some subjects provided within conversion programmes. It will be necessary for the student to take another subject in order to satisfy the credit requirement for the award. Another example that a student may be excluded from a subject is when the subject is specially designed for those with a specific professional qualification.

4.4 If a subject from which a student is excluded is a compulsory subject for the award in question, then the student is considered to be exempted from that subject. The credits associated with the exempted subject will not be counted towards the credit requirement for the award. This exemption will be without credits.

4.5 Students wishing to be exempted from any compulsory subject must apply in writing to the subject offering Department via their Programme Leader providing evidence of previous postgraduate study equivalent to the subject(s) from which exemption is claimed.

4.6 If there is a large degree of overlap between two subjects, the two may be mutually exclusive (i.e. a student who has passed one of the subjects will not be allowed to take the other). This will be specified in the subject description forms of both subjects.

5. A Student's Programme of Study

5.1 All students enrolled in the Master of Science programmes should satisfy the minimum entry requirements. While students are admitted for Master's degree study, they may be allowed to graduate with an exit award of Postgraduate Diploma subject to approval. Students satisfactorily completing a set of subjects in accordance with the given regulations for a specific award will be eligible for the award of a Master's degree or a Postgraduate Diploma with that specific award title. Students are required to accumulate a minimum of 31 credits in order to be eligible for a Master's degree, and 22 credits for a Postgraduate Diploma. Students may be given credit transfer for appropriate study they have earlier successfully undertaken at postgraduate level.

5.2 Students seeking a designated award must generally select at least a specified number of taught subjects from those listed as core to that award. The specific details of the requirements for an award are contained in Part 2 Programme Curriculum of this programme requirement document. The dissertation component is optional and in a Master's degree programme it worths 9 credits. The dissertation topic selected by a student must be approved as appropriate to the award. The minimum number of core subjects which are required to be selected represents an optimum balance between ensuring that participants have completed at least the minimum acceptable amount of in-depth study of the discipline in which they aim to achieve their designated award and at the same time providing maximum freedom in individual selection.

5.3 Subjects are offered either in the evenings over a 13-week period or in the form of 3 full-day workshops over weekends. Subject to demand and viability, classes may be scheduled during the day for full-time students as an alternative to evening lectures and/or weekend workshops. The offering pattern of AIE subjects may be varied, decided by the subject offering departments.

6. Deferment and Zero Subject Enrolment

A student may be allowed to interrupt his/her studies for a certain amount of time. This can be done by seeking either "deferment of study" or "zero subject enrolment". Both applications will have to be approved by BRE. Zero subject enrolment will only be considered for one semester at a time. Prior approval must be obtained. In order to gain approval for a deferment application, the student will have to provide strong justification for deferring his studies for one semester or longer (See Sections 4 and 5 of Chapter II).

7. Student Counselling

The Programme Leaders will be available to answer applicants' questions and provide advice and information particularly on individual programme design.

8. Admission

8.1 The general minimum entry qualification for admission to a programme of study leading to a Master's degree award is a recognized bachelor's degree. Specific entry requirements for individual programmes are described in Part 2 Programme Curriculum of this programme requirement document. The University regulations governing the admission of mature applicants or applicants without approved qualifications are also applicable.

8.2 Relevance of the selected programme of study to the career development of the students should be sought.

8.3 Additional specific requirements or recommendations may be stated for admission to certain subjects and programmes. Students should pay particular attention to those in drawing up their programme of study to ensure that they are qualified to be admitted. Details appear in the programme curriculum and on the subject description forms.

8.4 Using the details on pre-requisites, core and compulsory subjects for designated awards and exclusion conditions, and referring to the published schedule, students will be able to plan their studies well in advance.

CHAPTER II: REGULATIONS

1. Credit Transfer

1.1 At the discretion of BRE, students may be given credit for previous postgraduate study. A fee will be charged for credit-fee-paying students for credits successfully transferred.

1.2 Credit transfer will only be granted to subjects with B or above but without the grade being counted in the students' Grade Point Average (GPA). The policy takes effect starting from 2021/22 intake cohort. The credits transferred will count towards the credit requirement for the award. All credit transfers approved will take effect in the semester for which they are approved. A student who applies for transfer of credits for a particular semester will only be eligible for graduation at the end of that semester, even if the granting of the credit transfer will immediately enable the student to satisfy the credit requirement for the award.

1.3 The validity period of subject credits earned is eight years from the year of attainment, i.e. the year in which the subject is completed, unless otherwise specified by the Department responsible for the contents of the subject. Credits earned from previous studies should remain valid at the time when the student applies for transfer of credits. For exceptional cases such as those stated in 1.3.1 to 1.3.3 below, subject offering Departments shall have the discretion to approve the transfer of credits which have exceeded the validity period on a case-by-case basis. All such exceptional cases must be reported to the Faculty Board with full justifications.

1.3.1 Mature learners whose previous studies were mostly completed a long time before their admission to this University, but who have working experience which would have kept them actively involved in the relevant area of study. The flexibility to be granted to these students based on academic comparability of subjects is in line with the policy of the University in promoting life-long learning.

1.3.2 Students for whom the expiry of validity of credits is beyond their control, e.g. due to medical reasons.

1.3.3 Students have been approved for deferment of study.

1.4 No more than 30% of the normal credit requirement for an academic award may be transferred from programmes either within or outside of the University.

1.5 The combined credit transfer from programmes within and outside the University may not exceed 30% of an award.

1.6 Credits earned from subject-based studies at PolyU which have never been used for another degree may be applied to credit transfer up to 67% as per University regulations.

2. Exclusion and Exemption without Credit

Students may be excluded from taking some subjects or "exempted without credit" which is a particular case of "exclusion". The credits associated with excluded subjects will not be counted towards the award requirements (See also Sections 4.3, 4.4 and 4.5 of Chapter I).

