

## **REGULATIONS FOR THE DEGREE OF MASTER OF SCIENCE IN INTEGRATED PROJECT DELIVERY (IPD)**

*These regulations are applicable to students admitted in the 2016-17 academic year and thereafter.*

*(See also General Regulations and the Regulations for Taught Postgraduate Curricula)*

Any publication based on work approved for a higher degree should contain a reference to the effect that the work was submitted to the University of Hong Kong for the award of the degree.

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### **Admission requirements**

#### **IPD1**

To be eligible for admission to the curriculum leading to the Master of Science in Integrated Project Delivery, candidates

- (a) shall comply with the General Regulations and the Regulations for Taught Postgraduate Curricula;
  - (b) shall hold a Bachelor's degree with Honours in a relevant field of this University or from a comparable institution accepted for this purpose;
  - (c) shall produce proof of relevant work experience (normally a minimum of two years of post-degree practical experience in design, procurement, construction, policy-making or management of buildings, projects or urban districts, or an approved related field), including a *curriculum vitae*, at least one letter of reference from a relevant employer, and any other supplementary document as determined by the Programme Director;
  - (d) shall be fluent in both spoken and written English; and
  - (e) shall satisfy the examiners in a qualifying examination if required.
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### **Qualifying examination**

#### **IPD2**

- (a) A qualifying examination may be set to test candidates' formal academic ability or their ability to follow the course of study prescribed. Such an examination shall consist of one or more written papers or their equivalent and may include a project report.
  - (b) Candidates who are required to satisfy the examiners in a qualifying examination shall not be permitted to register until they have satisfied the examiners in the examination.
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### **Advanced Standing**

#### **IPD3**

Candidates may be given advanced standing for up to 2 courses or 12 credits on the ground that equivalent courses or subjects have been passed at another university or comparable institution accepted by the faculty for this purpose, provided that no candidates shall be eligible for the award of the degree set out in these regulations without having completed at least 60 credits in this curriculum.

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## **Award of degree**

### **IPD4**

To be eligible for the award of the Master of Science in Integrated Project Delivery, candidates

- (a) shall comply with the General Regulations and the Regulations for Taught Postgraduate Curricula; and
  - (b) shall complete the curriculum and satisfy the examiners in accordance with the regulations set out below.
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## **Period of study**

### **IPD5**

The curriculum shall normally extend over two academic years of part-time study. Candidates shall not be permitted to extend their studies beyond the maximum period of registration of three academic years, unless otherwise permitted or required by the Board of the Faculty.

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## **Completion of the curriculum**

### **IPD6**

To complete the curriculum, candidates

- (a) shall satisfy the requirements prescribed in TPG 6 of the Regulations for Taught Postgraduate Curricula;
  - (b) shall follow course of instruction and complete satisfactorily all prescribed written work and practical work where appropriate;
  - (c) shall satisfy the examiners in all prescribed courses in any prescribed form of assessment; and
  - (d) shall satisfy the examiners in attendance at workshops and other learning activities in the manner specified in these regulations and syllabuses in 72 credits of prescribed courses.
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## **Capstone project**

### **IPD7**

Candidates are to complete a Capstone experience that covers the whole of the curriculum and allows candidates to show that they have achieved all of the learning objectives.

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## **Grading systems**

### **IPD8**

Individual courses shall be graded according to one of the following grading systems as determined by the Board of Examiners:

- (a) Letter grades, their standards and the grade points for assessment as follows:

Grade	Standard	Grade Point
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A+	Excellent	4.3
A		4.0
A-		3.7
B+	Good	3.3
B		3.0
B-		2.7
C+	Satisfactory	2.3
C		2.0
C-		1.7
D+	Pass	1.3
D		1.0
F	Fail	0

and

- (b) “Distinction”, “Pass” or “Fail”.

Courses which are graded according to (b) above will not be included in the calculation of the GPA.

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### Assessment

#### IPD9

- (a) Candidates shall be recommended for discontinuation of studies under the provisions of General Regulation G12 if they have:
- (i) failed to satisfy the examiners in three courses or more in any semester; or
  - (ii) failed to satisfy the examiners of any one course at the third attempt; or
  - (iii) failed to complete the curriculum by the end of the maximum period of registration; or
  - (iv) exceeded the maximum period of registration specified in the regulations of the curriculum.
- (b) Candidates who have failed to satisfy the examiners in fewer than three courses in any semester must repeat the prescribed course(s).
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### Assessment results

#### IPD10

On successful completion of the curriculum, candidates who have shown exceptional merit may be awarded a mark of distinction, and this mark shall be recorded in the candidates' degree diploma.

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## **SYLLABUSES FOR THE DEGREE OF MASTER OF SCIENCE IN INTEGRATED PROJECT DELIVERY**

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*These syllabuses are applicable to students admitted in the 2019-20 academic year.*

*(See also General Regulations and the Regulations for Taught Postgraduate Curricula)*

Candidates entering the Master of Science in Integrated Project Delivery curriculum are required to complete 72 credits of core courses.

### **CORE COURSES**

#### **Mode of Assessment**

All courses will be assessed by examinations and/or continuous coursework assessment, unless otherwise specified. Assessment methods and criteria will be specified for each course in the course description and be approved by the course director in consultation with teachers delivering the course.

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#### **RECO7601. Innovation and processes (6 credits)**

This course covers innovation management and the concepts of business process engineering and reengineering. It introduces the principles of business models, business processes analysis and design, workflow management, techniques and supporting tools, innovation and innovation management, technology management and product development, informative management. Case studies of innovations and the innovation process are explored and the impact of these on business models and business processes is explored.

Assessment: 100% coursework

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#### **RECO7602. Procurement in integrated project delivery (6 credits)**

This course examines the strategic and emergent issues in construction procurement: a definition of procurement systems; organising the project procurement process; culture; conventionally orientated to developmentally orientated procurement systems; Early contractor involvement (ECI); Integrated project delivery (IPD); virtual design and construction (VDC); DfMA; MIC and modular construction; use of digital technologies and procurement process implications; multiple performance criteria for evaluating construction contractors; applying relational contracting in the supply chain; selection criteria; the impact of culture on project performance.

Assessment: 65% coursework and 35% examination

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#### **RECO7603. Management theory and collaborative project management (6 credits)**

This course examines fundamental knowledge in management theory and its application in construction procurement: the project organisation, company organisation, management theory and schools of thought, the project life cycle, organisation structure, team roles, change management. A major part of this course is a simulation of running a construction business.

Assessment: 100% coursework

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**RECO7604. Project Execution Planning (6 credits)**

This course overviews the process of developing project specific BIM Execution Plans to support interdisciplinary information sharing and integrated design. The subjects include an overview of BIM uses to support project objectives, development of process models to plan model development and handoffs, documenting and measuring modelling competencies, planning the needed IT infrastructure for project needs.

Assessment: 50% coursework, 25% Case Study Presentation and 25% examination

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**RECO7605. Information Management (6 credits)**

This course focuses on the tasks associated with informative and supply chain management, and their associated fundamental knowledge and information management theories. Information, human, monetary and resource flows; manufacturing and construction supply chain management; efficiency and responsiveness; integration through IT or common information management tools and techniques; inter-organisational, cultural and contractual issues; supply chain integrity.

Assessment: 60% coursework and 40% examination

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**RECO7613. Information Technology in Design and Construction (6 credits)**

The course will provide an understanding of a range of novel information technology (IT) approaches in design, construction, and operational contexts. The course will include the concepts, theories, methodology, and comparative studies of IT innovations in construction from the early planning stage to the operational facility management stage. Both established IT solutions and emerging digital technologies will be introduced, while the evaluation and acceptance of new IT solutions and processes are emphasised. The course will incorporate hands-on practices and case studies to demonstrate and analyze the digital technologies for current construction processes as well as long term innovation purposes.

Assessment: 100% coursework

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**RECO7607. Understanding Industry Practice (6 credits)**

This introductory course of Project 1 is designed to prepare the student for Project 2, Future Industry Directions, and must be completed satisfactorily before enrolment in that course. The course will allow student to explain and explore effective approaches to literature review and the case study methodology. Students are required to submit a developed case study on an approved current issue in practice, including a full literature and industry review of the topic and a critical of the issue in a particular industry context.

Assessment: 100% coursework

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**RECO7608. Future Industry Directions (6 credits)**

This follow on from the introductory course, RECO7607 Understanding Industry Practice, is designed to enable the student to examine the specific emergent issue identified in the prior course and to conduct

research in company industry or in a global context with a view to presenting a case for change, review or further research within the company or domain. The project can take the form of action research, secondment to another company or department or in-house workshops and seminars. The outcome of the research will be a report that presents a range of plans and options to resolve the issues identified in the first case study.

Assessment: 100% coursework

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### **RECO7609. Technologies and Innovation (6 credits)**

This course is designed for students to explore the application of emerging digital technologies to promote innovation and improved integrated project delivery within the construction industry. Through hands-on demonstrations of leading digital technology applications, students will develop a direct appreciation for innovative digital technology applications. Guided case studies will build confidence in how individuals can access, evaluate and promote innovative technologies within their construction organisations.

Assessment: 100% coursework

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### **RECO7610. Virtual Facilities Management (6 credits)**

The construction of a facility generally amounts to less than 20% of the whole-life costs of operating and maintaining the facility; yet the operational phase is under-emphasised in early design decision-making. This can lead to reduced functionality and poor operational performance in use. The involvement of facility owners and operators in this decision-making is crucial if facilities are to be safe, efficient and cost-effective, as well as sustainable well into the future. This course examines the key concept of design and construction for operability and client briefing as a method for assuring the required functionality and operational performance of the facility. It examines the impact of smart systems, BIM, AI, automation and robotics on IPD, which is presented as a digital plan of work. The relevance of Big Data to day-to-day facilities management is discussed.

Assessment: 50% coursework and 50% examination

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### **RECO7614. Innovation: Gaming and VDC (6 credits)**

The future of the construction industry has never had so much potential for change and such opportunity for improvement. This subject examines why the industry must change, what the key barriers to change are, and how sector-wide change in the construction industry can be made to happen. Students are required to demonstrate their understanding of the global drivers of digital transformation and creatively develop and propose a whole-of-industry vision for how a specific technology, process, or resource can transform the built environment.

Assessment: 100% coursework

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### **RECO7612. CAPSTONE: Understanding Integrated Project Delivery (6 credits)**

This Capstone allows students to experience working in an IPD team by way of a real-life case study. The case is provided and moderated by local professionals based upon their own experiences. Students form teams and play the various roles determined in the project case study. Participants get the chance to employ the principles and practices that have been taught throughout the programme. Outcomes are exhibited in terms of relational behaviour, project execution planning, appropriate technology adoption,

stakeholder engagement and other performance indicators presented during the programme.

Assessment: 100% coursework

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