

## **REGULATIONS FOR THE DEGREE OF MASTER OF SCIENCE IN CONSTRUCTION PROJECT MANAGEMENT (MSc[ConstProjectMan])**

*(See also General Regulations)*

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**

**Ar201** To be eligible for admission to the curriculum for the degree of Master of Science in Construction Project Management a candidate

- (a) shall comply with the General Regulations;
  - (b) shall hold
    - (i) a degree or other qualification of equivalent standard awarded by this University or by another university or comparable institution accepted for this purpose; or
    - (ii) a professional qualification and membership of an appropriate professional body accepted for this purpose; and
  - (c) shall satisfy the examiners in a qualifying examination if required.
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### **Qualifying examination**

**Ar202**

- (a) A qualifying examination may be set to test a candidate's formal academic ability or his ability to follow the courses of study prescribed: such an examination shall consist of one or more written papers or their equivalent and may include a project report.
  - (b) A candidate who is required to satisfy the examiners in a qualifying examination shall not be permitted to register until he has satisfied the examiners in the examination.
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### **Award of Master degree**

**Ar203** To be eligible for the award of the degree of Master of Science in Construction Project Management a candidate

- (a) shall comply with the General Regulations; and
  - (b) shall complete the curriculum and satisfy the examiners in accordance with the regulations set out below.
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### **Curriculum**

**Ar204**

- (a) The curriculum of the Master of Science in Construction Project Management shall extend over not less than one academic year of full-time study or two academic years of part-time study and shall include all examinations administered in accordance with the regulations and syllabuses set out below.
- (b) To complete the curriculum a candidate
  - (i) shall follow courses of instruction and complete satisfactorily all prescribed written work and practical work where appropriate;
  - (ii) shall satisfy the examiners in all prescribed modules in any prescribed form of examination;

- (iii) shall satisfy the examiners in either
- (1) twelve modules at the prescribed form of examinations; or
  - (2) nine modules and a dissertation on a subject within the approved field of study.

The examiners may at their discretion prescribe an oral examination in any module or on the dissertation.

Selection of modules shall be made in consultation with the Programme co-ordinators concerned and be subject to the approval of the Committee for Postgraduate Modular Programmes.

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### **Dissertation**

**Ar205** The title of the dissertation shall be submitted for approval not later than one month before the start of the final academic semester of study for full time students or four months before the start of the final academic semester of study for part-time students, and the dissertation shall be presented not later than twelve months after the start of the final academic semester of study. The candidate shall submit a statement that the dissertation represents his own work undertaken after registration as a candidate for the degree.

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### **Examinations**

**Ar206** A candidate who has failed to satisfy the examiners in more than three modules at the first attempt (for which purpose, the project workshop constitutes one module) shall be recommended for discontinuation of studies under the provisions of General Regulation G12. A candidate who has failed to satisfy the examiners in not more than three modules at the first attempt may be permitted to present himself for re-examination in the modules of failure; and should he again fail to satisfy the examiners in any module at the second attempt he shall be recommended for discontinuation of studies under the provisions of General Regulation G12.<sup>1</sup>

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**Ar207** A candidate who has presented an unsatisfactory dissertation, but has satisfied the examiners at the written examination or re-examination, may be permitted to revise the dissertation and to re-present it within a specified period to be determined by the Board of Examiners; or he may be recommended for discontinuation of studies under the provisions of General Regulation G12.

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### **Examination results**

**Ar208** At the conclusion of the examination, a pass list shall be published. Candidates who have shown exceptional merit at the whole examination may be awarded a mark of distinction, and this mark shall be recorded in the candidates' degree diploma.

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### **Advanced Standing**

**Ar209** A candidate may be given advanced standing for up to 3 modules on the ground that equivalent modules or courses or subjects have been passed at another university or comparable institution accepted by the faculty for this purpose: provided that no candidate shall be eligible for the award of the degree set out in these regulations without having completed at least 9 modules; or 6 modules and a dissertation in this programme.

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<sup>1</sup> Notwithstanding a pass in a module at the second attempt, failure in that module at the first attempt shall still count as failure in one module.