3. Registration/Academic Probation/Progression/Deregistration

3.1 On admission students will be registered with the University as a student studying for a Master's degree award.

3.2 All three MSc programmes covered in this programme requirement document are mixed-mode programmes. Students enrolling on mixed-mode programmes are classified as mixed-mode students. They may engage in a full-time or part-time study load and attend classes in the

evenings, weekends, daytime or a combination of all. The class attendance pattern for individual programmes will be specified in the admission/programme curriculum. If the mixed-mode students take subjects with a study load reaching the minimum requirement of a full-time student, they will be given full-time status in that semester. Otherwise, they will be given part-time status.

3.3 If it is approved that a student can defer his/her study (see Section 5 below), then the deferment period will not be counted towards the total period of registration.

3.4 Students who have a GPA lower than 1.7 will be put on academic probation in the following semester. Once when these students are able to pull their GPA up to 1.7 or above at the end of the probation 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 transcript of studies.

3.5 To improve the academic performance of students on academic probation, these students are required to seek academic advice on their study load and subjects to be taken. They should complete the Form “Study Load for Students on Academic Probation” (Form AR150, downloadable at https://www.polyu.edu.hk/ar/), indicating the proposed study plan and meet with the Programme Leader to finalize the subjects and number of credits to be taken in the semester following academic probation within one week of assessment results announcement.

3.6 The Board of Examiners shall, at the end of each semester, 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.

3.7 A student will have “progressing” status unless he/she falls within any one of the following categories, which may be regarded as grounds for deregistration from the programme:

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

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

3.7.3 the student’s GPA is lower than 1.7 for two consecutive semesters and his/her Semester GPA in the second semester is also below 1.7; or

3.7.4 the student’s GPA is lower than 1.7 in 3 consecutive semesters

When a student falls within the categories as stipulated above, except for section 3.7.1 with approval for extension, the Board of Examiners shall de-register the student from the programme without exception.

3.8 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 the Academic Appeals Committee (AAC) for final decision. Views of Faculty/Departments will be sought and made available to AAC for reference.

3.9 The progression of students to the following academic year will not be affected by the GPA obtained in an optional Summer Term and that the Summer Term study does not constitute a requirement for graduation, unless otherwise specified by BRE.

3.10 Notwithstanding Sections 3.7.3 and 3.7.4 above, students may be deregistered from the

programme enrolled before the time specified in these two Sections if their academic performance is poor to the extent that the Board of Examiners deems that their chance of attaining a GPA of 1.7 at the end of the programme is slim or impossible.

3.11 No extension of time will be granted on grounds of timetable conflict or non-availability of subjects.

4. Zero Subject Enrolment

4.1 Students must apply to BRE for not taking any subjects in a semester; otherwise they will be classified as having unofficially withdrawn from their programme. Applications should be submitted before the commencement of the semester concerned or in exceptional circumstances before the end of the add/drop period.

4.2 All semesters in which the students are allowed to take zero subjects will be counted towards the total period of registration. A fee for retention of study place will be charged.

4.3 Students should refer to the University Student Handbook for relevant procedures and regulations.

5. Deferment of Study

5.1 Students may apply for deferment of study if they have a genuine need to do so such as illness or posting to work outside Hong Kong. Approval from BRE is required. The deferment period will not be counted towards the total period of registration.

5.2 Deferment will normally be granted for no more than 2 semesters at a time. The total period of deferment cannot exceed 4 semesters.

5.3 Students should refer to the University Student Handbook for relevant procedures and regulations.

6. Transfer of Study

6.1 Students who have not completed their programme of study may apply to transfer to another programme, and may be admitted, provided that the total period of registration will not exceed the normal duration of the original or new study programme whichever is longer. Such proposed transfer should be discussed with the Programme Leader.

6.2 New students will not be considered for transfer to another programme offered in the same mode of study during their first semester of registration

6.3 Students should seek the agreement of the Programme Leader of the new programme to which they would like to transfer their study. Application should be submitted to the host Department of the new programme for consideration and at the same time the host Department of the current programme be informed of such applications.

7. Withdrawal of Study

If students wish to formally discontinue their study at the University before completing the programme, they should complete the withdrawal procedure via eStudent. Fees paid for the semester in which students are studying will not be refunded. Applications for withdrawal of study for the current semester must be submitted before the commencement of the examination period. The Department/University will not process the applications if students have not cleared outstanding matters with the various departments/offices concerned, such as settling

outstanding fees/fines and Library loans. Students should refer to the University Student Handbook for relevant procedures and regulations.

8. Subject Registration and Withdrawal

8.1 Students need to register for the subjects at specified periods prior to the commencement of the semester. An add/drop period will also be scheduled for each semester/term. Students officially dropping a subject during the add/drop period will be considered not to have registered for the subject . It is a student's responsibility to check if his/her subject registration will fulfil the graduation requirements. The maximum study load per semester is 21 credits.

8.2 Dropping of subjects after the add/drop period is not allowed. Students may apply for withdrawal of their registration on a subject after the add/drop period and before the commencement of the examination period if they have a genuine need to do so and when the tuition fee of the subject concerned has been settled. The application will require the approval of both the subject leader and the Programme Leader concerned. Applications submitted after the commencement of the examination period will not be considered. For approved applications, the tuition fee paid for the subject will be forfeited and the withdrawal status of the subject will be shown in the assessment result notification and transcript of studies but will not be counted towards the calculation of GPA.

8.3 Students should refer to the University Student Handbook for subject registration procedures and relevant regulations.

9. Dissertation and Dissertation Assessment

9.1 Students are expected to submit a dissertation proposal to their Academic Advisors no later than the last teaching day of the semester in which they first register for dissertation.

9.2 Students will be required to complete their dissertations within the normal period defined in the Dissertation Handbook (Appendix B).

9.3 The normal period for completion of a dissertation is 3 semesters (including summer term). Those who are not able to complete their dissertations within the normal period may apply on the advice of the supervisor to extend the dissertation registration beyond the normal period but within the maximum period of 4 semesters (including summer term). The application must be endorsed by the relevant Programme Leader and must be approved by the Chairman of BRE Taught Postgraduate Programme Committee. Applications for extension beyond the normal period will only be approved under exceptional circumstances.

9.4 When permission is granted to extend the dissertation registration beyond the normal period, the student will be required to pay an extension fee, which is set out in the Student Handbook, for each additional semester. If the student's study will exceed the normal duration of the programme after extending the dissertation, he/she is also required to apply for extending their study period in the programme.

