

## Construction Project Management MSc/Diploma

**Delivery:** Full Time, Part Time, Distance Learning

**Programme type:** Taught Programme

**Study location:** Edinburgh

**Entry date:** September, January (DL only)

### Introduction

Construction Project Management at Heriot-Watt University is one of the longest-running programmes of its kind in the UK, equipping graduates with the theoretical knowledge and practical and technical skills to manage people and projects within the construction industry. A range of core courses covering management, procurement and technology-related subjects will give you a foundation in management principles while providing practical skills relevant to professional practice in construction. You will also choose an optional course from a range of subjects drawn from our built environment programmes, providing you with a broader understanding of built environment issues and an opportunity to tailor your studies to fit your interests and professional needs.

### Our students and graduates

Students tend to come from the construction industry, bringing with them practical experience in a variety of built environment roles, or from other professional backgrounds but with an interest in converting to a career in the construction industry. Students from all over the world study this programme both on campus and by [Independent Distance Learning](#) (IDL), and as a Construction Project Management student you will be part of – and learn from – a community made up of a wide range of backgrounds and cultures.

This industry-focussed programme ensures graduates are quickly able to make a positive and effective contribution to their working environment, and as such are in great demand by construction industry employers. Our graduates are employed at management level in major companies in the UK and worldwide including [Network Rail](#), [Bechtel](#) and [Atkins](#).

### Centre of Excellence in Sustainable Building Design



This programme is delivered by the Royal Academy of Engineering Centre of Excellence in Sustainable Building Design. This is one of four such Centres established at UK universities that jointly form a national network to demonstrate and exchange best practice in teaching and research for the sustainable built environment.

### Programme duration

Mode of study	Duration
Full-time	1 year
Part-time	2 years
Independent Distance Learning (IDL)	2-7 years*

\*An IDL programme - whether at PgDip or MSc level - can be completed in a minimum of 2 years. On average, our PgDip programmes studied via IDL are completed in 2-3 years, while MSc programmes are completed in 2.5-7 years. Most students intend to complete their studies via IDL within 2-3 years.

### Professional recognition

The MSc is fully accredited by the [Royal Institution of Chartered Surveyors](#) and the [Chartered Institute of Building](#). The University is a Corporate Member of the [Association for Project Management](#).

### Teaching and research excellence

Construction Project Management is taught by experienced, international staff from a variety of professional backgrounds and with strong links to industry. We also have a strong record in built environment research. In the most recent Research Assessment Exercise (RAE 2008) 60% is classed 'internationally excellent' or better.

With a history dating back to 1821, Heriot-Watt is one of the UK's leading universities, and Scotland's most international. Find out more about Heriot-Watt University's [reputation, rankings and international profile](#).

### Programme content

This programme, led by [Dr. Graeme Bowles](#), is composed of seven mandatory courses and one optional course. For those looking to complete the programme at MSc level research projects are also required. Students are assessed through a combination of examination and coursework.

Semester 1	Semester 2
<p>Mandatory courses:</p> <ul style="list-style-type: none"> <li>• Project Management: Theory and Practice</li> <li>• Value and Risk Management</li> <li>• Contracts and Procurement</li> </ul> <p>Optional courses:</p> <ul style="list-style-type: none"> <li>• Sustainability in Civil Engineering</li> <li>• Construction Technology</li> <li>• Environmental Hydrology and Water Resources</li> <li>• Real Estate Economics</li> <li>• Spatial Planning</li> <li>• Sustainable Design and Development</li> <li>• Environmental Geotechnics</li> </ul>	<p>Mandatory courses:</p> <ul style="list-style-type: none"> <li>• Project Management: Strategic Issues</li> <li>• Construction Financial Management</li> <li>• Construction Practice and Information Technology</li> <li>• People and Organisational Management in the Built Environment</li> </ul>

### Course descriptions

Please find below the course descriptions. For more information on courses, please contact the Programme Leader.

