BLDG 4017 ADVANCED DIGITAL CONSTRUCTION

Credit Points 10

Description This subject extends upon the knowledge and skills in BLDG4008 Digital Construction to develop greater understanding and capability in the innovative application of Building Information Modelling (BIM) in the context of built environment. Students will develop an understanding of the generation, reviewing and application of 6D and 7D BIM models in building projects. Virtual and augmented reality, spatial information and reality capture technologies, and performance management systems will also be introduced. This subject will be taught through intensive practice based workshops and computing labs, enabling students to build skills in virtual design and construction processes.

School Eng, Design & Built Env

Student Contribution Band

Check your fees via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Undergraduate Level 4 subject

Pre-requisite(s) BLDG 4008

Assumed Knowledge

Building construction including residential, light industrial and small commercial, basic building measurement and estimating. Intermediate CAD knowledge and skills.

Learning Outcomes

After successful completion of this subject, students will be able to:

1. Apply practical skills in digital construction technologies, in line with contemporary industry trends.
2. Implement 'Scan to BIM' methodologies for precise project documentation and project monitoring.
3. Utilise drones for spatial information and reality capture to improve construction project management.
4. Develop a 6D/7D BIM model incorporating considerations for energy consumption, building element tracking, and project or facility management.
5. Implement Extended Reality (XR) technologies for informed on-site decisions, and stakeholder engagement.

Subject Content

- Advanced digital construction systems and platforms
- Drone applications in construction
- Point-cloud reality capture technologies using lidar
- Create advanced 6D and 7D BIM models
- Extended reality application in construction
- Utilising BIM to manage construction project delivery and stakeholder engagement

Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Type	Length	Percent	Threshold	Individual/ Group Task	Mandatory
Applied Project	BIM Model submitted as PDF drawings	30	N	Individual	N
Applied Project	1500 words and BIM Model submitted as PDF drawings	40	N	Individual	Y
Applied Project	1000 words and XR platform	30	N	Individual	Y

Teaching Periods

Spring (2025)

Parramatta - Victoria Rd
On-site
Subject Contact

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=BLDG4017_25-SPR_PS_1#subjects)