Module Definition Form (MDF)

Module code: MOD008159	**Version:** 2 **Date Amended:** 13/Jun/2024

1. Module Title
BIM and Dimensional Control

2a. Module Leader
Nam Bui

2b. School
School of Engineering and the Built Environment

2c. Faculty
Faculty of Science and Engineering

3a. Level
4

3b. Module Type
Standard (fine graded)

4a. Credits
30

4b. Study Hours
300

5. Restrictions			
Type	**Module Code**	**Module Name**	**Condition**
Pre-requisites:	None		
Co-requisites:	None		
Exclusions:	None		
Courses to which this module is restricted:	FdSc Surveying, FdSc Construction Management, BSc (Hons) Building Surveying, BSc (Hons) Construction Management, BSc (Hons) Quantity Surveying, FdSc and BSc (Hons) Architectural Technology.		

LEARNING, TEACHING AND ASSESSMENT INFORMATION

6a. Module Description

This module is intended to develop and appreciation and skills relating to simple site surveying skills, production of CAD drawings and the utilisation of BIM modules for a variety of purposes relating to your discipline.

The module will introduce you to the necessary site related survey skills as you enter the construction industry. You will gain both a theoretical understanding as well as hands-on practice in the use of both traditional and contemporary instruments in order to set-up and control the most common elements of construction. You will be expected to display a hands-on competence to perform the basic calculations necessary to be able to prepare site/quality/survey documentation to satisfy specified tolerances and employer requirements.

You will also be introduced to basic 2D drafting techniques using industry standard software. This will allow you to effectively produce and interpret technical drawing and give you the skills which can be applied to your specialist discipline area in later modules. BIM will be introduced and you will gain an appreciation of how parametric models can be used to produce a variety of information relating to your particular disciples.

6b. Outline Content

Knowledge and Understanding

- Understand linear measurement – use of tapes, laser tapes (EDM), recording and field practice
- Understand optical instruments – set-up and controls, levelling (booking, reducing and transferring) and right angles
- Understand how to maintain verticality – basic use of electronic theodolites/total stations
- Appreciate the practical use of CAD software (draughting and scaled presentation)
- Interpretation and reading of technical drawings
- Understand the application of BIM to various construction disciplines

Skills Analysis

- Competently use the appropriate equipment to record levels and set out a simple structure.
- Use CAD software to produce and manipulate technical drawings
- Utilise BIM models to produce information for various purposes.

6c. Key Texts/Literature

The reading list to support this module is available at: https://readinglists.aru.ac.uk/

6d. Specialist Learning Resources
None

7. Learning Outcomes (threshold standards)		
No.	**Type**	**On successful completion of this module the student will be expected to be able to:**
1	Knowledge and Understanding	Select and apply appropriate calculation methods in the preparation of site data
2	Knowledge and Understanding	Understand and interpret technical drawings.
3	Knowledge and Understanding	Appreciate the use of data and information within BIM modules for a variety of purposes.
4	Knowledge and Understanding	Demonstrate an understanding of the use of data and information within BIM models for a particular professional construction discipline.
5	Intellectual, practical, affective and transferrable skills	Demonstrate a familiarity with and understanding of the function and use of traditional and contemporary surveying equipment and instruments.
6	Intellectual, practical, affective and transferrable skills	Demonstrate the ability to use 2D computer draughting techniques and produce information from a BIM model.

8a. Module Occurrence to which this MDF Refers				
Year	**Occurrence**	**Period**	**Location**	**Mode of Delivery**
2025/6	ZZF	Template For Face To Face Learning Delivery		Face to Face

8b. Learning Activities for the above Module Occurrence			
Learning Activities	**Hours**	**Learning Outcomes**	**Details of Duration, frequency and other comments**
Lectures	48	1-6	4 hours a week
Other teacher managed learning	24	1-6	Practical Exercises - 2 hours a week
Student managed learning	228	1-6	Private Study
TOTAL:	300		

9. Assessment for the above Module Occurrence					
Assessment No.	**Assessment Method**	**Learning Outcomes**	**Weighting (%)**	**Fine Grade or Pass/Fail**	**Qualifying Mark (%)**
010	Coursework	1,2,5,6	50 (%)	Fine Grade	30 (%)
Coursework (2000 word equivalent)					
Assessment No.	**Assessment Method**	**Learning Outcomes**	**Weighting (%)**	**Fine Grade or Pass/Fail**	**Qualifying Mark (%)**
011	Coursework	3,4,6	50 (%)	Fine Grade	30 (%)
Coursework (2000 word equivalent)					

In order to pass this module, students are required to achieve an overall mark of 40% (for modules at levels 3, 4, 5 and 6) or 50% (for modules at level 7*).

In addition, students are required to:
(a) achieve the qualifying mark for each element of fine graded assessment as specified above
(b) pass any pass/fail elements

[* the pass mark of 50% applies for all module occurrences from the academic year 2024/25 – see Section 3a of this MDF to check the level of the module and Section 8a of this MDF to check the academic year]