

DES23 Create 2D Designs using a Computer Aided Design System - SQA Unit Code H9X3 04

Unit Summary

This unit is about the skills and knowledge required to produce drawings using computer aided techniques, required in design.

What you must be able to do:

- a) Clarify and define project objectives
- b) Identify and interpret relevant parameters
- c) Clarify CAD requirements and processes based on consideration of project objectives and identified parameters
- d) Ensure the system variables are customised to suit standard operating procedures.
- e) Customise menus to suit standard operating procedures.
- f) Customise drawing defaults to standard operating procedures.
- g) Files of digitised information relevant to the project are retrieved and converted and manipulated if required
- h) Any measurements of components, sub-assemblies, products, models, equipment, layouts or facilities needed for the preparation of the required drawings are made and recorded
- i) Calculations of required dimensions and other drafting details based on measurements are made
- j) Critical information relevant to the CAD project is identified
- k) Critical dimensions and data for the required drawings are established
- l) Create drawings using the full capability of the available software system
- m) Link drawing entities to database attributes to meet job requirements.
- n) Ensure preliminary sketches/artwork are prepared as required and reviewed with design, engineering, production and/or appropriate personnel
- o) Create detailed views using various scales to meet the job requirements
- p) Save files in various formats to standard operating procedures.
- q) Supplementary data is extracted from drawing to meet job requirements and may include area, lengths, angles and perimeters

What you must know:

- 1) CAD software system
- 2) Processes to set up required CAD packages
- 3) System variables that can be customised and procedures for doing so
- 4) Reasons for customising the system variables
- 5) Applicable drafting standards/procedures
- 6) Procedures and reasons for customising menus
- 7) Procedures and reasons for customising system defaults
- 8) Procedures and reasons for developing macros
- 9) Problem identification and resolution techniques
- 10) Processes to gather object parameters and/or measurements
- 11) Processes to prepare CAD drawings

- 12) Drawing features of the CAD software system
- 13) Reasons for using specialised software features
- 14) Procedures for linking drawing entities to database attributes
- 15) Appropriate drawing scales
- 16) Procedures for printing drawing files
- 17) Procedures for creating additional views of the object being drawn
- 18) Procedures for saving drawing files
- 19) Various formats in which drawing files can be saved
- 20) Reasons for using different formats when saving drawing files