UNIVERSITY of BRADFORD

Module Descriptor

Module Details	
Module Title	Digital Architectural Communication 2
Module Code	CSE5019-B
Academic Year	2024/5
Credits	20
School	School of Built Environment, Architecture & Creative Industries
FHEQ Level	FHEQ Level 5

Contact Hours	
Type	Hours
Seminars	12
Seminars	The teaching and learning methods have been selected to engage students in developing their knowledge and understanding of advanced Digital Architectural tools and techniques e.g. BIM and VR through formal learning opportunities such as lectures, tutorials and seminar sessions.
Seminars	Advanced overview of CAD systems Building Information Modelling (BIM) and its applications in the built environment Virtual Reality (VR) - relevance and applications 3D visualization techniques and application of VR reasons for and explanation of British Standard BS EN ISO 19650 layering convention Use, set up and control the user interface and working environment Design development - create and edit walls, doors, windows, stairs, railings, roofs and spaces Using external references and inserting 2D and 3D objects from software libraries Creating sun path and inserting lighting Generation of dimensions, elevations and the preparation of drawing schedules Control the display and plotting environments Creating Photorealistic Architectural Rendering Digital skills: use digital tools to gather, and present information and to evaluate and communicate the outcomes of their learning. Information Technology and Communication skills: communicate ideas and arguments coherently and effectively in spoken and written words as well as in digital media.
Directed Study	140
Lectures	12
Tutorials	36

Availability	
Occurrence	Location / Period
BDA	University of Bradford / Academic Year

Module Aims

?Digital technologies are proven helpful in the Architecture, Engineering and Construction (AEC) industry due to their varied benefits to project stakeholders, such as enhanced visualization, better data sharing, reduction in building waste, increased productivity, sustainable performance and safety improvement.? The module aims to

Provide students an appreciation of the growing importance of advanced three-dimensional Computer Aided Design (CAD) and Building Information Modelling (BIM).

Apply intelligent object-orientated design methods including the use of Virtual Reality (VR) to create and navigate a virtual building model.

Provide hands-on training in some of the most up-to-date software complying with the latest British and International Standards.

Gain an appreciation of the substantial benefits such systems can offer in terms of client visualisation and design flexibility.

Outline Syllabus

Advanced overview of CAD systems

Building Information Modelling (BIM) and its applications in the built environment

Virtual Reality (VR) - relevance and applications

3D visualization techniques and application of VR

reasons for and explanation of British Standard BS EN ISO 19650 layering convention

Use, set up and control the user interface and working environment

Design development - create and edit walls, doors, windows, stairs, railings, roofs and spaces

Using external references and inserting 2D and 3D objects from software libraries

Creating sun path and inserting lighting

Generation of dimensions, elevations and the preparation of drawing schedules

Control the display and plotting environments

Creating Photorealistic Architectural Rendering

Digital skills: use digital tools to gather, and present information and to evaluate and communicate the outcomes of their learning.

Information Technology and Communication skills: communicate ideas and arguments coherently and effectively in spoken and written words as well as in digital media.

Learning Outcomes	
Outcome Number	Description
01	Prepare and present building design projects using a range of 2D, 3D, BIM and VR tools and techniques.
02	Appraise the conceptual evolution from 2-dimensional to 3-dimensional drafting and be both proficient in and comfortable with design and drafting in a 3-dimensional environment
03	Create, manipulate and present 3-dimensional building projects using intelligent object-oriented design methods
04	Manipulate complex 3-dimensional models to generate dimensioned plans, perspective views, elevations and simple schedule tables.
05	Illustrate through digital tools the integrated study of the technology involved in a complex building.

Learning, Teaching and Assessment Strategy

The teaching and learning methods have been selected to engage students in developing their knowledge and understanding of advanced Digital Architectural tools and techniques e.g. BIM and VR through formal learning opportunities such as lectures, tutorials and seminar sessions.

Throughout the module, students will be set formative assessment activities that will help develop confidence in drawing techniques and in the use of the software tools that will support them. The timely constructive feedback from this formative assessment will support students develop the skills and knowledge required for the summative assessment.

The module will be summatively assessed through Individual activities which will be formatively assessed during tutorial sessions. Feedback and guidance will be given to students on an informal basis. This module is assessed solely by coursework; Individual drawings submission: Project Drafting of complete set of 2D and 3D drawings for a given building; and requires that you implement the tools and techniques introduced within the module by applying them to a building project, which you can choose from a number of projects provided by the module leader. You are required to confirm your choice with your module tutor. Formative feedback will be provided for all activities. This may take the form of question and answer sessions within lectures; through worked examples, design exercises and discussion groups in small group tutorials; through submitting tutorial questions and formative reports for feedback; comments on the tutorial/practical work during the session, the use of the Forum facility on Canvas (for generic feedback).

If a student requires supplementary assessment for re-assessment, the assessment method will be the same as original.

Mode of Assessment			
Type	Method	Description	Weighting
Summative	Dissertation or Project Report	Includes a set of 2D drawings and 3D visualisations including presentations	100%

Reading List

To access the reading list for this module, please visit https://bradford.rl.talis.com/index.html

Please note:
This module descriptor has been published in advance of the academic year to which it applies. Every effort has been made to ensure that the information is accurate at the time of publication, but minor changes may occur given the interval between publishing and commencement of teaching. Upon commencement of the module, students will receive a handbook with further detail about the module and any changes will be discussed and/or communicated at this point.

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