Course Specification

MSc Construction Management with BIM (Online)
EECT142
MSc Construction Management with BIM (On Campus)
EECT011

Faculty of Engineering Environment & Computing
School of Energy, Construction & Environment
Academic Year: 2021/22

Please note: This specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if s/he takes full advantage of the learning opportunities that are provided.

We regularly review our course content, to make it relevant and current for the benefit of our students. For these reasons, course modules may be updated.

More detailed information on the learning outcomes, content, and teaching, learning and assessment methods of each module can be found in the Module Information Directory (MID), student module guide(s) and the course handbook.

The accuracy of the information contained in this document is reviewed by the University and may be verified by the Quality Assurance Agency for Higher Education.

Coventry University's accreditation with CMI is currently ongoing for the relevant modules and is regularly reviewed and monitored by the CMI through their quality systems. Whilst Coventry University anticipates that these reviews will continue to be successful, if they were to be unsuccessful, the relevant module in this course would no longer be accredited and we would notify applicants and students of this change as soon as possible.

PART A Course Specification (Published Document)

MSc Construction Management with BIM

1. Introduction

1.1 Rationale for Course Design

The requirement for appropriately trained and qualified construction professionals with an understanding of the needs of the modern and future industry is an ever-increasing necessity. Over recent years the focus in the sector has changed from the purely technical to encompass an increasing awareness of the effects of the built environment on the natural environment. The need to produce more buildings, for ever-increasing populations, but with a greater understanding and consideration of the finite nature of the resources available to achieve this.

The Construction Management (CM) with BIM course covers a wide range of skills which industry has identified as critical. In particular the CM course has a very strong focus on Building Information Modelling (BIM) which is covered in two specific BIM modules. According to the Government's BIM Task Group (2015) "BIM is essentially value-creating collaboration through the entire life cycle of an asset, underpinned by the creation, collation and exchange of shared 3D models and intelligent, structured data attached to them". The UK Government Construction Strategy (2011) announced the Government's intention to require collaborative 3D BIM (with all projects and asset information, documentation and data being electronic) on its projects by 2016. Students who successfully complete the CM with BIM course at Coventry, in particular the CMI module, will be awarded Foundation Chartered Manager status and be able to use the designation 'fCMgr' after their name in addition to the MSc qualification.

The modern Construction Manager needs to have a knowledge of areas not only of new development, but also conservation and improvement of the existing built environment. This must all be seen against the background of an increasing awareness of the need for responsibility for sustainable development, and the ability to make use of new innovations and technologies in the world of work.

It is therefore essential that in these times of change the graduates from the MSc in Construction Management with BIM at Coventry University are well prepared for the challenges which they will face during their careers.

This course is designed to equip you with the knowledge and skills to enter the world of construction management with confidence in your ability in the areas of technology, legislation, costing and the performance of buildings. Additionally, we will encourage you to develop the innovation and creativity required to tackle the complex problems now facing the industry surrounding space, sustainability, cost and technology not just in the UK but with consideration for the global nature of the industry. The course will enable you to analyse, solve and advise on Construction Management problems of an advanced technical and managerial nature, with sound judgement.

A unique aspect of the MSc Construction Management with BIM course, and therefore an excellent reason to choose Coventry University is our integrated project. The project will utilise 'real life' construction scenarios and engage our students in role play representing their developing skillset. Students will develop crucial collaborative skills using several digital construction and communication platforms. Scenario based learning is a critical tool in preparing our students for the challenges of the professional world. This is an integral part of the programme on the MSc Construction Management with BIM courses.

The CM with BIM courses at Coventry will utilise modern teaching and learning techniques such as simulation platforms. Simulation allows us to simulate and replicate 'real life' construction scenarios and engage our students in using role play, placing them with a 'close to real' learning environment. Campus students will attend the Universities unique simulation centre in person to take part in virtually simulated project scenarios. Online students will engage with an immersive virtual simulation project environment using modern digital communication and collaboration tools such as BIM. Both approaches to simulating project exercises will help to prepare our Construction Management with BIM students for the challenges of the professional world and ease the transition into the workplace.

In adapting the delivery of our current suite of accredited Masters programmes we hope to encourage both new and experienced recruits to the construction industry. The new Master's degree will provide learners with the flexibility to meet both their skills development and their educational requirements whilst either progressing from undergraduate degrees or currently in work. We need to work collaboratively with the Chartered Institute of Building (CIOB) and industry in order to tackle issues of social mobility, principally through access to education, career development and employment opportunities. It is also anticipated that the introduction of these Master's degrees will address skills shortages of higher level skills in the construction industry.