9.5 Break of study is normally not permitted once a student registers for dissertation and students are expected to pursue their dissertation in consecutive semesters.

9.6 The assessment panel will consist of two categories of members, namely:

9.6.1 Academic supervisor

9.6.2 A moderator to provide quality control.

9.6.3 In case the supervisor and the moderator have a very different view on the assessment, the Programme Leader concerned will make the final decision.

9.7 An electronic copy of the dissertation should be sent to the academic supervisor before the oral examination.

9.8 After receiving the electronic copy from the student, the academic supervisor should make arrangement on a mutually convenient time and place for an oral examination

9.9 After conducting the oral examination the assessment panel will jointly allocate a grade guided by the following weightings which may vary depending on the nature of the project. Individual programmes may modify key items and the recommended weightings according to the needs of each programme.

Progress 20%	Dissertation 50%	Oral 30%	Total 100%

9.10 The academic supervisor shall write a report on the assessment outcome.

9.11 Students failing their dissertations will not be allowed to re-take their dissertation subjects.

10. Assessment of Taught Subjects

10.1 The extent to which a student has met the aims of a particular subject is assessed and recorded immediately upon its completion. Assessment of students takes place exclusively within subjects. This allows students to assess their position and make informed choices and decisions on their continuing programme of study.

10.2 The assessment of a subject is based on one or two components, namely continuous assessment and/or examination. The weighting of continuous assessment and examination as well as the intended subject learning outcomes to be assessed with each component are listed out in the subject description form of each subject.

10.3 Continuous assessment is all forms of assessment other than examination, which may include tests, assignments, projects, laboratory work, field exercises, presentations and other forms of classroom activities undertaken either individually or in groups. The contribution made by each student in continuous assessment involving a group effort shall be determined and assessed separately, which can result in different grades being awarded to students in the same group.

10.4 Examination shall take place on-campus and be invigilated and its duration is 3 hours in most subjects. When on-campus invigilated examination cannot be arranged under exceptional circumstances deemed by the University, online invigilated or take-home examination or alternative assessment methods may be arranged as substitution.

10.5 Assessment of all students on a subject is based on the same format of continuous assessment and/or examinations. No distinction is made on the grounds of students' field of study or status. Subject leaders are not allowed to set special questions in an examination which are compulsory for some groups of students and not others. However, students are expected to bring to a subject and in examination to use perspectives related to their own background and experience.

10.6 In general, students are required to pass in both the Continuous Assessment component (which may consist of several assessment tasks) and the Examination component (if applicable) in order to pass a subject, unless specified otherwise by the subject leader. Other subject-passing requirements, if any, will be specified in the subject description form.

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

Grade	Short Description	Grade Point	Elaboration on subject grading description
A+ A A-	Excellent	4.3 4.0 3.7	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	3.3 3.0 2.7	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	2.3 2.0 1.7	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	1.3 1.0	Demonstrates marginal achievement of intended subject learning outcomes by being able to solve relatively simple problems. Can make basic comparisons, connections and judgments and express the ideas learnt in the subject, though there are frequent breakdowns in logic and clarity.
F	Failure	0.0	Demonstrates inadequate achievement of intended subject learning outcomes through a lack of knowledge and/or understanding of the subject matter. Evidence of analysis is often irrelevant or incomplete.

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

11. Retaking of Subjects

11.1 After the announcement of subject results in a semester, students should check whether they have failed any subject via the eStudent and arrange for retaking of the subject during subject registration.

11.2 Students may only retake a subject which they have failed (i.e. Grade F or U), and the number of retake is restricted to a maximum of two (i.e. a maximum of three attempts for each subject). The second retake of a failed subject requires the approval of the Faculty Board Chairman. Students who have failed a compulsory subject after two retakes will be deregistered. An appeal can be submitted 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 of the Faculty, the student concerned would be de-registered and the decision of the AAC shall be final within the University.

11.3 Students paying credit fee will be charged for the subjects retaken.

11.4 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.

12. Appeal against Assessment Results

A student may appeal against assessment results. Students should refer to the University Student Handbook for application procedures and relevant regulations.

13. Eligibility for Award

13.1 A student would be eligible for the award of Master of Science if they have met all of the following conditions:

(i) Accumulating 30 credits for the award including credits from a required number of subjects in a specified core list of the respective programme and have passed the dissertation in an approved topic (or have passed the dissertation replacement subjects if they opt for the non-dissertation route)
(ii) Having a GPA of 1.7 or above
(iii) Satisfying the Academic Integrity and Ethics requirement (1 credit)
(iv) Satisfying the National Education requirement
(v) Fulfilling all other graduation requirements as specified by the University

13.2 A student should be awarded a Postgraduate Diploma if he/she falls within any one of the following categories:

(i) The Board of Examiners agrees that the student is eligible for a Postgraduate Diploma award and he/she cannot be eligible for the Master's degree award even though the Master's degree award was his/her intended award; or
(ii) The student has reached the end of the normal period of dissertation registration but has not obtained approval to extend his/her dissertation registration period and has fulfilled the graduation requirements for a Postgraduate Diploma award; or
(iii) The student applies to graduate with a Postgraduate Diploma award based on personal reasons and has fulfilled the relevant graduation requirements and is agreed by the Board of Examiners.

13.3 The graduation requirements for Postgraduate Diploma include all of the following:

(i) Accumulating 21 credits for the award including credits from a required number of subjects in a specified core list of the respective programme
(ii) Having a GPA of 1.7 or above
(iii) Satisfying the Academic Integrity and Ethics requirement (1 credit)
(iv) Satisfying the National Education requirement
(v) Fulfilling all other graduation requirements as specified by the University

A student, however, will not be granted the same PgD award (in the same area) for the second time despite his/her satisfying the above conditions, if he/she has been granted the award before.

13.4 For both the Master's degree and PgD awards, students must satisfy the residential requirement for at least one-third of the credits required for the award to be completed under the current enrolment at PolyU, unless professional bodies stipulate the otherwise.

13.5 If a student's registration status has been set to "Study ended" due to non-compliance with PolyU regulations, for example, failure to pay fees, he/she will not be eligible for the award unless his/her registration status has been reinstated.

13.6 The awards of Master's degree and PgD are classified as: Distinction, Credit, and Pass.

13.7 A student is required to graduate as soon as he/she satisfies all the conditions for award. Upon confirmation of the eligibility to graduate or leaving the University, registration for subjects (including the follow-on term of consecutive subjects) in the following semester / summer term will be nullified and removed.

13.8 A student may be allowed to take more taught subjects than he/she needs to graduate in or before the semester within which he/she becomes eligible for an award. Subject to the maximum study load of 21 credits per semester and availability of places, a student may take elective subjects, up to a maximum of 9 credits on top of the prescribed credit requirements for award, in or prior to the final semester before graduation.

14. Grade Point Average (GPA)

14.1 At the end of each semester/term, a GPA will be computed as follows, and based on the grade points of all the subjects:

$$\text{GPA} = \frac{\sum_{n=1}^{N} Subject\ Grade\ Point_n \times Subject\ Credit\ Value_n}{\sum_{n=1}^{N} Subject\ Credit\ Value_n}$$

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.

If the student has registered for a dissertation, the credits and grade point for the dissertation will also be included in the above sums upon the completion of the dissertation.

The credits and grade point of any additional subjects taken on top of the prescribed credit requirements for award will also be taken into account.

Subject which has been given an ‘S’ subject code, i.e. absent from all assessment components, will be included in the GPA calculation and will be counted as “zero” grade point.

14.2 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
(v) Subjects from which a student has been allowed to withdraw (i.e. those with the code 'W')

14.3 All taught subjects offered within BRE are at the same level and contribute equally to the calculation of the GPA.

14.4 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 is an indicator of overall performance, and ranges from 0.00 to 4.3. GPA is capped at 4.3.

15. Guidelines for Award Classification

15.1 The following GUIDELINES will be used by the Scheme Board of Examiners to recommend the classification of the award:

	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/attainment which is *more than satisfactory* but *less than outstanding*.
Pass	The student has reached a standard of performance/attainment ranging from just adequate to satisfactory.

15.2 Award GPA Ranges for Award Classification

Award Classification	Award GPA Range
Distinction	3.60 - 4.30
Credit	3.00 - 3.59
Pass	1.70 - 2.99

15.3 For the purpose of determining the award classification, any subjects passed after the graduation requirement has been met or subjects taken on top of the prescribed credit requirements for award shall not be taken into account in the award GPA calculation. However, if a student passes more elective subjects than the requirement for graduation in or before the semester within which he becomes eligible for an award, the elective subjects with higher contribution (with the exception of the additional subjects taken out of interest and not for satisfying the award requirements) shall be counted in the award GPA calculation for award classification (i.e. the passed subjects with lower contribution, will be excluded from award GPA calculation for award classification), irrespective of when the excessive elective subjects are enrolled. If a student passes more core subjects than the requirement for graduation, the extra core subject(s) with lower contribution to the GPA will be considered along with the elective subjects for the purpose of award GPA calculation for award classification.

Appendix B
Dissertation Handbook
(For BRE591 Dissertation)

Notes:

This handbook may be updated from time to time. Students will be informed of the changes as and when appropriate.

1. Introduction

The dissertation is a very significant component of a Master's programme. It carries a weight equivalent to three or four taught subjects and represents around 420 - 560 hours of student effort.

The dissertation should be an exposition of a student's own work and ideas. Where others have had an input (e.g. in a team situation) this should be clearly identified. Plagiarism is unacceptable. Expulsion may be imposed in cases of proven plagiarism (See Annex One).

Since the subject areas of dissertations are so diverse it is impossible to define a standard approach to content, but included, should be an introduction and definition of objectives, a literature survey, a review of the problem followed by a description of the student's approach to solving the problem, the results or findings, an intellectual analysis of the results or findings, and finally a logical review of the conclusions drawn.

2. The Dissertation Process: Preparation, Progress and Assessment

The procedures for preparing a dissertation can be divided into three different stages. The entire process is summarised in a diagram in Section 7.

Student wishing to write a dissertation proposal must register on the subject BRE591 MSc Dissertation.

BRE587 Research Methods for Construction and Real Estate is the co-requisite/pre-requisite requirement for taking dissertation.

A Dissertation Co-ordinator will be appointed by the Head of Department to co-ordinate students, supervisors and Programme Leaders in the process of dissertation.

2.1. Proposal

2.1.1. Students are expected to learn how to prepare a research proposal in the co-requisite/pre-requisite subject BRE587 Research Methods for Construction and Real Estate. Students may identify a relevant academic supervisor themselves through the list of academic staff published on the BRE's website, or consult the Dissertation Co-ordinator or their Programme Leaders for recommendation. Academic supervisors will be assigned by the Dissertation Co-ordinator if students cannot identify any one themselves. Only student who have registered on BRE591 Dissertation will be assigned supervisors and permitted to submit proposals.

2.1.2. The subject BRE587 Research Methods for Construction and Real Estate enables students to identify and define a problem for valid research, to develop their abilities to identify and evaluate appropriate research methods, and to provide a framework from which students can begin their own research work. The contents will include research methods, research design, analysis of data, presentation of findings, and ethical and legal considerations.

2.1.3. A student is expected to prepare a dissertation proposal in consultation with his/her academic supervisor and submit it no later than the last teaching day of the semester in which the student first registers for dissertation.

2.1.4. The proposal shall be typewritten. When a proposal is not found to be acceptable a student may be requested to resubmit it.

2.1.5. A dissertation proposal should consist of the following:

2.1.5.1. Objectives

2.1.5.2. Content which includes innovative features, challenge, academic value and applicability

2.1.5.3. Methodology

2.1.5.4. References

2.1.5.5. Scheduled programme of work

2.1.5.6. Description of facilities and justification

2.1.5.7. Starting data

2.1.5.8. Expected completion date

2.1.6. Regulations concerning dissertation registration

2.1.6.1. Once a dissertation proposal is approved the student shall proceed at once to carry out the work. The maximum number of dissertation proposals which a student may submit is two.

