DCSBCE602: Use Basic CAD in Engineering

UNIT CODE		**DCSBCE602**	
UNIT TITLE		**Use basic CAD in engineering**	
APPLICATION		This unit describes the performance outcomes, skills and knowledge required to operate a standard CAD software package, using basic features, and prepare simple engineering drawings in accordance with AS 1100. The unit of competency is applied by technicians who work in a structural and civil engineering environment to operate CAD at a basic level. 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	Operate CAD software.	1.1	Apply standard procedure to enter the CAD system.
		1.2	Explain the functions of the screen display areas.
		1.3	Save CAD drawings to a specified location on the office system and with a specified name as per workplace standards and requirements.
		1.4	Apply standard exit and shutdown procedures.
2	Apply basic parameters and measurements.	2.1	Set the basic parameters in preparation for the drafting process.
		2.2	Set and use appropriate system variables relevant to the drawing task.
3	Construct basic elements using CAD.	3.1	Apply basic commands to construct shapes relevant to engineering drawing.
		3.2	Import and export files into and out of the working space.
		3.3	Establish procedures to open and revise a specified drawing.
4	Produce engineering drawings.	4.1	Complete drawings of engineering components and assemblies in accordance with AS 1100.
		4.2	Apply efficient drafting practices to maximize productivity.
		4.3	Produce drawings as per the requirements of the particular drawing office standards.
		4.4	Prepare a customised template-drawing file to specific drawing office standards.
5	Check completed drawing.	5.1	Print or save drawing as per instruction.

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		5.2	Review that the printed or saved drawing complies with AS 1100 with respect to line thickness and text sizes.
		5.3	Evaluate the completed work and identify areas of improvement.

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 DCSBCE602 Use basic CAD in engineering**
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: • prepare simple sketches • produce clear and descriptive drawing with appropriate notations and labelling 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: • Key principles of CAD, including – CAD software capabilities – different approaches to drawing – the coordinate system – efficient drafting practices – environmental and occupational health and safety (OHS) issues associated with the tools, materials and environment – resources used to provide relevant legislation, copyright and intellectual property issues

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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 by an appointed assessor or 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.