## **SYLLABUSES FOR THE MODULAR MASTERS DEGREES PROGRAMMES IN CONSTRUCTION PROJECT MANAGEMENT AND REAL ESTATE**

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### **Programme Structure**

The aim of the Modular Programmes, on a faculty-wide basis, is to provide advanced tuition in all aspects of the project and land development processes, allowing students maximum flexibility in module selection within their chosen disciplines. Where appropriate the programmes will be related to developments not only in Hong Kong but also the Peoples' Republic of China and the Southeast Asian region. Some of the modules listed below may not be offered every year.

To receive the award of Master of Science in Construction Project Management or Master of Science in Real Estate, a candidate must complete either

- (1) four prescribed modules and eight elective modules; or
  - (2) four prescribed modules, five elective modules and a dissertation from the list below.
    - (a) Four prescribed modules:
      - Economics for professionals
      - Management theory and construction projects
      - Law for the real estate and construction industry
      - Project Workshop
    - (b) Selection of modules shall be made in consultation with the Programme Co-ordinators concerned and be subject to the approval of the Committee for Postgraduate Modular Programmes.
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### **RECO6001. Urban planning: theory and practice**

This module examines urban planning theory and urban planning practice especially in Hong Kong. Topics include contemporary urban planning theories, political and social influences in planning, nature and functions of the planning process and basic approaches to practice from strategic planning to local and site planning. Case studies will be presented.

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### **RECO6003. Economics for professionals**

This module examines the following: Demand and supply model (consumer and producer surplus; gain from trade), theory of price control (non-exclusive income, minimum wage legislation, rent control legislation), rent-seeking and rent-dissipation model, welfare economics, Pigovian Theory (market failure: “external effects”, “public goods”, “monopoly”), welfare economics - Coasian critique, Neo-classical firm, Neo-classical firm - Critique.

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### **RECO6004. Construction economics**

This module examines the following aspects in construction economics: Building cost control, life cycle costing, design economics, introduction to modelling, cost modelling - techniques, problems and recent developments, the Hong Kong construction industry, cost, price, value and competition.

**RECO6005. Contract strategies and project management techniques**

This module examines risk management, contract strategies, organization form, relational contracting, planning techniques, value management, quality management, operations research, sustainable construction.

Co-requisite: RECO6006 Management theory and construction projects

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**RECO6006. Management theory and construction projects**

This module examines the fundamental knowledge in management theory and its application in construction procurement: the project organization, management, schools of thought, the project life cycle, organization structure, team roles, case studies of projects, project management tools.

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**RECO6007. Real estate and construction management practice**

This module provides a framework for analyzing management practice in the real estate and construction industry: people in organizations, organizational culture & climate, leadership, motivation, commitment, cooperation & collaboration, decision aiding technologies, decision making, negotiation, meetings, presentation techniques, conflict management.

Co-requisite: RECO6006 Management theory and construction projects

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**RECO6010. Development case studies**

This module examines in detail the interaction of the various components within the development process. It utilizes a series of case studies of actual projects of varying scale and complexity which will allow for an analysis of the essential inputs to the process and the effects these may have on outputs and the final product.

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**RECO6011. Real estate economics**

This module deals with the economics and structure of the real estate industry with special reference to Hong Kong. It introduces the real estate sector as consisting of three interrelated subsectors, namely the market for real estate services, the market for real estate assets, and the real estate development market. The module also introduces principles of real estate market analysis and real estate project evaluation.

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**RECO6013. Real estate investment and finance**

This module introduces real estate investments as part of the universe of investment opportunities. It further covers real estate investment decision-making under uncertainty. Principles of real estate investment and development project finance are also covered.

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**RECO6014. Real estate management**

This module approaches real estate management from a total asset management viewpoint. It covers the real estate asset management environment, strategic decision-making in real estate, property asset management, and real estate portfolio management from corporate and institutional perspectives. It also deals with real estate agency and marketing principles.

**RECO6015. Real estate investment and the capital markets**

This module provides a framework for analyzing real estate investment within a capital markets theoretical framework. It deals with real estate investment and modern portfolio theory, the capital asset pricing model and portfolio performance measurement, and real estate market efficiency. The module highlights comparative problems in the application of modern investment theory to real estate investments and real estate markets.

