Module Specification

Module Summary Information

1	**Module Title**	Integrated Digital Design for Complex Structures
2	**Module Credits**	20
3	**Module Level**	5
4	**Module Code**	BNV5120

5	**Module Overview**

Building Information Modelling (BIM) is an intelligent 3D model-based process that provides built environment professionals with the insight and tools to help plan, design, construct, and manage buildings and infrastructure. In this module, you will be encouraged to explore the potential of BIM in helping to understand the social, economic and environmental benefits associated with co-ordinated infrastructure and complex structure development.

You will be given a real construction project in which you will become increasingly aware of your own impact on the environment and communities we work within. Through group work, reporting writing and presentations you will develop the self-confidence to critically reflect upon your own leadership and problem solving skills via an integrated project delivery.

The assessment delivery will be in the form of a tender document, you will present this to an industry panel.

You are encouraged to plan your own work schedules, manage your own time and extend your presentational skills.

6	**Indicative Content**

The learning for this module incorporates formal lectures including presentations, seminars, hands on experience, client facing delivery, project based activity, and knowledge applied activities within an interdisciplinary and international setting.

The main content of the module will be as follows:

- Technology
- Management
- Programming
- Estimating
- Innovation

Following the successful completion of this module, you will be able to demonstrate the following:

- Describe the roles and responsibilities of participants in the BIM process.
- Communicate the BIM process to management, colleagues, and other stakeholders.
- Outline a process for BIM adoption and implementation at the project.
- Develop 4D and 5D BIM data and cost estimation.
- Evaluate legal implications of BIM and the wider contribution of BIM to contribute to integrated. large-scale and complex development that delivers a range of benefits.

7	Module Learning Outcomes On successful completion of the module, students will be able to:	
	1	Identify key issues and problems in complex construction situations and appreciate alternative courses of action.
	2	Apply appropriate digital technology in the following fields: cost, time and FM.
	3	Report on, and evaluate, the legal implications of BIM in terms of intellectual property, insurances and potential liabilities.
	4	Critically evaluate the tools and techniques to support enhanced collaboration among a range of stakeholders involved in the design and development process.

8	Module Assessment		
Learning Outcome			
	Coursework	**Exam**	**In-Person**
1-4	**X**		

9	Breakdown Learning and Teaching Activities	
Learning Activities		**Hours**
Scheduled Learning (SL) includes lectures, practical classes and workshops, peer group learning, Graduate+, as specified in timetable		48
Directed Learning (DL) includes placements, work-based learning, external visits, on-line activity, Graduate+, peer learning, as directed on VLE		62 You will be set a complex project with a series of tasks to complete in class and in your own time as directed by the module team.
Private Study (PS) includes preparation for exams		90 You will be expected to continually work on your project. And engage in using Moodle and other resources provided in the module documentation and expand into other self-selected resources as appropriate.
Total Study Hours:		200