



BLCN29005 Building Information Modelling (BIM)

Term 2 - 2022

Profile information current as at 05/05/2024 07:33 am

All details in this unit profile for BLCN29005 have been officially approved by CQUniversity and represent a learning partnership between the University and you (our student). The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

General Information

Overview

The adoption of Building Information Modelling (BIM) that is developing into Building Lifecycle Management (BLM) within the built environment is an advanced and developing technology that offers significant productivity, technical and environmental benefits. Governments around the world have mandated BIM use in their projects and various Australian governments and commercial developers are adopting this practice. In this unit, you will develop fundamental BIM knowledge and competencies which are rapidly becoming a core requirement for design and construction professionals. You will learn about recent developments in a construction-related discipline and/or area of professional practice. You will develop your understanding of research principles and methods applicable to your field of work and learn skills (BIM visualisation, creation and maintenance) essential for the successful adoption and maintenance of BIM in the construction industry, especially in the context of construction management. The client's post-construction use of BIM will be critically studied.

Details

Career Level: *Postgraduate*

Unit Level: *Level 9*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

Pre-requisites or Co-requisites

Prerequisites: BLCN29001 Construction Technology BLCN29003 Construction Measurement AND BLCN29004 Construction Cost Planning

Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the [Assessment Policy and Procedure \(Higher Education Coursework\)](#).

Offerings For Term 2 - 2022

- Brisbane
- Perth

Attendance Requirements

All on-campus students are expected to attend scheduled classes – in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

Website

[This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.](#)

Class and Assessment Overview

Recommended Student Time Commitment

Each 6-credit Postgraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

Class Timetable

[Regional Campuses](#)

Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

[Metropolitan Campuses](#)

Adelaide, Brisbane, Melbourne, Perth, Sydney

Assessment Overview

1. **Written Assessment**

Weighting: 20%

2. **Written Assessment**

Weighting: 40%

3. **Practical Assessment**

Weighting: 40%

Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the [University's Grades and Results Policy](#) for more details of interim results and final grades.

CQUniversity Policies

All University policies are available on the [CQUniversity Policy site](#).

You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the [CQUniversity Policy site](#).

Unit Learning Outcomes

On successful completion of this unit, you will be able to:

1. Critically analyse the development and function of Building Information Modelling and Building Life-cycle Modelling processes as related to contemporary construction practice and identify the affiliated professions in Building Information Modelling use and development
2. Apply advanced, creative, collaborative techniques and theoretical knowledge in Building Information Modelling and Building Life-cycle Modelling to optimise constructability and reduce the risk of errors
3. Apply theoretical and professional knowledge in Building Information Modelling and Building Life-cycle Modelling to design, plan and execute a substantial research-based project.

Alignment of Learning Outcomes, Assessment and Graduate Attributes

 N/A Level	 Introductory Level	 Intermediate Level	 Graduate Level	 Professional Level	 Advanced Level
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Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes		
	1	2	3
1 - Written Assessment - 20%	•	•	
2 - Practical Assessment - 40%			•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes		
	1	2	3
1 - Knowledge			
2 - Communication			
3 - Cognitive, technical and creative skills			
4 - Research			
5 - Self-management			
6 - Ethical and Professional Responsibility			
7 - Leadership			
8 - Aboriginal and Torres Strait Islander Cultures			

Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes							
	1	2	3	4	5	6	7	8
1 - Written Assessment - 20%								
2 - Written Assessment - 40%								
3 - Practical Assessment - 40%								

Textbooks and Resources

Textbooks

There are no required textbooks.

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)

Referencing Style

All submissions for this unit must use the referencing style: [Harvard \(author-date\)](#)
For further information, see the Assessment Tasks.

Teaching Contacts

Ronald Webber Unit Coordinator

r.webber@cqu.edu.au

Chamil Erik Ramanayaka Unit Coordinator

c.ramanayaka@cqu.edu.au

Schedule

Week 1 - 11 Jul 2022

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to BIM and Revit		

Week 2 - 18 Jul 2022

Module/Topic	Chapter	Events and Submissions/Topic
BIM uses and deliverables over the project life cycle and Revit parameters and applications		

Week 3 - 25 Jul 2022

Module/Topic	Chapter	Events and Submissions/Topic
Interoperability issues and solutions including Industry Foundation Classes (IFC) and Modelling parametric objects using Revit		

Week 4 - 01 Aug 2022

Module/Topic	Chapter	Events and Submissions/Topic
Defining and cascading Employer's Information Requirements (EIR) using ISO 19650 fundamentals and Performance-based design using Revi		

Week 5 - 08 Aug 2022

Module/Topic	Chapter	Events and Submissions/Topic
Roles and responsibilities of the client and the supply chain under BIM implementation and Introduction to Navisworks: Federated model		