2.1.6.2. Students should be aware that approval to commence a dissertation is by no means automatic. There will be cases where a student is not permitted to proceed with a dissertation and therefore such student will be required to leave the programme on completion of the requirements for a Postgraduate Diploma award.

2.1.6.3. The normal period for completion of a dissertation is 3 semesters (including summer term). Students are required to pay for all of the 9 credits the dissertation carries in the first semester when he/she enrols on the dissertation. Fees paid will not be refunded even if the student withdraws from his/her dissertation or from the programme during the course of his/her registration. The registration period for the dissertation is set at a maximum of 4 semesters (including summer term) from the date of registration, subject to the regulations on the normal period of registration and subject to satisfactory reports on progress from the academic supervisor. The minimum period for the dissertation work to be completed is unlikely to be less than 1 semester. Break of study is normally not permitted once a student registers for dissertation and students are expected to pursue their dissertation in consecutive semesters.

2.1.6.4. Subject to satisfactory reports on progress from the academic supervisor, students whose dissertation proposal has been approved will continue to register on their dissertation until either the completion of their dissertation or the normal dissertation registration period expires.

2.1.6.5. The student should plan to submit the completed dissertation before the commencement of the examination period of the last semester of the normal period.

2.2. Progress Reports

2.2.1. Students are expected to submit a progress report to their academic supervisor at least once every semester to ensure smooth progress of the dissertation.

2.2.2. Students should inform their academic supervisor immediately when difficulties arise.

2.3. Submission of Dissertation before Assessment

2.3.1. Under normal circumstances, with the agreement of the supervisors, students may prepare for assessment after satisfactory progress.

2.3.2 An electronic copy of the dissertation in Adobe Acrobat PDF format shall be submitted to the academic supervisor.

2.4. Assessment

2.4.1. Oral examination

After receiving the electronic copy of the dissertation from student, the academic supervisor should make arrangement on a mutually convenient time and place for an oral examination.

2.4.2. Assessment panel

The assessment panel will consist of two categories of member, namely:

2.4.2.1. Academic supervisor

2.4.2.2. A moderator to provide quality control.

2.4.2.3. In case the supervisor and the moderator have a very different view on the assessment, the programme leader concerned will make the final decision.

2.4.3. Regulations concerning dissertation assessment

2.4.3.1. After conducting the oral examination the assessment panel will jointly allocate a grade guided by the following weightings which may vary depending on the nature of the project. Individual awards may modify key items and the recommended weightings according to the need of each award.

Progress	Report	Oral	Total
20%	50%	30%	100%

2.4.3.2. The academic supervisor shall write a report on the assessment outcome and forward it to the Dissertation Co-ordinator.

2.4.3.3. Applications to defer submission should NOT normally be considered or approved except under exceptional circumstances such as illness. In such cases, students' applications for deferment of study can be considered.

2.4.3.4. If a student wishes to delay the submission of the completed dissertation beyond the normal period but within the maximum period of 4 semesters (including summer term), he/she may apply on the advice of the supervisor.

The application must be endorsed by the relevant Programme Leader and must be approved by the Chairman of BRE Taught Postgraduate Programme Committee before the end of the examination period of the last semester of the normal period.

2.4.3.5. When permission is granted to extend the dissertation registration beyond the normal period, the student shall be required to pay a fee which is set out in the University's Student Handbook, which shall entitle him/her to register for one additional semester. If the student's study will exceed the normal duration of the programme after extending the dissertation, he/she is also required to apply for extending their study period in the programme.

3. Dissertation Supervision

The amount of effort required by students in the dissertation should clearly be reflected in the quantity and quality of the final submission. In assessing the standard of dissertations supervisors will be seeking to ensure that the student has met with the aims of this part of the programme.

3.1. Role of Academic Supervisor

3.1.1. The student and academic supervisor should contact each other from time to time to discuss progress against his agreed programme. The responsibility for arranging meetings between student and academic supervisor is shared by both parties.

3.1.2. The academic supervisor will advise the student about the style of presentation of the dissertation and the academic supervisor will be available for consultation on a regular basis.

4. Dissertation Moderation

The moderator should ensure that proper procedures are followed and the assessment is consistent.

5. Format and Presentation of Dissertations

5.1. Style

5.1.1. The text shall be placed on one side or both sides, the latter being encouraged wherever possible.

5.1.2. Pagination of the body of the text is to be in Arabic numerals in the upper right hand corner of the page. The pagination begins with the first page of the first chapter and runs through material following the body of the text. Pages with tables, maps, photographs etc. are to be numbered as well.

5.1.3. Pagination of material preceding the body of the text is to be in small Roman numerals.

5.1.4. The body of the text is to be double spaced; footnotes are to be single spaced.

5.1.5. Footnotes shall be placed at the bottom of each page rather than at the end of each chapter or at end of the dissertation. A line shall be drawn beneath the text across the page to separate the text from the footnote. Care should be taken to complete a footnote on the page where it is mentioned in the text, in order to avoid continuing it on the following page. Footnotes may be numbered consecutively through a chapter

or start with number one – (1) – on each page, which is the most practical of the two methods of numbering.

5.1.6. Reference shall be presented alphabetically, using the reference citation format for academic journal papers, conference papers, research reports and books in an internationally accepted format used by the discipline in which the study lies. (See Annex One for more advice)

5.1.7. The dissertation shall be submitted on A4 size paper (210 mm x 297mm) of good quality. There shall be a margin (before trimming) of 40mm at the left hand (binding) edge, 25 mm at the top and right margins and 15 mm below the last line of footnotes.

5.1.8. All physical measurements reported in the dissertation shall be in the SI system of units (Systeme Internationale d'Unites). Where, for example, in the review of literature, quantities are expressed in other units, the corresponding SI values should also be quoted.

