



UNSW
SYDNEY

Australia's
Global
University

Built Environment

BLDG3013
Digital Construction



Course Outline – Term 2, 2020

Disclaimer

Information within this document is subject to change. The full and most accurate course outline will be available in Moodle closer to the start of the term in which the course is offered.

1. COURSE STAFF

Course Contact	Dr Ahmed W A Hammad
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2. COURSE DETAILS

Credit Points	6 units of credit (uoc)
Workload	Approx. 150 hours including class contact hours, weekly individual and group online learning activities, readings, class preparation, and assessment activities.
Teaching Times and Location	Find details in timetable http://www.timetable.unsw.edu.au

Description

In Digital Construction, students will be exposed to the state-of-the-art technology used to deliver projects on a digital platform. The focus will be on discussing the concept of Integrated Project Delivery (IPD), and the use of Building Information Modelling (BIM) as a digital platform for project delivery. The course begins by developing the theme of three-dimensional (3D) representation of the built environment using a building information modelling paradigm. Design process, performance simulation, visualisation and sustainable building analysis, in the context of BIM are discussed. Concepts of 3D, 4D, 5D and 6D BIM are therefore adopted. This is achieved using computer aided design tools, where students gain modelling skills as well as an understanding of the use of object-based modelling in the construction profession. The course concludes with a brief discussion on some aspects of visual programming adopted for automating the design and project delivery process in BIM

Course Learning Outcomes (CLOs)

At the successful completion of this course, you will be able to:

1. Understand IPD and how that relates to starting with a 3D BIM model that is information ready for construction management
2. Generate 4D simulations and utilise them for construction planning and control on site
3. Produce cost estimates using 5D BIM principle
4. Conduct sustainability analysis in 6D BIM and extend that to facility management in 7D

3. ASSESSMENT

Assessment task	Weight	CLOs Assessed
1. Online Quizzes	10%	1, 2, 3, 4
2. Project-based learning (with peer review)	50%	1, 2, 3, 4
3. Final exam	40%	1, 2, 3, 4

4. COURSE IMPROVEMENT AND FEEDBACK

Feedback from students is an integral part of improving courses and teaching approaches. One of the primary mechanisms of feedback is myExperience, which we strongly urge all students to complete at the end of term. Course convenors use the feedback to make ongoing improvements to the course. This is communicated in Moodle in the myFeedback Matters page.