Pre-requisite: RECO6013 Real estate investment and finance

Co-requisite: RECO6017 Project Finance

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**RECO6016. Land economics**

This module covers the fundamental determinants of location of economic activities: the concept of rent, marginal productivity and land rent, bid rent analysis and the formation of a land market, economic regions and retail locations, industrial locations, land use control, property rights and zoning, social cost and pollution problems, development timing and problems of urban redevelopment.

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**RECO6017. Project finance**

This module deals with project finance from an international financial markets perspective, and includes real estate project financing. It covers international project finance and principles of financial risk management. The module contains a substantial self-study component, and candidates are required to present a detailed case study as part of module requirements.

Pre-requisite: RECO6013 Real estate investment and finance

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**RECO6018. Modern developments in the law of construction contracts**

This module examines the modern development in the laws of contract and torts: interpretation, comparison and application of various standard forms of building and civil engineering contracts and sub-contracts: programmes, interim certification, set-off of payments, pay when paid clause, variation and architect's instruction, delay and extension of time, liquidated damages; preparation, evaluation and presentation of claims; contractual, non-contractual and ex-gratia claims; global claims; advanced claims techniques; contractual and common law remedies; bankruptcy and insurance in the context of the construction industry.

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**RECO6019. Workshop report**

The Workshop report comprises a number of task specific exercises relevant to the surveying discipline which can be independently developed and tested. There will be emphasis on professional/practice skill through practice based case histories and/or assignments such as preparation of valuation reports or lease conditions, pre-contact estimates or project management.

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**RECO6020. Dissertation**

The dissertation module comprises two elements: dissertation 1 and dissertation 2. Candidates are required to complete both elements of this module. Candidates are required to achieve a pass in dissertation 1 before being permitted to proceed to dissertation 2. The dissertation (constituting dissertation 2) shall be on an approved topic relevant to the curriculum. Dissertation 1 comprises a

course in research methods, including literature review, research designs and methodologies. Following successful completion of dissertation 1, candidates will be permitted to proceed to dissertation 2. For dissertation 2, candidates are required to complete a dissertation, of minimum 20,000 words, on an approved topic.

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### **RECO6025. Project workshop**

The project workshop reflects the inter-disciplinary nature of the curriculum and aims to synthesize and apply the theory taught in the lecture courses to a problem which in practice would engage the combined skills of a number of the professions which constitute the property and construction industries. Through this students will experience the demands and importance of teamwork under the exigencies of actual commerce, and will appreciate the significance of their role and that of others in the context of the environment, planning, the property and construction industry and accountancy.

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### **RECO6026. Professional report**

The Professional report represents an individual piece of work that emphasizes one of the specialist elements within the chosen professional discipline.

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### **RECO6027. Business process engineering**

This module covers 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.

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### **RECO6028. Procurement systems**

This module examines the strategic and emergent issues in construction procurement: a definition of procurement systems; organising the project procurement process; organisational design; organisational learning as a vehicle for improved building procurement; culture; conventionally orientated to developmentally orientated procurement systems; use of world wide web technologies and procurement process implications; applying multiple project procurement methods to a portfolio of infrastructure projects; multiple performance criteria for evaluating construction contractors; applying partnering in the supply chain; selection criteria.

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### **RECO6029. Information management in construction**

This module covers the concepts of information management, business information systems and computerization in the construction industry. It introduces the principles and applications of systems analysis and design. It also focuses on special IT applications in construction including computer-aided design and multimedia systems.

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### **RECO6030. Knowledge management in construction**

This module covers the concepts and development of knowledge management in the construction industry: strategic information systems, object technology, coordinated project information exchange, principles and applications of knowledge-based systems.

Co-requisite: RECO6029 Information management in construction

**RECO6031. Alternative dispute resolution**

This module examines the theory and practice of dispute resolution: negotiation; mediation; litigation; arbitration and adjudication; practice and procedure; application in the real estate and construction industry.

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**RECO6032. Law and practice of arbitration**

This module examines the process of arbitration in Hong Kong and China: common law and statute; procedure and proof; the role of expert witnesses; domestic and international arbitrations; arbitration institutions; application in the real estate and construction industry.