You will be taught by staff with extensive experience, both academic and professional, in areas such as Construction Management, Architectural Practice, Civil Engineering and the wider construction industry. This breadth and depth of knowledge and experience is vital to ensure that upon graduation you not only understand your role, but the importance of the multi-disciplinary nature of the construction industry as a whole. We also have a strong portfolio of industry-related research, particularly in the areas of low carbon building technology, sustainable construction materials and engineering education, which ensures you will stay abreast of new technologies and emerging issues.

Teaching on the course is highly engaging using modern online support tools. Several activities and assessments are through case studies, so that you can apply your learning to situations you will face in your post university life.

As part of this course you will undertake a professional development module which is currently accredited by the Chartered Management Institute (CMI). Upon successful completion of the module, you will gain the CMI Level 7 Certificate in Strategic Management and Leadership Practice at no additional cost.

Students may study on a full or part time basis and may be studied on campus in Coventry or online. Both modes of study will contain elements of synchronous learning e.g. an on-campus seminar or an on-line class and asynchronous learning via material accessible online 24 hours a day.

On this course, you may be able to switch between studying on campus and studying online at certain points of the academic year, subject to availability. Request processes and restrictions apply. A change in study mode is likely to have visa and/or student finance implications. If you have commenced your studies online after having been refused a UK visa or had a request for sponsorship declined by Coventry University, you will not be eligible to switch between study modes.

1.3. Academic Personal Tutor & Zero credit Modules

The University will also provide additional support to students throughout their study through the Academic Personal Tutor program via two zero-credit modules. Each student will be allocated a personal tutor who throughout their study who will be a direct point of contact to support the student through their academic life and study. Students will have timetabled sessions with their APT which will focus on general study support as well as support through the modules.

Through these zero credit modules students will have the opportunity to enhance critical construction and research skills with the support of online material and academic personal tutor tutorials.

1.4 – Summary

In summary, the MSc in Construction Management with BIM at Coventry University will give you the following opportunities and benefits:

- Blended delivery via synchronous and asynchronous delivery offer excellent opportunities to develop skills in Construction Management.
- The opportunity to complete you Master's degree within a taught or flexible framework.
- The opportunity to develop higher level Construction Management skills whilst in current employment to enable career progression.
- Access to guest speakers and access to live project information through our excellent links with employers
- Opportunity to gain additional professional qualifications as well as your degree – examples include Building Research Establishment Energy Assessment Method (BREEAM) to become an Accredited Graduate (BREEAM AG), the Building Information Modelling Approved Graduate (BIM AG) qualification and Foundation Chartered Manager from the CMI module. Industry demand for practical and effective skills is extremely high with employer seeking graduates with practical and relevant experience. The additional qualifications will demonstrate to employer's students' capabilities in a wider area of study.

2 Available Award(s) and Modes of Study

Title of Award	Mode of attendance	UCAS Code	FHEQ Level
• Master of Science (MSc) in Construction Management with BIM (180 credits) • Postgraduate Diploma (PgD) Construction Management with BIM (Requires at a minimum the Building Information Modelling Foundation and Building Information Modelling & Sustainability Practice modules plus 90 additional credits) • Postgraduate Certificate (PgC) Construction Management with BIM (Requires at a minimum the Building Information Modelling Foundation and Building Information Modelling & Sustainability Practice modules plus 30 additional credits) **Fall back awards** • Postgraduate Diploma (PgD) Unnamed (Any 120 credits) • Postgraduate Certificate (PgC) Unnamed (Any 60 credits)	FT 1 year: PT normally 2 years. Maximum 5 years.	Not applicable	7

3 Awarding Institution/Body	Coventry University
4 Collaboration	Not applicable
5 Teaching Institution and Location of delivery	Coventry University Campus Coventry University – Online
6 Internal Approval/Review Dates	Date of latest review: (December 2017) Date for next review: (2023)
7 Course Accredited by	CIOB
8 Accreditation Date and Duration	2018-2023

9 QAA Subject Benchmark Statement(s) and/or other external factors	MSc Construction Management with BIM: QAA Subject Benchmark Statement for Land, Construction, Real Estate & Surveying. • CIOB publishes an educational framework which is required to be referenced in course design and specification, when seeking accreditation.
10 Date of Course Specification	April 2021
11 Course Director	Danny McGough

12 Outline and Educational Aims of the Course

Educational Aims for MSc Construction Management with BIM

To develop high-level knowledge, wide-ranging understanding and professional skills in:

- provide an educational experience that meets students' needs and expectations and those of the sectors' employers;
- provide an up-to-date curriculum that articulates the current challenges and good practice in construction Management;
- provide students with critical skills in Building Information Modelling which will prepare them to enter into a modern digitalized industry;
- provide an in depth understanding of accounting and financial principles and use of financial information to analyse problems and assess performance in the construction industry;
- develop a detailed understanding of theoretical and practical aspects of strategic management in the construction industry and corporate management processes in the construction industry;
- provide an up-to-date curriculum that articulates the current challenges and good practice in the sustainability and economics of the construction sector ensuring students have the ability to demonstrate knowledge and application of environmental principles and legislation applied to the construction industry;
- ensure students' capacity to evaluate, review and improve approaches and systems and apply learning effectively at an appropriate level using relevant methodologies, ensuring continuous improvement.
- develop personal, technical and management skills that enable highly competent graduates to apply professional knowledge, skills and excellent practice across the world.
- develop abilities in rigorous and valid independent investigation and research.

