Draft 0.1
This is a draft update to CPPSIS6031 Design basic mines:
https://training.gov.au/Training/Details/CPPSIS6031.

Code changed to CPPSUR6031 Design basic mines.

Changed PCs to active voice.

Changed 'person' to 'candidate' in PE for consistency.

Range of Conditions added to Knowledge Evidence.

I've added mapping info.
TAG will need to reassess this as unit is redeveloped.

Unit of Competency

CPPSUR6031 Design basic mines

Modification history

Release	Comments
~~1~~	~~Replaces superseded equivalent CPPSIS6031A Carry out basic mine design.~~ ~~This version first released with CPP Property Services Training Package Version 3.~~
	Replaces superseded equivalent CPPSIS6031 Design basic mines

Application

This unit specifies the skills and knowledge required to design basic mines to meet client specifications. The unit covers designing a mine development that incorporates identified mine design parameters, as well as accounting for levels of rock stability and ground support and methods for obtaining ore and mineral samples. The unit includes assessing the environment to recognise the geological aspects of possible ore deposits.

The unit also covers planning the design project, including objectives, deliverables and constraints to comply with standards and legal and statutory requirements relating to the organisation and the mining industry. The unit requires the ability to implement project management activities relating to scheduling, measuring, recording, monitoring and reporting work progress. It also requires the ability to use computers and a range of software to produce mine designs. It requires knowledge of underground mining operations.

The unit supports those who work in a technical management role in a mining environment.

Licensing, legislative, regulatory or certification requirements apply to this unit in some States where mining surveying must be undertaken under the supervision of a registered surveyor. Relevant state and territory regulatory authorities should be consulted to confirm those requirements.

Prerequisite Unit

None

Unit Sector

Surveying and spatial information services

Elements and Performance Criteria

1. Plan design project.	1.1 Determine and document client requirements and project specifications in consultation with appropriate persons. 1.2 Implement project management mechanisms to schedule, record and report progress of activities in relation to agreed timeframes and plans. 1.3 Implement and maintain agreed communication processes between client and other appropriate persons. 1.4 Identify geological aspects of possible ore deposits by assessing the environment and verify information. 1.5 Identify and analyse pertinent legal and statutory requirements and standards to ensure compliance.
2. Design mine development.	2.1 Identify and analyse data required for mine design to project specifications.

	2.2 Identify and analyse mine design parameters according to project specifications. 2.3 Incorporate levels of rock stability and ground support requirements into mine design according to project specifications. 2.4 Incorporate methods for obtaining ore and mineral samples into mine design ensuring compliance with relevant legislation and mining regulations. 2.5 Develop mine design using suitable software according to project specifications. 2.6 Identify and resolve problems and manage contingencies and constraints according to organisational requirements.
3. Finalise project.	3.1 Finalise and check project for compliance with specifications and organisational requirements. 3.2 Notify appropriate persons of project results according to organisational requirements. 3.3 Complete documentation and archive spatial data according to project and organisational requirements.

Foundation Skills

Candidates require:

- planning and organising skills to:
  - plan and prioritise work to meet contracts and resource constraints
- numeracy skills to:
  - conduct precise measurements and calculations relating to height, depth, dimension, direction and position in actual operational activity and virtual representation
- oral communication skills to:
  - negotiate to achieve client requirements
- reading skills to:
  - analyse graphical and technical information in mining and engineering plans
- writing skills to:
  - record technical information in organisational documentation
- technology skills to:
  - use a range of geological information systems software to design mine
- problem-solving skills to:
  - identify and resolve areas of potential non-compliance with legislation, regulations and standards.

Unit Mapping Information

Supersedes and is equivalent to CPPSIS6031 Design basic mines

Links

Companion Volume Implementation Guide:

https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=6f3f9672-30e8-4835-b348-205dfcf13d9b

Assessment Requirements for CPPSUR6031 Design basic mines

Modification history

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	Replaces superseded equivalent CPPSIS6031 Design basic mines

Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria of this unit by:

- producing two different basic mine designs using a computer and relevant software.

While designing the above basic mines, the candidate must:

- plan and implement project management mechanisms to ensure the project is completed within required timeframes and complies with specifications and standards
- assess the environment to recognise geological aspects of possible ore deposits
- communicate clearly with clients and others to clarify and report project information
- comply with organisational policies and procedures, legislation, regulations and Australian standards for mine safety when planning mine design
- create basic mine drawings that detail:
    - levels of rock stability and ground support
    - mine design parameters
    - methods for obtaining ore and mineral samples
- perform calculations to measure, reduce and validate spatial data captured from mine surveying.

Knowledge Evidence

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

- accuracy and precision requirements for mine design
- basic characteristics of common ore deposits
- classification of economic mineral deposits and the process involved in presenting a schematic model
- data capture and set-out techniques
- data reduction and manipulation techniques
- legislation, regulations and Australian standards relating to mine safety
- methods for assessing the environment to recognise ore deposits
- methods for obtaining ore and mineral samples
- mineral exploration methods, including geophysical, geochemical and geological techniques
- organisational policies and procedures relating to:
    - client and stakeholder communication
    - using a computer and relevant software
    - mine design, including:
        - mine access
        - layout
        - service provision, such as water, air, power, lighting and dewatering
    - records and reporting

    - risk and contingency management
- project management techniques for scheduling, measuring and monitoring work progress and planning for risks and contingencies
- techniques for providing rock stability and ground support
- key features of underground mining operations
- appropriate persons:
    - client
    - colleague
    - engineer
    - manager
    - registered or qualified surveyor
    - supplier.

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:

- equipment:
    - as specified in the performance evidence
- specifications:
    - mining and surveying specifications, including relevant plans and drawings
    - organisational policies, procedures and documentation relating to mine design
    - relevant legislation, regulations and Australian standards for mine safety
- physical conditions:
    - access to equipped work station
- relationships with team members and supervisor:
    - lead role in a team.

Links

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