

Unit of Competency

CPCBIM4002 Use BIM processes to carry out construction work

Modification history

Release	Comments
1	New unit. No equivalent unit. This version first released with CPC Construction, Plumbing and Services Training Package Release 8.0.

Application

This unit of competency specifies the skills and knowledge required to use Building Information Modelling (BIM) processes to carry out construction work. It includes using 2D drawings and 3D models and related data to clarify construction work requirements, coordinate models and manage risks associated with planned construction work and schedule, and sequence work activities and resources.

The unit applies to builders, tradespersons, project and site managers who work on construction projects that incorporate BIM interaction, collaboration and deliverables. It requires digital literacy skills to use software via information and communication technology (ICT), including applications on mobile devices to find, retrieve and communicate information.

A person who has achieved this unit of competency is able to work with autonomy and take responsibility for applying BIM processes to construction work.

Completion of the general construction induction training program specified by the model Code of Practice for Construction Work is required for any person who is to carry out construction work. Achievement of *CPCCWHS1001 Prepare to work safely in the construction industry* meets this requirement.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Prerequisite Unit

None.

Unit Sector

Construction.

Elements and Performance Criteria

1. Prepare for construction work.	<ul style="list-style-type: none">1.1 Identify reporting and documentation processes and protocols to comply with BIM Execution Plan and workplace requirements.1.2 Identify project participants and clarify roles and responsibilities relevant to planned construction work to meet BIM Execution Plan and workplace requirements.1.3 Interpret 2D drawings and 3D model and data to clarify scope of construction work and check information to confirm currency.1.4 Access and assess other documentation related to construction work to ensure full understanding of activities, timeframes and regulatory compliance requirements.
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2. Manage risks associated with construction work.	2.1 Use BIM tools and technologies to create and test virtual construction models and detect coordination issues, including clashes associated with planned construction work. 2.2 Use BIM tools and technologies to detect work health and safety (WHS) and regulatory compliance risks associated with planned construction work. 2.3 Consult with project participants to discuss and agree strategies to resolve coordination issues and mitigate risks. 2.4 Implement actions required to resolve coordination issues and mitigate risks associated with planned construction work in accordance with workplace requirements.
3. Schedule and sequence construction work requirements.	3.1 Use BIM data to sequence construction work activities to achieve required efficiencies and compatibilities with other construction disciplines. 3.2 Use BIM data to schedule equipment and resources to meet construction work timeframes in accordance with workplace requirements. 3.3 Document and communicate construction work requirements to project participants to meet BIM Execution Plan and workplace requirements.

Foundation skills

Candidates require:

- digital literacy skills to use software via ICT, including applications on mobile devices to find, retrieve and communicate information.

Unit Mapping Information

New unit. No equivalent unit.

Links

The Companion Volume Implementation Guide for the CPC Construction, Plumbing and Services Training Package is available at:

<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>.

Assessment Requirements for CPCBIM4002 Use BIM processes to carry out construction work

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Performance Evidence

To demonstrate competency, a candidate must meet the elements and performance criteria of this unit by using Building Information Modelling (BIM) processes, including at least two different BIM technologies (tools and software) to carry out construction work and, in doing so:

- create and test at least two virtual construction (design) models within the same federated space
- detect coordination and clashing in the federated model based on two different criteria
- detect two work health and safety (WHS) or regulatory compliance risks associated with planned construction work by using a 3D model and visual communication tools
- consult with two other project participants to discuss and agree strategies to resolve model coordination issues and mitigate risks
- analyse and communicate a construction activity using 4D modelling methods.

Knowledge Evidence

To be competent in this unit, a candidate must demonstrate knowledge of:

- BIM project delivery methods
- BIM standards relevant to planned construction work including the BIM ISO 19650 *Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) – Information management using building information modelling* (or its successor)
- BIM uses relevant to construction phases
- common BIM tools and technologies
- graphical and data communication methods when working with BIM
- meaning and benefits of visual communication and extended reality technologies during the construction phase of a BIM project
- methods for confirming currency of construction documentation and data
- methods for scheduling equipment and resources for construction work
- methods for sequencing construction work to achieve efficiencies across multi-disciplinary construction projects
- purpose and content of BIM Execution Plans and their relationship to project information requirements
- purpose of virtual construction models and methods for detecting construction coordination issues and other project risks
- role of the Common Data Environment (CDE) in managing project information
- roles and responsibilities of BIM project participants across multiple disciplines
- types of drawings, models and documentation used when conducting construction work that is part of a BIM project

- 4D modelling techniques to record and represent information about the construction sequence
- workplace requirements for conducting construction work using BIM processes:
 - compliance with relevant regulations and standards
 - WHS
 - quality control procedures
 - reporting and documentation.

Assessment Conditions

Assessors must meet the requirements for assessors contained in the Standards for Registered Training Organisations.

Assessment must be conducted in the workplace or a simulated workplace using realistic conditions, materials, activities, responsibilities, procedures, safety requirements and environmental considerations.

Candidates must have access to documentation, technologies, equipment and other resources required to achieve the performance criteria and performance evidence.

Links

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<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>.