13 Course Learning Outcomes

On successful completion of the course, a student will be able to:

A student who successfully completes the MSc Construction Management with BIM course will have achieved the following Course Learning Outcomes.

1. Knowledge and application of the main principles of building technology, design and performance. This will include regulatory, procurement, legal, financial, social, technological aspects including Building Information Modelling during the inception, planning, design, construction, use and redundancy phases of the building process.

2. Accept professional and ethical responsibility. Critical evaluation of knowledge and application of ethics and professionalism within the construction management role. Governance and corporate social responsibility in respect to procurement, finance and contractual processes and working practices.

3. Appraise, evaluate and advise on current issues in construction including regulatory, legal, policy, sustainability, innovation and internationalisation.

4. Analyse, solve and advise on Construction Management problems of an advanced technical, quality assurance and managerial nature, with sound judgement.

5. The ability to identify risks and integrate and ensure a safe working environment and risk management in terms of legislation, health and safety, management and personal responsibility.

6. Critical analysis of the multi-disciplinary nature of the construction process including collaboration and Building Information Modelling. The roles and responsibilities of the construction professionals and stakeholders, and a respect for the fellow team members in terms of both diversity and cultural values.

7. Select and use a range of appropriate IT platforms for the efficient and appropriate completion of construction related tasks. Analyse, interpret and present information using appropriate information technology processes

8. Carry out independent in-depth research investigations of a specialised topic, applying appropriate ethical research methodologies. Produce professional reports in accordance with published conventions and/or client expectations.

9. Critically evaluate the principles for leading and developing people and equality, diversity and inclusion at a strategic level.

14 Course Structure and Requirements, Levels, Modules, Credits and Awards

The requirements and curricula for the following awards are defined in this document:

MSc/PgD/PgC Construction Management with BIM

Specific requirements for final and exit awards are detailed with the curricula structures.

The structure of the courses are given in Tables 14.1

Students who have gained 60 credits or more within a Postgraduate Diploma will be eligible for the award of Postgraduate Certificate in that named route.

The courses can be taken on full-time or part time study modes.

All masters' programmes have been constructed to comply with the University's taught postgraduate modular framework (Mode R).

Details of modules included with these programmes are listed in table 14.1 below which includes their credit value. A brief rationale and the market focus for the programme is provided in the introduction to this document.

The programmes have been designed to operate over a flexible one year of full-time study but may be taken over a longer period. Part-time participants normally complete an MSc over two years.

CMI
Students have the opportunity to undertake the Chartered Management Institute Module Leading Diverse Workforces. Students who successfully complete the module and meet the CMI learning outcomes will gain a Level 7 Certificate in Strategic Management and Leadership Practice based on the following CMI units: Leading and developing people to optimise performance (unit 702); Strategic approaches to diversity and Inclusion (unit 715).

Students who successfully complete this module will be awarded Foundation Chartered Manager status and be able to use the designation 'fCMgr' after their name.

Awards:

MSc Construction Management with BIM

All the taught modules and the project as listed in the programme of study in table 14.1 (180 CATS credits).

PgD Construction Management with BIM

Requires at a minimum the Building Information Modelling Foundation and Building Information Modelling & Sustainability Practice modules plus 90 additional credits passes in taught modules as defined in the programme of study. (without the research project) - 120 CATS credits in total.

PgC Construction Management with BIM

Passes in taught modules as defined in the programme of study. Requires at a minimum the Building Information Modelling Foundation and Building Information Modelling & Sustainability Practice modules plus 30 additional credits in taught modules as defined in the programme of study. (without the research project) - 60 CATS credits in total.

Fall back awards

- Postgraduate Diploma (PgD) Unnamed (Any 120 credits in taught modules as defined in the programme of study.)
- Postgraduate Certificate (PgC) Unnamed (Any 60 credits in taught modules as defined in the programme of study.)

Table 14.1 - Programme of Study for MSc Construction Management with BIM

60 Credits will be take in each semester with the Research Project Module and the CMI module taken in final semester

Module credit level	Module Code	Title	Credit Value	Mandatory/ Optional	Course Learning Outcomes
7	7064EXQ	Project & System Management	15	Mandatory	1,4,5,6
7	7065EXQ	Organisational Theory and Behaviour	15	Mandatory	1,2,3,4,5,6,8
7	7166EXQ	Integrated Project	15	Mandatory	1,2,3,4,5,6,7,8
7	7067EXQ	Financial and Asset Management	15	Mandatory	1,2,4,5,6
7	7068EXQ	Building Information Modelling Foundation	15	Mandatory	1,2,3,4,5,6,7,8
7	7109EXQ	Contemporary Issues & Research Methodologies	15	Mandatory	2,3,4,6,8
7	7070EXQ	Contract Management Practice and Law	15	Mandatory	1,3,4,5,6,7
7	7071EXQ	Building Information Modelling & Sustainability Practice	15	Mandatory	1,2,3,4,6,7,8.
7	7165EXQ	Research Project	50	Mandatory	2,4,6,8
7	7084EXQ *	Supporting Transition to Postgraduate Study	Zero	Mandatory	2,4,6,8
7	7074EXQ *	Preparing to Research	Zero	Mandatory	2,4,6,8
7	7049CRB**	Leading Diverse Workforces	10	Mandatory	9
		Total	180		

* These modules cannot be resat or repeated. They are pass/fail based on attendance, failure will not stop progression or completion, but will be listed as a fail on the transcript.

** Students have the opportunity to undertake the Chartered Management Institute Module Leading Diverse Workforces. Students who successfully complete the module and meet the CMI learning outcomes will gain a Level 7 Certificate in Strategic Management and Leadership Practice based on the following CMI units: Leading and developing people to optimise performance (unit 702); Strategic approaches to diversity and Inclusion (unit 715).

15 Criteria for Admission and Selection Procedure

15.1 General criteria for admission to the postgraduate taught programmes

UCAS entry profiles may be found by searching for the relevant course on the UCAS website, then clicking on 'Entry profile'.

Normally, the entrance requirement is a second classification degree in a relevant discipline. Current requirements are specified on the course page of the university web page.

- Participants whose first language is not English must demonstrate proficiency in verbal and written English language equivalent to IELTS 6.5 or IELTS 6.0 plus a compulsory five week, pre-sessional English course at Coventry University.
- Applications from those not possessing the equivalent of an honours degree will be considered on individual merit and decisions will be based on careful evaluation of the capacity of the applicant to complete the programme successfully.
- The programme is subject to the general University admission procedures and access policies.
- Recognition of prior learning (RPL) is in accordance with University regulations for taught postgraduate courses.

15.2 Admission criteria

Details on admission criteria can be found on the University website. http://www.coventry.ac.uk/

15.3 Course Availability

The course is available through full time and part time modes.

15.4 Admission of disabled participants

The University and the Faculty have always adopted a very positive approach to applications from participants with disabilities. Full details on the Universities accessibility provision can be found on the University website. http://www.coventry.ac.uk/

16 Academic Regulations and Regulations of Assessment

This Course conforms to the standard University Regulations Mode R

17 Indicators of Quality Enhancement

The following are key indicators of quality and standards:

- The MSc (Hons) Construction Management with BIM course has been designed in accordance with the QAA benchmark statements for Construction, Property & Surveying and relevant aspects of Construction as appropriate.
- The School has a strong portfolio of industry-related research, particularly in the areas of low carbon building technology and sustainable construction materials, and engineering education.
- All courses in the School are accredited (or are seeking accreditation) from the relevant professional institutions.
- All staff who teach on the course are active in scholarship/research and have a range of professional experience in construction management, construction finance, architectural practice, civil engineering and related built environment professions.
- The School has excellent links with local employers through our Building Advisory Board. These local employers provide input to course management, delivery and development.
- Within the School the record of students gaining employment in the construction industry is excellent

QAA

- The University's quality procedures were confirmed by a QAA Higher Education Review in 2015.
- There is a diverse and active range of research activities influencing programmes in most areas of the Faculty.
- All of the existing programmes carry external professional recognition;
- Strong and regular industry input to the subject-base. This is achieved in many ways, for example through the long-stranding advisory boards, industry-focused collaborative research initiatives and use of guest speakers from industry

18 Additional Information

Enrolled students have access to additional, key sources of information about the course and student support including:

- Student Handbook
- Course Handbook
- Module Guides
- Course & Module Webs
- Module Information Directory https://webapp.coventry.ac.uk/MidWebNext/Main.aspx
- EEC Student Portal https://students.coventry.ac.uk/EC/Pages/Home.aspx
- Coventry University Student Portal https://students.coventry.ac.uk/Pages/index.aspx