Vacation Week - 15 Aug 2022

Module/Topic	Chapter	Events and Submissions/Topic
		ASSESSMENT 1 - DUE DATE

Week 6 - 22 Aug 2022

Module/Topic	Chapter	Events and Submissions/Topic
Quality assurance in the Common Data Environment (CDE) and design review and validation using Navisworks		ASSESSMENT 1 due Assessment 1 (Research -based) Due: Week 6 Friday (26 Aug 2022) 11:45 pm AEST

Week 7 - 29 Aug 2022

Module/Topic	Chapter	Events and Submissions/Topic
BIM Execution Plan: Part 1 and clash detection using Navisworks		

Week 8 - 05 Sep 2022

Module/Topic	Chapter	Events and Submissions/Topic
BIM Execution Plan: Part 2 and 4D-BIM using Navisworks		

Week 9 - 12 Sep 2022

Module/Topic	Chapter	Events and Submissions/Topic
Guest lecture: Topic to be announced and 5D-BIM using Navisworks		

Week 10 - 19 Sep 2022

Module/Topic	Chapter	Events and Submissions/Topic
Construction Operations Building Information Exchange (COBie) and Preparing a COBie output		Assessment 2 Online quiz DUE

Week 11 - 26 Sep 2022

Module/Topic	Chapter	Events and Submissions/Topic
Integrated Project Delivery (IPD) and Use of Visio for BIM process mapping		Assessment 2 (ONLINE QUIZ) Due: Week 11 Monday (26 Sept 2022) 11:45 pm AEST

Week 12 - 03 Oct 2022

Module/Topic	Chapter	Events and Submissions/Topic
Revision and assessment support (practical assessment)		ASSESSMENT 3 - Practical DUE ASSESSMENT 3 (PRACTICAL) Due: Week 12 Friday (7 Oct 2022) 11:45 pm AEST

Review/Exam Week - 10 Oct 2022

Module/Topic	Chapter	Events and Submissions/Topic
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Assessment Tasks

1 Assessment 1 (Research -based)

Assessment Type

Written Assessment

Task Description

See Moodle for details

Assessment Due Date

Week 6 Friday (26 Aug 2022) 11:45 pm AEST

Return Date to Students

Week 8 Monday (5 Sept 2022)

Weighting

20%

Assessment Criteria

SEE MODLE FOR DETAILS

Referencing Style

- [Harvard \(author-date\)](#)

Submission

No submission method provided.

Learning Outcomes Assessed

- Critically analyse the development and function of Building Information Modelling and Building Life-cycle Modelling processes as related to contemporary construction practice and identify the affiliated professions in Building Information Modelling use and development
- Apply advanced, creative, collaborative techniques and theoretical knowledge in Building Information Modelling and Building Life-cycle Modelling to optimise constructability and reduce the risk of errors

Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research

2 Assessment 2 (ONLINE QUIZ)

Assessment Type

Written Assessment

Task Description

No Assessment Task Description

Assessment Due Date

Week 11 Monday (26 Sept 2022) 11:45 pm AEST

SEE MOODLE FOR DETAILS

Return Date to Students

Week 11 Monday (26 Sept 2022)

Weighting

40%

Assessment Criteria

SEE MOODLE FOR DEATILS

Referencing Style

- [Harvard \(author-date\)](#)

Submission

No submission method provided.

Graduate Attributes

- Knowledge
- Cognitive, technical and creative skills
- Ethical and Professional Responsibility

3 ASSESSMENT 3 (PRACTICAL)

Assessment Type

Practical Assessment

Task Description

SEE MOODLE FOR DETAILS

Assessment Due Date

Week 12 Friday (7 Oct 2022) 11:45 pm AEST

Return Date to Students

Exam Week Monday (17 Oct 2022)

Weighting

40%

Assessment Criteria

SEE MOODLE FOR DETAILS

Referencing Style

- [Harvard \(author-date\)](#)

Submission

No submission method provided.

Learning Outcomes Assessed

- Apply theoretical and professional knowledge in Building Information Modelling and Building Life-cycle Modelling to design, plan and execute a substantial research-based project.

Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research

Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the [Student Academic Integrity Policy and Procedure](#). This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

What is a breach of academic integrity?

A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

Why is academic integrity important?

A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

Where can I get assistance?

For academic advice and guidance, the [Academic Learning Centre \(ALC\)](#) can support you in becoming confident in completing assessments with integrity and of high standard.

What can you do to act with integrity?



Be Honest

If your assessment task is done by someone else, it would be dishonest of you to claim it as your own



Seek Help

If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)



Produce Original Work

Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem