DCSOEE635: Operate in an Engineering Environment

UNIT CODE		**DCSOEE635**	
UNIT TITLE		**Operate in an engineering environment**	
APPLICATION		This unit describes the performance outcomes, skills and knowledge required to operate in an engineering design team. The unit of competency is applied by drafting personnel and technicians in a civil and structural engineering environment operating as part of an engineering team. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.	
ELEMENTS		**PERFORMANCE CRITERIA**	
Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	Develop a personal career plan.	1.1	Create a list of values to guide career-related decision-making.
		1.2	Write a statement outlining future career objectives.
		1.3	Complete a personal analysis examining strengths, weaknesses, opportunities and threats to achieving the identified career vision.
		1.4	Identify roles of personnel in engineering and related fields that align with future career objectives, including applicable professional associations/ licensing requirements.
		1.5	Identify sources of education and industry training structures and opportunities for career development.
		1.6	Develop a strategy of progressing from current position to the identified future career objective.
		1.7	Develop a list of personal goals which are specific, measurable, achievable and are time bound that are relevant to achieving future career objectives.
		1.8	Investigate at least two emerging technologies or trends in the civil engineering sector and identify potential issues, limitations and constraints associated with these.
2	Document personal strategies used to implement “soft skills” in the workplace.	2.1	Identify and document time management techniques in an engineering environment.
		2.2	Outline an approach to deal with change in the workplace.
		2.3	Identify and document tools to deal with stress in the workplace.
		2.4	Identify mechanisms to resolve conflict in the workplace.

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		2.5	Demonstrate the implementation of reflective strategies relating to work activity.
3	Use appropriate hard skills applicable to working in the engineering sector.	3.1	Plan and write business and technical documents.
		3.2	Prepare, deliver and evaluate a presentation.
		3.3	Use a spread sheet to analyse data collected during laboratory work.
4	Work effectively in a team.	4.1	Identify the benefits and costs for organisations and individuals of working in a team.
		4.2	Allocate roles effectively.
		4.3	Communicate effectively with team members using appropriate written documentation and verbal interaction to convey information.
		4.4	Contribute during team meetings.
FOUNDATION SKILLS Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.			
UNIT MAPPING INFORMATION No equivalent units.			
TITLE		**Assessment requirements for DCSOEE635 Operate in an engineering environment**	

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PERFORMANCE EVIDENCE	To achieve competency in this unit, a person must satisfy the requirements of the elements and performance criteria, foundation skills and range of conditions included in the unit. The person must also: • When creating a career plan, provide evidence of: - – reflection on personal values. – reflection on intended career direction – analysis of strengths and weaknesses – setting relevant goals – having researched career development opportunities in engineering – documentation of a proposed career development strategy. • When documenting strategies to implement soft skills provide evidence of: – at least one time management tool used – at least one task prioritisation tool used – at least one approach to manage change in a work environment – at least one mechanism to manage conflict in a work environment – at least three instances of reflection on completed work and identification of improvements for future performance. • When planning and writing a technical document, provide evidence of: – determining the document purpose – identifying the target audience – preparing a draft document – incorporating charts produced in a spread sheet into the document – critically reviewing the draft and then compiling a final version in an appropriate format and using appropriate language. • When preparing, delivering and evaluating a presentation, provide evidence of: – determining the presentation purpose – identifying the target audience

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	– preparing a presentation – engaging with internal stakeholders (e.g., reviews with relevant personnel) following preparation of draft documents and prior to the final presentation – having delivered an effective presentation as assessed by: ▪ engagement with the audience and monitoring of responses. ▪ varied verbal and non-verbal communication to maintain audience's interest. ▪ visual aids that capture audience's interest and reinforce message. ▪ audience comprehension of the information. ▪ invitations to audience to ask questions. ▪ evaluating feedback from the audience and identifying opportunities for improvement. • When working in a team, provide evidence of: – contributing during team meetings via minutes of meetings – specific tasks that have been completed autonomously but which contribute to the success of the team – effective communication with team members in the form of documents provided during team meetings – effective communication with team members in the form of verbal interaction during team meetings. (include one example from the following that demonstrate implementation – attitude, body language, listening or speaking) Note: If a specific volume or frequency is not stated, then evidence must be provided at least once for each criterion.
KNOWLEDGE EVIDENCE	To achieve competency in this unit, a person must demonstrate knowledge of: • tools to manage time • the causes of stress in the workplace and the effects of stress on the individual • team members roles and responsibilities. Professional code of conduct for engineers.

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ASSESSMENT CONDITIONS	**Assessment Conditions:** All assessment must be completed in accordance with work health and safety standards. When assessments are conducted remotely, invigilation software must be used to ensure authenticity of work completed. Model answers or marking guides must be provided for all assessments to ensure reliability of assessment judgements when marking is undertaken by different assessors. Assessors must gather a range of evidence that is valid, sufficient, authentic, and current. Questioning techniques must not require language, literacy and numeracy skills beyond those required in this module. The candidate must have access to all tools, equipment, materials and documentation required. **Assessor Requirements:** Assessment must be conducted only by persons who: • hold vocational competencies at least to the level being delivered and assessed • maintain current industry skills directly relevant to the training and assessment being provided • hold a tertiary qualification in engineering or a related field • meet the assessor requirements specified in the current Standards for Registered Training Organisations (RTOs) • undertake ongoing professional development in vocational training, learning, and assessment, including competency-based training and assessment, as required by their RTO. The RTO must also ensure that trainers and assessors keep their industry knowledge up to date through ongoing professional development. The RTO must take appropriate steps, as an ongoing procedure, to verify information about trainer and assessor's qualifications.