#### Project Management Theory and Practice

##### *Semester 1 (mandatory)*

This course aims to provide the student with an understanding of the concepts and practices of construction project management used to provide value added services to clients. The course develops understanding of the issues related to the management of construction clients and other project stakeholders and how their needs can be co-ordinated, managed and delivered from the project's design stage through production to occupation and maintenance within the context of client satisfaction and the overarching construction project constraints of time, cost, quality sustainability, health and safety management. Subjects covered in the course syllabus include:

*Construction project management concepts; standards and services; organisational structures for delivery of project management services; management strategies for clients and stakeholder briefing; issues related to management of construction project design process, and budget setting; tools/techniques for construction project planning and control of costs, time, risk and quality; issues relating to TQM and health and safety; teamwork and leadership roles.*

## **Project Management: Strategic Issues**

### *Semester 2 (mandatory)*

This course aims to further develop the learners theoretical and practical knowledge in the implementation of Project Management Principles in the construction industry. The course is designed to raise student awareness as to why the construction industry under-performs when compared to other industries. This enables learners to appraise and critically analyse the performance of the project management discipline in order to explore what is needed to improve this performance, with emphasis on the UK construction industry. The following units are included in the course syllabus:

*The construction industry; the manufacturing industry; lean construction and process mapping; lean planning; performance measurement and benchmarking; project management evaluation; power, politics and influence; supply chain management.*

## **Contracts and Procurement**

### *Semester 1 (mandatory)*

The aim of this course is to help students understand advanced procurement practices, the situations in which their use is appropriate and the contractual principles upon which they are based. The course will also introduce students to the mechanisms used by a typical standard form of construction contract (from the JCT05 suite) to control the risk exposure arising from the liabilities of contracting parties created by the contract and common law, as well as the flow of money and information between contracting parties. Subjects covered by the syllabus include:

*Introduction to Construction Project Procurement; Procurement Arrangement Options; Construction Contract Use in the UK; Principles of Contract Law; Partnering; Procurement through Public Private Partnerships; Claims; Negotiating; Managing Conflicts and Disputes; Towards Better Contracting Practices.*

## **Value & Risk Management (M)**

### *Semester 1 (mandatory)*

The course aims to introduce the concepts of value & risk management, apply them to strategic and tactical problems and illustrate their tools and techniques through case studies. Subjects included in the course syllabus include:

*VRM and the construction procurement process; introduction to value management; value engineering (function analysis and other VE tools); risk & uncertainty in the construction industry; Risk and procurement of PPP projects; risk management framework; sources, events and effects of project risk; tools and techniques of risk management; risk response and mitigation; client briefing.*

## Construction Financial Management

### *Semester 2 (mandatory)*

The aim of the course is to enable students to appreciate and make an intelligent contribution towards the managerial and financial aspects of construction companies in general and construction projects in particular. This includes developing awareness and understanding of the need for financial planning and monitoring and the cost control process. The following subjects are covered within the course syllabus:

*Financial management and control in contracting; corporate strategies in construction; financial management at company level; cash flow forecasting; costing; cost/value reconciliation at project level; production of financial accounts for construction companies; corporate analysis and ratio analysis; economic comparison; profitability measurement; construction plant financial appraisal; development appraisal techniques.*

## People and Organisational Management in the Built Environment

### *Semester 2 (mandatory)*

This Course aims to develop a high level of interdisciplinary understanding about complex organisational and personal management processes and how important they are in underpinning technical skills to deliver high quality services as a professional. Students will learn about and explore management theory and practice and will have a chance to reflect on their own personal development in a synoptic way. This will be valuable in terms of career development, as management competences and self-reflection are increasingly sought in practice. Subjects covered by the syllabus include:

*What is management and why is it important for professional practice? Good and bad examples of management and their effect on individuals, organisations and service delivery. A critical evaluation of management theories. In depth understanding of the complexities of team building, organisational culture, recruitment and selection, staff appraisal, motivation, leadership, communication, co-ordination, and managing change and diversity.*

## Construction Practice and Information Technology

### *Semester 2 (mandatory)*

The overall aim of this course is to provide an insight into the development of information systems in the construction industry. The course will help students to evaluate the use of modern ICT means and their impact on business performance in construction; study relevant IT concepts and appraise its applicability to construction process re-engineering and develop adequate research skills in reviewing and preparing academic publications. Subjects covered by the syllabus include:

*Management Information systems for integrated work environment; Electronic Documents Management; Development strategy for information systems; Introduction to IT Infrastructure and EDI; E-business in construction; Building Information Modelling (BIM); Mobile computing in construction; Smart/Intelligent Building and Information systems and Knowledge Management.*