5.2. Material Preceding Body of Text

5.2.1. A blank sheet.

5.2.2. Title page of dissertation – this shall not be numbered and should be identical with the cover.

5.2.3. Copyright notice (if any)

5.2.4. An abstract of not less than two hundred and not more than five hundred words shall be a part of each dissertation and will contain information on all the substantive features of the work. The top page of each abstract shall contain the following statement:

Abstract of dissertation entitled:

_____

_____

submitted by_____

for the degree of MSc in _____

at The Hong Kong Polytechnic University in (month and year).

5.2.5. Acknowledgements – should be made to supervisors and to persons who have provided special assistance.

5.2.6. A table of contents should be provided which lists the abstract and all main sections thereafter. Material preceding the body of the text shall be paginated using small Roman numerals. Arabic numerals shall be used for the main body of the text.

5.2.7. A list of Illustrative Materials should be provided, if needed. The listing of page references for illustrative materials such as tables, maps and figures will immediately follow the table of contents on a separate page or pages having the same style as the table of content page. Illustrative materials shall have titles and be numbered in Arabic numerals.

5.3. Material Following the Body of the Text. (This shall be numbered in Arabic numerals)

5.3.1. Appendix or appendices

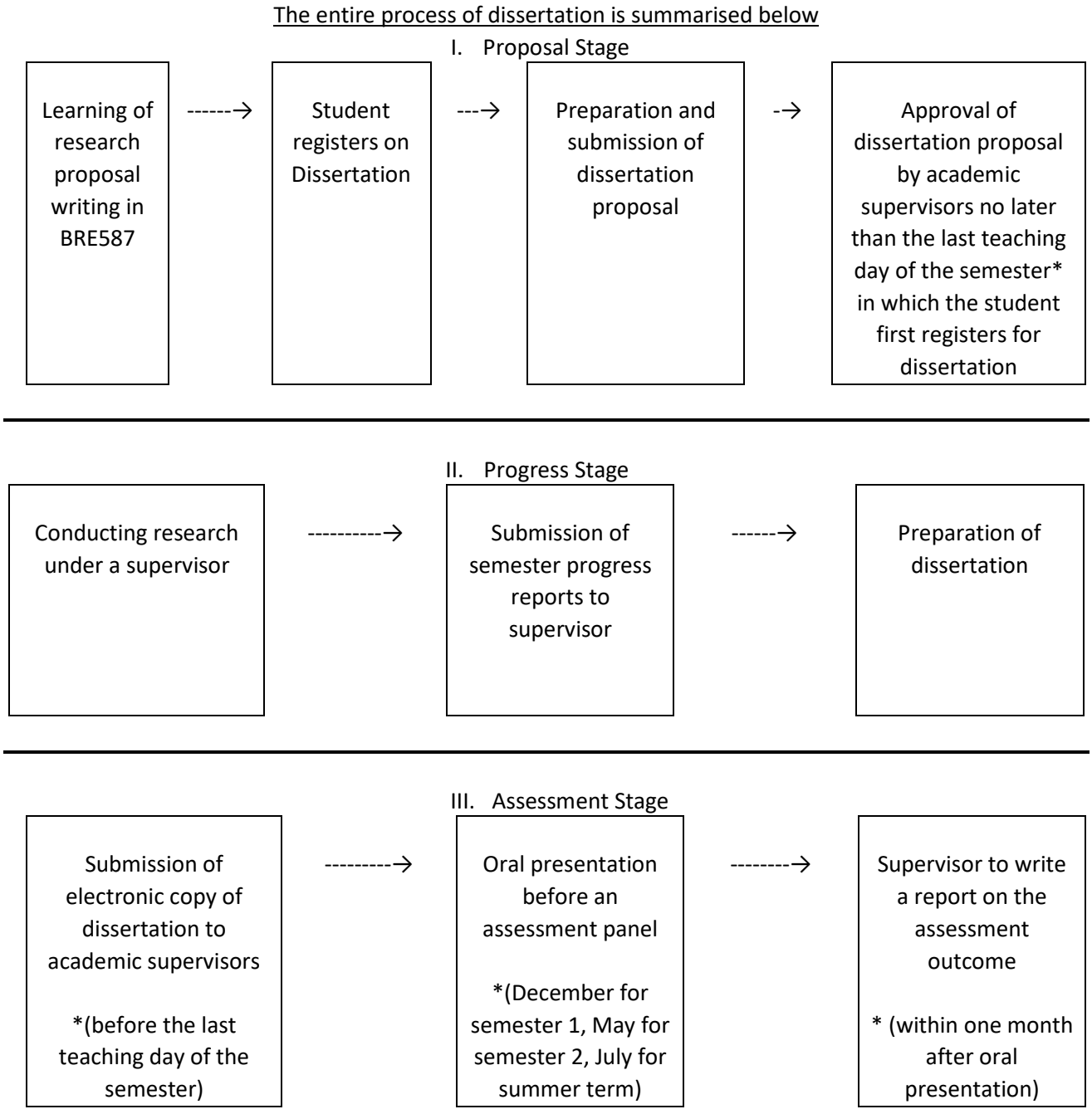
5.3.2. Bibliography

5.3.3. Oversize maps etc. in map pockets

6. Retention of Dissertation

For dissertation which has been graded B+ or above, the electronic copy will be uploaded to BRE website and sent to the University Library for digitisation for permanent retention.

7. Diagram of the Process of Dissertation



* Indicative date

8. Assessment Rubrics for BRE591 Dissertation

1. Assessment Criteria

Elements	Weighting	Criteria
1. Progress	20%	Consultations, diligence, enthusiasm, planning
2. Oral Presentation	30%	Adequacy, structure, clarity, conciseness, graphics
3. Final Dissertation	50%	Adequacy, structure, clarity, originality, length • Presentation • Aim and objectives • Research methodology • Literature review • Data collection & analysis • Conclusions and findings
Total	100%	Overall Component Grade