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**RECO6033. Facility management practice**

This module explores topical issues in facilities management, such as strategic corporate facility planning, benchmarking, post-occupancy evaluation, outsourcing, space planning and management, office safety and security, contingency planning.

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**RECO6034. Facility maintenance management**

This module examines the principles and types of maintenance, the building life cycle and obsolescence: Maintenance policies, strategies and statutory requirements. Planned maintenance, preventive maintenance, contracts and standards for maintenance work. Building refurbishment, alterations and conservation.

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**RECO6035. Advanced facility technology**

This module examines the options and installation of state-of-the-art services for communication, power and data transmission technology, virtual office/workplace, data center, advanced monitoring and automation for CAFM and BMS.

Pre-requisite: Pre-course – Construction Technology

Co-requisite: RECO6033 Facility management practice

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**RECO6036. Land administration systems**

This module examines comparative land administration systems: freehold and leasehold tenure; socialist land systems; communal land systems; their characteristics and impact on government revenue, urban & rural development and resource conservation; land adjustments and reforms; urban renewal.

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**RECO6037. Hong Kong land administration**

This module examines the Hong Kong land administration system: its institutions and functions; land allocation, development programming and control; interaction with the public and private sector; salient features of land administration in the New Territories.

**RECO6038. Administrative law in land development in Hong Kong**

This module covers the following aspects: the Basic Law; the HKSAR Government; judicial reviews with the focus on lease control, planning, building and environmental protection; remedies; interpretation of lease and town plans; lease enforcement; planning enforcement and building control with the focus on development potential and liabilities of owners and occupiers.

Pre-requisite: RECO6039 Planning and building development

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**RECO6039. Planning and building development**

This module deals with building development by examining the nature and procedures of plan preparation, planning application and building applications; inter-relationship between lease, planning and building control; planning appeals and building appeals.

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**RECO6040. Construction safety management**

This module covers introduction to construction site organisation; Occupational Safety and Health regulations; Workers compensation and civil claims; Accident reporting systems; Safety management systems; Site safety audits; Site safety initiatives; occupational health on site; Ergonomics and manual handling; dangerous substances on site; Codes of practice and standards; Design and construction considerations; Temporary works; Plant, tools and machinery; Personal protective Equipment; Unions and subcontractors; Workers and dangerous trades.

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**RECO6041. Development projects**

This module allows the student to examine actual problems in planning and development practice. Actual project development cases and their problems are discussed from the viewpoints of varying stakeholders. Skills and solutions are examined, and the difficulties in putting theories into planning and development practice analyzed.

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**RECO6042. Law for the real estate and construction industry**

This module provides a study of the law relating to the real estate development and construction processes: Acquisition, ownership, management and disposal of land and real estate; town planning; finance of development; building contracts (standard forms, comparative studies); revenue law and the real estate market; agency law; alternative dispute resolution movement.

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**RECO6043. Construction business management**

This module examines the management of construction business which covers Hong Kong's economy, case studies, strategic management, marketing, financial performance, recruitment and human resources management, safety management systems, environmental management systems, ethics.

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**RECO6044. Planning and markets**

This module examines alternative institutional means of coordinating specialized land uses from a transaction cost perspective. The approaches of Pigou, Coase and Hayek are compared. The idea of planning by contract is contrasted to that by edict and command.



**RECO6045. Sustainable development and property rights**

This module examines the idea of sustainable development from a Coasian and Schumpeterian perspective and explores alternative systems of institutional arrangements that promote the idea. Topics covered include theorization on the tragedy of the commons; rent dissipation; Coase Theorem and theories of innovation.

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**RECO6046. Research seminar**

This module aims to familiarize students with the rigors of producing a research proposal. Main issues include the development of aims and objectives of the proposed research, determination and justification of a suitable methodology to test hypotheses (if any), and deciding on a practical programme for the execution of the research project. Students are required to give research seminar presentations of their work as they progress.

Co-requisite: RECO6047 Research methods

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**RECO6047. Research methods**

This module aims to develop the student's abilities in the formulation of an appropriate research framework. Main issues include: literature search, qualitative and quantitative research approaches, experiment design, model building, data analysis and dissemination of results.