## Sustainability in Civil Engineering

### *Semester 1 (optional)*

This course aims to equip students with the interdisciplinary attitudes, skills and knowledge necessary to allow them to contribute to the delivery of sustainable development within the civil engineering industry. This will include a broad introduction to the concepts, drivers and definitions associated with sustainability, as well as an overview of the history of sustainable development. More specific topics covered in the course syllabus include:

*Urban design qualities and sustainable cities; the planning & legislative framework; strategic environmental & environmental impact assessments; project design and planning; national and international sustainability indicators; audits and certification for sustainability and available assessment tools and methodologies.*

## **Construction Technology**

### *Semester 1 (optional)*

The overall aim of this course is to provide students with a basic understanding of the different elements that make-up a building so that they can communicate effectively with construction professionals in the design and construction of buildings. Subjects include:

*Structural Requirements for Buildings; Substructure Design – Foundations; Substructure Design – Basements; Structural frames and suspended floors; Superstructure - External walls and cladding Superstructure – Roofs; Services in Buildings; Offsite construction; Low carbon construction.*

## **Environmental Hydrology and Water Resources**

### *Semester 1 (optional)*

The aim of this course is to provide the students with a thorough understanding of the hydrological basis of water resources assessment, planning and management. In this regard, the course is designed to provide the learners with a board introduction to hydrological modelling, as well as a detailed appreciation of the following topics:

*Methods of meteorological data collection & analysis techniques; surface water resources; collection and analysis of low stream-flow data; reservoir planning & design; uncertainty analysis in water resources planning; groundwater occurrence, evaluation & management.*

## **Real Estate Economics**

### *Semester 1 (optional)*

This course aims to introduce students to an economic analysis of real estate markets. The course will help students to understand land and property markets from an economic perspective; to examine land and property as a set of linked markets and to consider regulatory constraints on real estate in economic terms including planning. The syllabus includes:

*Introduction to key topics in economics – microeconomic demand and supply analysis, Elasticities, the macroeconomy; the economics of property market analysis: use, investment and development. The institutional context. Local, regional, national and global perspectives. Real estate cycles by sector. Property versus other asset classes; Analysis of property sectors (housing, offices, retail, industrial). Spatial economic analysis; Economic basis of planning, planning in a market economy. Economic analysis of planning policy, interaction of real estate and the macroeconomy.*

## **Spatial Planning**

### *Semester 1 (optional)*

This course aims to help students to develop a critical understanding of: spatial planning agendas; sectoral and spatial policy frameworks at national, strategic and local levels; legal and ethical frameworks; implementation mechanisms; development management issues; relationships between land and property and planning, including development rights and property rights. The syllabus includes the following subjects:

*Reasons for planning; Development Planning; Urbanisation and Urban development; Development and property rights; Development Management; Environmental Assessment; Conservation and Globalisation and urban transitions.*

## Sustainable Design and Development

### *Semester 1 (optional)*

This course aims to help students develop a critical understanding of the complexity of urban and housing design and development, including the importance of people and process. The course will help students to gain professional knowledge about urban design principles and practice, including sustainability issues. Subjects in the syllabus include:

*Introduction to urban design and housing quality; Critical understanding of the development process including stages in the development process and appreciation of different stakeholder perspectives; Sustainable design, housing quality, place identity and character; Climate, aspect, safety, planting, management; Conservation areas and listed buildings; Market and needs analysis; Developer's budget, cashflow and financial appraisal; Risk analysis.*

## Environmental Geotechnics

### *Semester 1 (optional)*

This course aims to give students an appreciation of the role of contaminated land within geotechnical engineering, developing understanding of current UK legislation and government policy relating to methodologies for dealing with contaminated land. In this regard, the course enables learners to understand the practical relevance of the remediation technologies within the context of site contamination and to gain knowledge of the engineering measures adopted at landfill sites for the safe disposal of waste. Subjects and topics covered include:

*Historical pollution sources and extent; qualitative and quantitative risk assessment; site investigation; remediation methods; legislative background; characteristics of landfill sites and wastes.*

## Programme leader

[Dr Graeme Bowles](#) has teaching and research interests in Value and Risk Management, whole life costing, project briefing and procurement. He manages the dissertation process within the discipline and has supervised a number of construction management related PhD students. He is on the Association for Project Management committee as Higher Education Institute representative.