2. Grading Criteria

Grade	Description	Detail Grading Description
A+	Exceptionally outstanding	The student's work is outstanding. It demonstrates the achievement of all assessment criteria and far exceeds the threshold standard required by the subject area in all regards. The student's work is excellent. It demonstrates the achievement of all assessment criteria and far exceeds the threshold standard required by the subject area in nearly all regards.
A	Outstanding	
A-	Excellent	
B+	Very good	The student's work is very good. It demonstrates the achievement of all assessment criteria and is well above the threshold standard required by the subject area in the majority of regards. The student's work is good. It demonstrates the achievement of all assessment criteria and is well above the threshold standard required by the subject area in all of the assessment criteria.
B	Good	
B-	Wholly good	
C+	Wholly satisfactory	The student's work is wholly satisfactory. It meets the threshold standard required by the subject area in all of the assessment criteria. The student's work is satisfactory. It largely meets the threshold standard required by the subject area in essentially all of the assessment criteria.
C	Satisfactory	
C-	Barely satisfactory	
D+	Barely adequate	The student's work is barely adequate. It fails marginally to meet the threshold standard required by the subject area in a few key assessment criteria. The student's work is weak. It fails marginally to meet the threshold standard required by the subject area in several of the key assessment criteria.
D	Weak	
F	Inadequate	The student's work is inadequate. It fails to meet the threshold standard required by the subject area in many of the assessment criteria OR fails badly to meet some crucial assessment criteria.

Annex One

Guidance Notes on Avoiding Plagiarism, on Bibliographic Referencing and on Photocopying of Copyright Materials

The University views plagiarism and copying of copyright materials, without the license of the copyright owner, as a serious disciplinary offence. These guidance notes aim to help students of the University comply with the Institution's policy on plagiarism in continuous assessment, bibliographic referencing and photocopying of copyright materials.

What is plagiarism?

To take (words, ideas, etc.) from someone else's work and use them in one's own work without admitting one has done so.' (*Longman Dictionary of Contemporary English*, 1987)

'.. The action of using or copying someone else's idea or work and pretending that you thought of it or created it.' (*Collins Cobuild English Language Dictionary*, 1987)

'.. The taking and using as one's own of the thoughts, writings, or inventions of another.' (*Shorter Oxford English Dictionary*, 1973)

'To steal or pass off (the ideas or words of another) as one's own: [to] use (a created production) without crediting the source: [to] commit literary theft: [to] present as new and original idea or product derived from an existing source.' (*Webster's Ninth New Collegiate Dictionary*, 1987)

'The appropriation or imitation of another's ideas and manner of expressing them.. to be passed off as one's own.' (*Macquarie Dictionary*, 1985)

The above definitions all suggest that plagiarism involves the idea of intending to plagiarise; it is important to realize that this dishonest intention will be assumed. Excuses such as 'having forgotten' to insert quotation marks, or 'not having remembered' that an idea was someone else's, or 'having thought the reader would understand' that a passage was a paraphrase of someone else's words cannot be accepted. In a similar way, it will be assumed that those who walk out of a shop carrying goods which they have not paid for, and do not intend to pay can be accused of shoplifting.

In short, it is the students' responsibility to avoid any possible suggestion of plagiarism in their work. The golden rule is 'if in doubt, acknowledge' – this should be followed in all 'grey areas', i.e. cases in which you are not sure whether the acknowledgement of a source is necessary or not.

You can visit the website at https://www.polyu.edu.hk/ar/academic-integrity/introduction/ and Student Handbook at https://www.polyu.edu.hk/ar/students-in-taught-programmes/student-handbook/ for more detailed explanations on plagiarism.

How are sources referred to?

There are two ways of referring to a source: by using direct quotations, or by paraphrasing the author's words. Each of these is exemplified below.

Using direct quotations

- A quotation integrated with the text, e.g.

  'The coal reserves,' said Thomas J. Johnson (1982, p.21) 'will not deplete as rapidly as oil reserves,' and this claim is already being borne out by experience.

A quotation presented as in indented paragraph, e.g.

> Conflict within the marketing channel required its own definitions, and one of the first of these was established by Stern and Gorman (1969, p.58). Their view was that a conflict was a process of system changes: '… a change occurs in the task environment or within a channel member's organization that eventually has implications for the channel members… when the other affected members perceive the change as cause of frustration, a conflict situation emerges.'

Note the use of the three-full-stop device (…), separated by one space from the preceding and/or following words, to indicate a word or words have been omitted from the original. (The assumption is, of course, that the omission has not changed the sense of that author's words.)

Secondly, note the use of square brackets, [ ], to indicate that a word has been added or replaced to clarify (but not of course to alter) the author's original meaning, e.g.

Original Registers are, then, types of text, not types of discourse, since they are not defined in terms of what kind of communication they represent.

Quotation '… [registers] are not defined in terms of what kind of communication they represent' (H.G. Widdowson, 1973).

Thirdly, note that where the original itself includes a word or words between inverted commas or quotation marks, a quotation should reproduce this by using double inverted commas between single ones, or vice versa, e.g.

Original One obvious development within a pedagogical grammar would be to use Searle's illocutionary acts to fill in Halliday's "relevant models of language".

Quotation As Widdowson (1973) points out: 'One obvious development within a pedagogical grammar would be to use Searle's illocutionary acts to fill in Halliday's "relevant models of language"', but this suggestion has yet to be followed up. (Alternatively: "…Halliday's relevant models of Language"'

Fourthly, note that italics in the original may be reproduced by underlining in a quotation. If the underlining is not the original's, then this should be made clear. The usual method is to add a note in brackets after the quotation: (my emphasis), (my underlining) or (emphasis added). If one wants to make it quite clear that the emphasis is the original's, one can add: (emphasis as in the original).

Paraphrasing the author's words

Paraphrasing is not simply altering a word here and there, but rather rewording the original – either to shorten/summarize or to expand/clarify. Paraphrasing often leads into 'grey areas' where one may be unsure of whether or not plagiarism could be alleged, so remember the golden rule: 'if in doubt, acknowledge'. In particular, a lengthy piece of paraphrasing (say, several paragraphs) should remind the reader at frequent intervals – at least once per paragraph – of the source.

- Paraphrasing which shortens/summarizes, e.g.

