

MODULE DESCRIPTOR

Module Title

Building Information Modelling: Virtual Collaboration

| | | | |
|-----------|-----------|-------------|---------|
| Reference | ACM017 | Version | 2 |
| Created | May 2018 | SCQF Level | SCQF 11 |
| Approved | June 2014 | SCQF Points | 30 |
| Amended | June 2018 | ECTS Points | 15 |

Aims of Module

To develop a systematic understanding / application of collaborative design, and to provide a critical awareness of the available ICT methods for efficient facilitation of multidisciplinary collaborative project teams within a built environment context.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

- 1 Understand and evaluate the importance of multidisciplinary collaborative team's formation and facilitation, within the wider spectrum of a project process, starting from design and construction up to operational stages.
- 2 Critique current and emerging technologies for virtual project collaboration and the change BIMM is bringing in the Architecture, Engineering and Construction (AEC) industry.
- 3 Explore how the application of different types of virtual collaboration can affect the project process and how ICT enables overcoming spatial, temporal and conceptual barriers to collaboration.

Indicative Module Content

Collaborative design concepts and processes; computer mediation, including ICT, VR and laser scanning methods together with graphical and tangible user interfaces, a review of the advances on computer mediated collaborative design and the applications in AEC project life cycle; BIM's role in achieving the paradigm shift within virtual collaborative design; responsibilities and legal issues with digital collaboration; promoting communication among the stakeholders; exposure to computational methods and cutting edge techniques currently being developed for enhanced design processes; facilitation of the collaborative team and social aspects of collaboration.

Module Delivery

The module is available for delivery by distance-learning via Campus Moodle. Access to staff support will be available through online forums. The delivery of this module will be supported through case studies, group activities and discussion forums.

Indicative Student Workload

| | Full Time | Part Time |
|--|-----------|-----------|
| Contact Hours | N/A | 100 |
| Non-Contact Hours | N/A | 200 |
| Placement/Work-Based Learning Experience [Notional] Hours | N/A | N/A |
| TOTAL | N/A | 300 |
| <i>Actual Placement hours for professional, statutory or regulatory body</i> | | |

ASSESSMENT PLAN

If a major/minor model is used and box is ticked, % weightings below are indicative only.

Component 1

| | | | | | |
|--------------|--|------------|-----|--------------------|---|
| Type: | Coursework | Weighting: | 40% | Outcomes Assessed: | 1 |
| Description: | Normally a longitudinal assessment involving topic discussion forums (20%) and a group presentation (20%). | | | | |

Component 2

| | | | | | |
|--------------|---|------------|-----|--------------------|------|
| Type: | Coursework | Weighting: | 60% | Outcomes Assessed: | 2, 3 |
| Description: | An individual written piece of work based on a collaborative project. | | | | |

MODULE PERFORMANCE DESCRIPTOR**Explanatory Text**

In order to pass this module students must achieve 40% or greater in each component.

| Module Grade | Minimum Requirements to achieve Module Grade: |
|--------------|--|
| A | 70% or greater |
| B | 60% or greater |
| C | 50% or greater |
| D | 40% or greater |
| E | 35% or greater |
| F | Less than 35% |
| NS | Non-submission of work by published deadline or non-attendance for examination |

Module Requirements

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|--------------------------|-------|
| Prerequisites for Module | None. |
| Corequisites for module | None. |
| Precluded Modules | None. |

INDICATIVE BIBLIOGRAPHY

- 1 Journals, including 'Automation in Construction', 'Computer Aided Design' and 'Interacting with Computers'.
- 2 CROSS, N., 2008. Engineering Design Methods - Strategies for Product Design, 4th Edition, John Wiley & Sons, West Sussex, England.
- 3 DAINTY, A., MOORE, D. and MURRAY, M., 2006. Communication in Construction, Taylor & Francis, Oxon.
- 4 EASTMAN, C.M., 1999. Building Product Models: Computer Environments Supporting Design and Construction, CRC Press, Boca Raton.
- 5 RANDY, D., 2011. Working With Others In BIM, in, BIM and Integrated Design: Strategies for Architectural Practice, John Wiley & Sons, New Jersey, pp. 91-126.