

Modelling Information Management: Theory and Practice

Module Descriptor

Module Code: BUI6IMM
Version: 1.00
Status: Final
Date: 28/02/2024

Summary Module Details

Module details

Module Title: Modelling Information Management: Theory and Practice

Module Leader: Marc Fleming

Module Mode: Supported online learning

Semester: Autumn (UK) and Spring (UK)

Level: 6

Credits: 20

Learning Hours: 200

Contact & Study Hours

Directed Study Time: 60 hrs (30%)

Self-directed Study Time: 70 hrs (35%)

Assessment Study Time: 70 hrs (35%)

Assessment Type

Coursework: 30%

Computer Based Assessment: 0%

Portfolio: 70%

Presentation: 0%

Project: 0%

Practical: 0%

Self-directed Research: 0%

Module Summary

In this module, students will study both the theoretical understanding and practical application of information management standards, protocols, and responsibilities relative to how collaborative design and construction teams digitally communicate contract information.

Students will first understand legislative and regulatory requirements such as BS EN ISO19650, before developing an understanding of the role that organisations such as NIMA and buildingSMART (UK/International) have on supporting digital transformation and developing the standards such as the UK BIM framework.

After developing an understanding of theory, students then relate theory to practice against a designated project brief, by creating and modifying a 3D information model that has legacy geometry and data. Through this, students will be editing and creating information and data sets relative to the context of the model outlined in the instrument of assessment for the module. After generating the model, students will then be required to apply information exchange protocols to share and “data drop” information requests that will be outlined in the assessment brief.

During the practical tasks, students will be required to operate in a common data environment and simulate collaborative, digital practices that are predicated on acquiring the

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knowledge gained from studying the theoretical standards, protocols, and associated information management literature within the module.

Taken on which Programmes

BSc (Hons) Architectural Design Technology (C)

Core (C) or Elective (E)

Module Aims

This module aims to:

- Introduce students to standards, protocols and frameworks that support collaborative information management practices in the built environment.
- Demonstrate how effective information exchanges at various stages of the RIBA Plan of Work can lead to optimised team performance through the design, construct, and in-use phase of a buildings life cycle.
- Allow students to interpret Information Management protocols and standards to create their own execution plans against a moderately complex context.
- Develop students' design development skills through focusing on the generation of information that accompanies 3D geometrical modelling.
- Provide students with the opportunity to create and edit data sets that can be exported for a range of determined purposes.
- Give students the opportunity to operate in a common data environment where information exchanges can be undertaken.
- Support students' digital collaboration practices through establishing communication protocols between tutor and student against project contexts so that they are simulated in a common data environment.
- Provide an opportunity to understand the level of detail required for architectural documentation for each stage up to stage 7 of the RIBA Plan of Work.
- Further enhance students' information modelling skills through utilising specialist software to generate and export information.
- Introduce students to the concept of utilising conceptual data analysis to inform design decision making processes.

Module Learning Outcomes

- LO1. Appraise how BIM is used to manage information across multidisciplinary teams, through RIBA Plan of Work Stage 0 to Stage 7.
- LO2. Identify relevant legislation, protocols, standards, frameworks, and professional responsibilities that contribute to the successful management of information across collaborative teams.
- LO3. Use information modelling tools to create and edit a 3D information model of a small scale project.
- LO4. Undertake and document a series of prescribed information exchanges that follow BS EN ISO19650 protocols.

Indicative Module Content

Module topics

- Overview of the evolution of technology use and information management in the built environment.
- Architectural design management and stakeholder communication methods using Building Information Modelling (BIM).
- Standards and organisations for information management: BS EN ISO19650, UK BIM Framework, NIMA, buildingSMART International (UK&I)
- BIM execution plans and stakeholder responsibilities.
- Common Data Environments (CDE), Interoperability and digital literacies including .ifc classification usage.
- Tools for generation of information modelling and sharing via CDE – appropriate BIM and CDE software from vendors such as Autodesk, Revizto, Bentley etc.
- Modelling information using a moderately complex design context, creating models that are more than just geometry.
- Protocols for information exchanges between stakeholders including COBie and associated protocols.

This content will be reviewed and updated regularly to reflect the legal, ethical, and financial changes in professional standards and practice.

Overview of Summative Assessment

Module learning outcomes	Assessment	Word count or equivalent	Weighting
LO1, LO2	Assessment 1 Coursework	1,500 words	30%
LO3, LO4	Assessment 2 Portfolio	3,500 words or equivalent	70%

Module Pass Mark (as a weighted average of all assessments): 40%

Key Module Learning Resources

Core Sources and Texts

The core reading resources within each module will be provided via the specific Virtual Learning Environment (VLE) module pages and within the e-Library. Additional reference material and supplementary resources to support your studies are available through the UCEM e-Library.

This is a design orientated module relative to design problem. As such, this requires dedicated design studio time to allow students to navigate the design process. Studio time will also be accompanied by dedicated, Tutor supported workshops where CAD modelling and digital presentation techniques will be hosted to support the development of student

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work to industry standard. Workshops and Tutorials will be supplemented periodically by lectures.

Given the nature of the provision, dedicated Virtual Design Studios will be provided and supplementary vendor specific resources will be provided to allow students to work independently out with contact time with Tutors.

Module tools

Students will have access to study materials, dedicated academic support, student forums, and learning activities via an online learning platform (VLE).

The module page on the VLE is broken down into structured study weeks to help students plan their time, with each week containing a mixture of reading, case studies, videos/recordings, and interactive activities to go through. Online webinars/seminars led by the Module Leader can be attended in real time and provide opportunities to consolidate knowledge, ask questions, discuss topics and work through learning activities together. These sessions are recorded to support students who cannot attend and to enable students to recap the session and work through it at their own pace. Module forums on the VLE provide further opportunities to discuss topics with other students, complete collaborative work and get extra help from the module team.

Professional online resources

The e-Library provides access to trusted, quality online resources, selected by subject specialists, to support students' study. This includes journals, industry publications, magazines, academic books, and a dissertation/work-based library. For a list of the key industry specific and education resources available please visit [the VLE e-Library](#).

Other relevant resources

Access is also provided to further information sources that include the British Library and Open University UK catalogues, as well as providing a monthly current awareness service entitled, **Knowledge Foundations** - a compendium of news, research and resources relating to the educational sector and the Built Environment.

The module resource list is available on the module VLE page and is updated regularly to ensure materials are relevant and current.