Original 'There are many abusive parents for whom [therapy] groups may be the only answer, not only because of the quality of services offered, or the potential benefits they promise, but chiefly for the fact that a group of this type is the only service that some abusive parents will attend and participate in.' Blizinsky, M. (1982, p.311)

Paraphrase Martin Blizinsky (1982:311) believes that therapy-group sessions may be the only answer for some abusive parents, being the only programme in which they will participate.

- Paraphrasing which expands/clarifies, e.g.

Original 'Although photosynthesis is the principal autotrophic process, chemosynthesis also occurs' (I. Pearson, 1978:135)

Paraphrase As Pearson points out (*English in Biological Sciences*, 1978, p.135), although photosynthesis – the process by which plants make their own food with the help of sunlight – is the major self-feeding process, synthesis involving chemical reactions also takes place.

How to cite bibliographic references
The following guidance notes, which aim to help students with bibliographic referencing, address the question of how, rather than whether, to acknowledge the sources.

Bibliographic references identify the work in question (usually either a book or an article), and give sufficient information on the author, title, publisher and date of publication for this identification to be quite clear and unambiguous. Such references are normally written according to fixed conventions, which it is sensible to follow; one set of these conventions is outlined below.

For books: author's surname first, followed by the initials of his/her other name(s), then by the full title of the book *underlined*; this underlining will be replaced by italics in printed text (as opposed to typescript or handwriting). There then follows the place of publication – usually a city – then the name of the publisher, and lastly the date of publication, e.g.

Crane, D. *Invisible Colleges.* Chicago: University of Chicago Press, 1972.

Where there is more than one author, the examples are:

- Crystal, D. and Davy, D. *Advanced Conversational English*. Harlow: Longman, 1975.
- Brazil. D., Coulthard, M. and Johns, C. *Discourse Intonation and language Teaching.* Harlow: Longman, 1980.

Where the book is a collection (of articles or monographs) rather than a single text, the examples are:

- Pride, J.B. ed. *Sociolinguistic Aspects of Language Learning and Teaching .* Oxford: Oxford University Press, 1979
- Richards, J.C. and Nunan, D. eds. *Second Language Teacher Education*. Cambridge: Cambridge University Press, 1990.

For articles in a collection: similar to book references, but the author and title of the article come first, e.g.

Penninton, M.C. A professional development focus for the language teaching practicum. In Richards, J.C. and Nunan, D. eds. *Second Language Teacher Education*. Cambridge: Cambridge University Press, 1990.

For articles in a journal (serial) : much as above, except that information on the journal replaces that on the book (collection), e.g.

Stieg, M.F. The information needs of Historians. *College and Research Libraries,* 1981, 42(6), 549-560.

The figures ‘42(6)’ mean ‘volume 42, no.6’; the figures ‘549-560’ mean ‘pages 549 to 560’. Note also that capital letters are not usual in the titles of articles (though in those of books, of course, they are).

Bibliographic references can be placed as footnotes to the text, or far better, listed alphabetically (by author) in a ‘bibliography’ at the end of the text. If a bibliography is used, references in the text need only state the author(s) and the publication date, e.g. Conflict within the marketing channel required its own definitions, and one of the first of these was established by Stern and Gorman (1969).

If the bibliography contains two or more publications by the same author(s) in the same year, identify them as 1969a, 1969b, etc.

If the text does make references to books/articles in this way, then the bibliography should put the publication date after the author’s name, rather than at the end, e.g.

Crane. D., 1972. *Invisible Colleges.* Chicago: University of Chicago Press.

Finally, minor differences from the above conventions may be found, as between one published bibliography and another, but these are unimportant; what does matter is that consistency in following one set of conventions is ensured. Not only should the information in the bibliography be correct in every detail (author’s name and initials, publisher’s name, etc.), complete typographical accuracy – spacing, punctuation, etc. is also very important. Thorough proofreading is essential here, as in the rest of the text, and is a measure of the care that have been taken; conversely, a text full of ‘typos’ (typographical errors), misspellings, inconsistencies, etc. is not only evidence of carelessness but also very irritating for the audience – the reader – and thus obviously counter-productive.

Photocopying of Copyright Materials
The University considers the protection of intellectual property as a serious matter and copying of copyright materials, without the licence of copyright owner, may be regarded as a statutory offence. Students should comply with the Copyright Ordinance then prevailing at all times.

Under the Copyright Ordinance, a copyright in a work is infringed by a person who, without the licence of the copyright owner, among other things, copies the work, issues or makes available copies of the work to the public. Copying of a work means reproducing the work in any material form, including storing the work in any medium by electronic means. Making copies of the work available to public includes putting it on the internet.

Any printed material in book or volume form which carries a claim to copyright either on the reverse side of the title page, or next to it, is copyright protected. All materials in all periodicals are normally presumed to be copyright protected.

Under Hong Kong Law:

- A person who, without the licence of the copyright owner sells, offers for sale or distributes an infringing copy of the work for the purpose of trade or business commits an offence punishable by a fine of HK$50,000.00 in respect of each infringing copy and imprisonment for 4 years, the person is also subject to action for damage (or for handing over the profits) by the copyright owner.

- It is also an offence if a person who, without the licence of the copyright owner, distributes otherwise than for the purpose of trade or business to such an extent as to affect prejudicially the owner of the copyright, an infringing copy of a copyright work, the person will also be liable in the same way as mentioned above.

There are certain acts permitted in relation to copyright works. In general, fair dealing with work of any description for the purposes of research or private student does not infringe any copyright in the work.

Librarian of a “specified library” may, if the prescribed conditions are complied with:

(i) Make and supply a copy of an article in a periodical without infringing any copyright in the text; Or
(ii) Make and supply from a published edition a copy of part of any other work.

The prescribed conditions include the following:

- That copies are supplied only to persons satisfying the Librarian that they require them for purposes of research or private study, and will not use them for any other purpose;

- That (i) no person is furnished with more than one copy of the same article or with copies of more than one article contained in the same issue of a periodical; or (ii) a copy of more than a reasonable proportion of any other work; and

- That persons to whom copies are supplied are required to pay for them a sum not less than the cost attributable to their production.

Every person to whom a copy is supplied must personally sign a declaration (a stamped or typed signature, or the signature of an agent is not sufficient) available at Library counters.