## Entry requirements

### **For MSc level entry applicants must have:**

- Minimum of 2:2 honours degree or equivalent academic qualification in cognate and semi-cognate subject area. For PG conversion programmes, non-cognate degrees will be considered. Corporate (or chartered) membership of relevant professional institutions will also be considered.

### **For PG Diploma level entry applicants must have:**

- Third class honours degree in a cognate or semi-cognate subject area PLUS 2 years of relevant experience at an appropriate level completed post qualification.
- Cognate or semi-cognate ordinary degree PLUS 3-4 years of relevant experience at an appropriate level following graduation.
- Candidates who do not meet the above entry requirements or have no formal academic qualifications will be

considered individually based on their CV and interview. Admission via this route will be at the discretion of the Director of Admissions and the number of successful applicants will be restricted.

There is no entry at PG Certificate level except through exceptional agreement with approved learning partners.

**Non-graduating study at masters level:**

- Entry is based on CV or on formal academic qualifications or graduate (or incorporated) membership of a relevant professional institution.

**Distance Learning January entry**

Distance learning students can choose to start their studies in January or September. The January intake is not available to students studying on-campus.

**English language requirements**

If English is not the applicant’s first language a minimum of IELTS 6.5 or equivalent is required with all elements passed at 6.0 or above.

Applicants who have previously successfully completed programmes delivered in the medium of English language may be considered and will be required to provide documentary evidence of this. Examples would be secondary school education or undergraduate degree programme. A minimum of at least one year of full time study (or equivalent) in the medium of English language will be required.

**Distance learning students**

Please note that independent distance learning students who access their studies online will be expected to have access to a PC/laptop and internet.

**Tuition fees**

Status*	Full-time	Part-time	Distance Learning**
Scotland / Non-UK EU	£4980	£2690	£1130/£800
England/Northern Ireland/Wales	£5880	£3180	£1130/£800
Overseas	£13420	£6970	£1130/£800

\* If you are unsure which category you fall in to, you should complete a [fee status enquiry form](#), which allows us to assess your fees.

\*\* Fee per course

**Additional fee information**

\*\* £1130 per course, £800 per research project. This programme consists of 8 courses. At MSc level students complete 2 research projects.

For Independent Distance Learning fees, please check the [IDL Tuition and Exam Fees](#) document.

## Scholarships & bursaries

- [Alumni Scholarship Scheme](#)  
Heriot-Watt Alumni
- [Carnegie-Cameron Taught Postgraduate Bursaries](#)  
Applicants must be Scottish by birth, have at least one parent born in Scotland or have been continuously resident in Scotland for a period of three years for the purpose of secondary or tertiary education.
- [Commonwealth Scholarship and Fellowship Plan](#)  
International (Commonwealth citizens)
- [Department for International Development \(DFID\) Commonwealth Shared Scholarship Scheme](#)  
Commonwealth citizens
- [East Lothian Educational Trust](#)  
Applicants must be a resident of the old county of East Lothian (ie excluding Musselburgh, Wallyford and Whitecraig.)
- [GoEuro Scholarship Programme](#)  
Enrolled students in any academic year
- [Leverhulme Trade Charities Trust](#)  
Restricted to residents of the UK who are a son, daughter, spouse, widow or widower of a commercial traveller, chemist or grocer.
- [Local Education Authority Awards](#)  
Various
- [Mexican Scholarships](#)  
Mexican applicants
- [Music Scholarships](#)  
All students
- [Part-time Fee Grant \(SAAS\)](#)  
See SAAS residence conditions.
- [Postgraduate Student Allowance Scheme \(SAAS\)](#)  
EU and UK applicants who meet the SAAS criteria on eligible courses
- [Remission of Fees \(families of staff\)](#)  
Spouses/civil partners and children of members of staff, also retired members of staff of the University
- [Royal Caledonian Schools Trust](#)  
Applicants must be of Scots parentage (conditions apply - see below)
- [Scotland's Saltire Scholarships](#)  
Citizens of Canada, the People's Republic of China, India or USA (2 awards for each country)
- [Sports Scholarships](#)  
All students
- [Staff Scholarships](#)  
Employees of Heriot-Watt University
- [The Consumer Affairs UK Scholarship Programme](#)  
All currently enrolled students
- [The Muirhead Trust](#)  
Scottish, female applicants for science and engineering courses
- [West Lothian Educational Trust](#)  
Individuals must have originated in West Lothian or have lived there for the last 3 years.

## Contacts

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